

Compliance Assessment Report

Report ID:
CAR_NRW0032847

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

Site	Padeswood Cement Works	Permit Ref	BL1096IB		
Operator/Permit holder	Castle Cement Limited				
Regime	Installations				
Date of assessment	31/12/2017	Time in	N/A	Out	N/A
Assessment type	Report/Data Review				
Parts of the permit assessed	Routine Monitoring Returns and Notifications				
Lead officer's name	Ross, Stuart				
Accompanied by					
Recipient's name/position	Robert Keough/ Quality and Environment Manager	Date issued	23/02/2018		

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
B5 - Infrastructure - Plant and equipment	C3	1.1, 2.3.12
E1 - Emissions - Air	C3	3.1.2
E3 - Emissions - Surface water	A	
G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment	C3	3.5.1
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	3	Total compliance score (see section 5 for scoring scheme)	12
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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

This Compliance Assessment Report covers a review of routine emissions monitoring data for the period 1st October – 31st December 2017 for all permitted emission points to air and water. It also covers a review of the 2017 annual performance report (as required by permit condition 4.2.2) and 'live' Part A & B notifications.

All reports received on time - thank you.

1. Emissions to Water (W1)

Emissions compliant with the permit limits during the period.

2. Emissions to Air

Continuous Monitoring (A1 - A9)

All parameters were within permitted limits with the following exceptions for which Part A and B notifications were received as required by the permit:

a) Emission Point A8 (Kiln) Particulates (Emission limit 10 mg/Nm3)

13 mg/Nm3 (19/10/17)

In summary the operator reported that the kiln had been restarted after a 2 week shutdown and following start up emissions were elevated at around 15 mg/Nm3. Prior to the shutdown emissions were typically 5 mg/Nm3. An investigation was completed, the kiln stopped and 30 'suspect' bags replaced.

It was reported that during the January 2018 shutdown a major overhaul of the main bag filter is to take place including the replacement of every bag and cage in the filter with the addition of fabrication work to replace some corrosion prone areas of the bag house with stainless steel to extend their lifespan.

As of the 15/02/18 the kiln has been restarted for several weeks and no particulate emissions breaches have been reported for A8 indicating that maintenance work has been successful in meeting ELVs.

ACTION - The Part B notification does not report the root cause of the bag failures. Identifying the root cause may allow preventative action to be taken to prevent or reduce the likelihood of a similar event recurring. Please report your findings to NRW by 31/03/18.

b) Emission Point A8 (Kiln) Particulates

11 mg/Nm3 (04/12/17) & 15 mg/Nm3 (05/12/17).

In summary the operator reported that the kiln was stopped at 06:30 and restarted at 14:30 at which point the particulate emission was potentially on trend to exceed the daily emission limit value. Investigations were carried out to identify the cause including the isolation of individual chambers within the bag house which also had the effect of reducing emissions somewhat. By midnight the daily average was recorded as 11 mg/Nm3.

Investigation continued and chamber 6 was identified as the problem and the kiln was stopped at 03:15 as it was established that the emission could not be brought below the ELV. Holes were identified in the cell plate allowing dust to bypass the bags. The holes were repaired before the kiln was restarted, but not within the 24hr monitoring period.

ACTION - The Part B notification does not report the root cause of the holes in the cell plate. Identifying the root cause may allow preventative action to be taken to prevent or reduce the likelihood of a similar event recurring. Please report your findings to NRW by 31/03/18.

c) Emission Point A8 (Kiln) Hydrogen Chloride (Emission limit 10mg/Nm3)

12 mg/Nm3. (03/11/17)

In summary the operator reported that raw mill trips due to high vibration and power reduced the ability of the mill to scrub out HCL

from the kiln gas stream. The breach occurred over a 4 hour period from 20:30 to midnight 03/11/17.

The operator reports that during the January 2018 shutdown over £1.2 million will be spent on the raw to improve reliability and run time.

The emission limit exceedance detailed in sections 'a' and 'b' above are in breach of permit condition 3.1.2 and attract a CCS score of 3.

Periodic Monitoring (A8)

1st July - 31st December 2017 - all emissions compliant.

3. Annual Performance Report

I have reviewed the report and conclude that it meets the requirements of the permit.

