

Compliance Assessment Report

Report ID:
CAR_NRW0035898

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

Site	Padeswood Cement Works		Permit Ref	BL10961B		
Operator/Permit holder	Castle Cement Limited					
Regime	Installations					
Date of assessment	24/10/2019	Time in	14:40	Out	17:25	
Assessment type	Site Inspection					
Parts of the permit assessed	Emissions to air					
Lead officer's name	Ross, Stuart					
Accompanied by	Cubley, Lara					
Recipient's name/position	Murat Burakcin/ Plant Manager	Date issued	29/11/2019			

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	C3	1.1.1
B5 - Infrastructure - Plant and equipment	C3	1.1.1
F3 - Amenity - Dust/fibres/particulates and litter	C3	3.2.1

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 follows an unannounced site inspection completed 24/10/19 between 14:40 and 17:25 and a planned site inspection completed 08/11/19 between 10.30 – 17.30.

The inspections were completed in response to complaints received from members of the public reporting dust deposits on vehicles and property, indicating an event occurred 23/10/19 between midnight at 0900. NRW forwarded all complaints (12) to Castle Cement Ltd for investigation.

1. Dust Release Incident 23/10/19

Upon arrival on site 24/10/19, Castle Cement Ltd reported that they had commenced their investigations into the dust complaints and that dust samples had been collected from vehicles in the local community and sent for third party analysis, however it was unlikely that the results would be available until the following Thursday.

The operator reported that due to the white appearance of the dust (and based on the assumption that the dust was from the plant) it most likely originates from the preheater/calcliner and was unlikely to be clinker dust or ground clinker (cement powder). A part A notification was submitted to NRW 24/10/19 based on this assumption, Part B subsequently received 28/11/19, with an estimated release of 500kg of calcined raw meal.

During the inspection the Operations Manager presented kiln process data from the SCADA that confirmed the kiln had commenced production (raw meal feed on) at approximately 04:30hr on the 23/10/19 following shutdown 18/10/19. Data presented showed that the kiln inlet and outlet were operating under negative pressure and that particulate emissions from the respective fabric filters serving the kiln and cooler were within permitted emission limits for both instantaneous and daily average values.

A small amount of CCTV footage was observed of the kiln inlet seal around the time of the kiln start. The footage was of poor quality, but it possibly showed a dust emission from the kiln inlet seal area. The operator agreed to look at further CCTV from a camera positioned on the pre-heater tower pointing north, which is also the direction where most of the complaints originated.

On 04/11/19 an investigation report was submitted to NRW containing more in-depth analysis of kiln process data and other information (CCTV footage, sample analysis) and this was discussed and scrutinised in detail during the site inspection 08/11/19.

During the inspection it was established that;

- Dust sample analysis identified a cementitious material content of 80% or greater and was similar to that of calcined feed, i.e. the same composition of material that would be found at the kiln inlet. The wind direction at the time of kiln start indicates that dust from the cement works would disperse in a northerly direction – this correlates with the locations of the complaints. Therefore, the cement works is substantiated as the source of dust reported by residents in the Buckley area.
- During the kiln warm up and start, the kiln hood remained under negative pressure indicating that there was not a release from the kiln outlet. The kiln and cooler stacks remained within permitted particulate emission limits indicating that the dust did not originate from a permitted emission point.
- Footage from the pre-heater tower CCTV camera was reviewed [by the operator] for the period of the kiln start but was of poor quality, reportedly owing to moisture in the lens / housing. No emission visible.
- Continuous CCTV footage of the kiln inlet seal was reviewed [by the operator] for the kiln start and shows a potential dust release for approximately 10 minutes. The operator does not consider that the footage indicates a release due to kiln inlet tray damage. The Control Room Operator (CRO) who was operating the kiln at the time of the incident reported to NRW that he was not aware of a release from the kiln inlet seal at this time.
- Operator analysis of trends during the kiln start highlight a pressure change (increase in negative pressure) within the preheater tower (cyclones 1 – 5) soon after the raw meal feed started and the operator concludes that this was most likely caused by a blockage on the kiln slope following a fall of material ('build up') from the calciner. The operator reports that such pressure changes are not uncommon and do not ordinarily indicate that dust will be released from the kiln system.
- It is concluded that the suspected blockage on the kiln slope most likely caused the kiln inlet seal to become overwhelmed with calcined feed and lead to the release of dust from the inlet seal. Some of the dust from the kiln inlet was directed to the 'dust room' but this system cannot accommodate significant quantities of material under abnormal situations.
- The kiln inlet camera image quality is not adequate (during darkness) to allow the CRO to easily identify a dust release from the

kiln inlet. Had the CRO identified the emission, immediate steps could have been taken to minimise the release e.g. stop the kiln feed in a controlled manner.

- There were no defects with plant, equipment or raw meal chemistry that lead to the build-up of material within the calciner. Air blasters on the kiln slope were operational.

- The kiln by pass system was not operational at the time of the dust release. The operator does not believe that the dust is from the bypass system due to chemistry of the dust within the samples.