Emission limit compliance is high when considered by parameter and on a daily basis during normal operations. The report does succinctly highlight the number of emission limit exceedances that have occurred during 2017 and are generally comparable to previous years

The kiln experienced breaches for particulate, NOx and HCL all of which have been addressed in Compliance Assessment Report during 2017.

It has been observed and brought to the attention of the operator that particulate compliance for A8 has deteriorated in 2017/18. We note that Castle Cement have reportedly completed an overhaul of the kiln bag filter January 2018 which should result in an improvement in particulate emissions abatement.

4. Part A and B Notifications October - December 2017

a) Kiln / Cooler Over Pressurisation

On 03/10/17 the operator self reported to NRW that the kiln system had experienced an over pressurisation event resulting in the emission of approximately 50 - 100 kg of kiln dust from the kiln outlet to atmosphere caused by overfeeding the kiln feed elevator with raw meal and bag filter dust causing a kiln flush. The kiln was stopped, spilt dust was subsequently cleaned up. No complaints received from local residents with regards to visible dust emissions or dust on property.

Dust from the main bag filter is normally pneumatically conveyed to a dust silo and then blended back into the raw meal feed in a controlled way to prevent excess feed to the kiln.

On this occasion it was not possible to use the silo as the level probe was incorrectly reading too high and the motor driving the silo emptying system had failed. To protect the bag filter the operator fed dust directly to the kiln elevator. the kiln was initially stable but then became unstable as the quantity of feed was too high.

Based on the information provided we conclude that the dust transport system from the main bag filter to the silo was not adequately maintained and is a breach of permit condition 1.1 with the potential to cause minor environmental impact (CCS3)

ACTION - The Part B does not address a number of points that require clarification;

- Why did the motor serving the silo screw conveyer fail and for how long had the system been defective before this incident? What steps beyond the replacement of the motor have been taken to ensure system reliability?

- What is the likelihood of a kiln flush occurring during the direct transport of dust to the kiln feed conveyer and why should this be deemed as an acceptable practice?

- What if any safe guards were in place to prevent the kiln operator overloading the kiln feed elevator and why did these fail?

Please address the above points by 31/03/18

b) FID Unavailability and Combustion of Waste

On 13/12/17 the operator self reported that the FID (continuous TOC emissions monitoring instrument) had been out of service for 7 hours (unknown to the operator), during which time waste derived fuels continued to be burnt contrary to the requirements of permit condition 2.3.12 (g). This is also in breach of permit condition 3.5.1 (a) which requires the monitoring of TOC emissions during normal operation. Both of breaches have the potential for minor environmental impact and attract a CCS score of 3.

TOC emissions compliance for the kiln is high and emissions rarely exceed the ELV. There is no reason to believe that TOC emissions would have exceeded the ELV during this period but it cannot be ruled out. All other emissions were compliant with the permit.

The operator investigated and reports that the FID went into error at 3.30am (unknown to site operatives) until 10.05am when the fault was noticed and the maintenance electrician was able to restart the equipment. The kiln fuels off strategy (to prevent waste being burnt with CEM unavailability) is triggered by the instrument reading zero for more than 20 minutes and a fault would be indicated. It was reported that the QAL 2 calibration factor of 0.1 prevented a zero reading being detected and therefore the fuels off and alarm systems did not activate.

Steps have been taken to initiate the fuels off at readings less than 2mg/Nm3 to allow for the QAL calibration function. Alarms

have been modified to make them more visual.

ACTION - Please confirm the steps you have taken to ensure this scenario cannot be repeated in the event of other instruments going into fault. Please do so by 28/02/18.

c) Cemfuel Fuel Line Failure and Spill

On 21/12/17 the operator reported a spill of cemfuel due to a failure of the cemfuel transport line. I have reviewed the Part B report and I am largely satisfied that Castle Cement took appropriate action to contain and remediate the spill. With regards to the cause of this incident I would like to discuss the findings of the Non Destructive Testing results completed on the failed component during the next site inspection before considering any potential non compliance with the requirements of the permit.

EPR Compliance Assessment Report

**Report ID:
CAR_NRW0032847**

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Site	Padeswood Cement Works	Permit Ref	BL10961B
Operator/Permit holder	Castle Cement Limited	Date	31/12/2017

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.

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.

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			
B5	C3	Refer details section	30/03/2018
E1	C3	Refer details section	30/03/2018
G1	C3	Refer details section	28/02/2018

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.