- The operator proposes to review the location and quality of CCTV cameras and review the feasibility of cladding the kiln inlet and level 1 of the pre-heater tower.

NRW considers this incident to be in breach of the following permit conditions;

3.2.1 (F3 - CCS3) in so far that appropriate measures were not in place (adequate CCTV monitoring) to identify and thereby allow corrective actions to be taken to minimise dust emissions from the kiln inlet seal.

1.1.1 (B5 - CCS3) in so far that systems were not in place to ensure the provision and maintenance of quality CCTV footage of process areas that may give rise to dust emissions (kiln inlet and PHT tower cameras).

NRW will consider its enforcement response in relation to these matters.

Action 1 – Take steps to ensure the CRO has high quality footage (during daylight and darkness) to enable the early detection of dust emissions / spillages from the kiln inlet area. Evidence shall be provided to NRW to demonstrate that this action has been met prior to restarting the kiln following the January 2020 shut down.

Action 2 – As an interim measure pending the completion of action 1, and with immediate effect, ensure the close visual inspection of the kiln inlet area during start up and other periods where abnormal or unexpected pressure changes are detected within the kiln system.

Action 3 – Review the CCTV provision across the site and upgrade as necessary to ensure the CRO can detect fugitive dust emissions from high risk process areas. Provide NRW with evidence to demonstrate that this action has been met by 31/01/20.

Action 4 - Maintain CCTV cameras and associated equipment in good operating condition. Implement appropriate preventative maintenance checks. Provide NRW with evidence to demonstrate that this action has been met by 31/01/20.

Action 5 – Review the adequacy of the existing kiln system process control measures (e.g. control system alarms and interlocks) for the purposes of preventing and minimising fugitive dust releases from the kiln inlet and outlet seals. Provide NRW with a report of your findings and any proposed improvements (with timescales for implementation) by 31/01/20.

Action 6 - Amend the kiln operating procedure to specify the steps to be taken by the CRO upon detection of visible emission from the kiln inlet seal. Provide NRW with a copy of the revised procedure by 31/01/20.

Action 7 - Complete a feasibility study for the enclosure of the kiln inlet and level 1 of the preheater tower (as proposed) and provide NRW with the study and associated proposals by 31/01/20.

2. Kiln By-Pass System

During the inspection 24/10/19 the Kiln ceased operation (reasons unknown) and upon inspection of the kiln inlet seal area there was a small but persistent dust emissions from numerous holes with a duct that was heavily corroded. This duct forms part of the kiln by-pass system. The emission constituted hot buoyant gases from the kiln system and was observed rising up the height of the pre-heater tower above the kiln inlet area.

It is understood that dust emissions from this duct are likely to be absent/minimal during normal operating conditions owing to the system operating under negative pressure, however, the integrity and condition of the pipework should be such that emissions cannot escape, including during periods of kiln shutdown/temporary stops).

Failure to maintain this equipment is a breach of permit condition 1.1.1 (B1 - CCS3) The Operator is at the planning stage of a major investment to replace the existing kiln bypass system, but this is unlikely to be completed until 2021.

Action 8 - The operator shall undertake repairs to prevent the release of dust emissions from the kiln by-pass system duct. An outline of planned works to alleviate this problem together with timescales should be provided to NRW by 13/12/19.

Action 9 - The operator shall provide NRW with a summary of the proposed changes (major investment) to the by pass system, associated timescales and assess any requirement to vary the permit by 31/01/20.

3. Cement Bagging Plant Feed System

During the inspection 24/10/19 a small but persistent release of cement dust was observed escaping through an open basement door and through adjacent defective or absent cladding - unlikely to cause an offsite impact. It is understood that the basement contains a material transport system conveying cement powder from the silos to the cement bagging plant.

The operations manager reported that some filters required changing/repair.

A vacuum hose was running across the ground into the basement, holding the door open. No personnel were in the area and

therefore there was no apparent reason why the door should be left open.

Failure to maintain this equipment, doors and cladding is a breach of permit condition 1.1.1 (CCS3). Consolidated under criteria B1.

Action 10 - Investigate and provide NRW with feedback as to the works or issue causing this emission together with measures taken to prevent re-occurrence by 13/12/19. Ensure the requirements of Actions 2, 3 & 4 detailed in CAR_NRW0035686 are met in this area.

4. Raw Mill Reject

During the inspection 24/10/19 a significant amount of raw mill reject material was noted stored outside the designated building. A water misting cannon was in place and current conditions were that this material storage was not causing an emission.

Refer to Action 1 CAR_NRW0035686 due 24/12/19. It expected that the BAT review considers the size of reject containment and that reject material is enclosed under normal foreseeable operations. This is currently not the case with material stored external to building and no door on building.

5. Cement Mill 5

An inspection of the area around Cement Mill 5 and the new railhead was completed 24/10/19 and showed a good standard of housekeeping. It is understood that work has been completed as required by Improvement Condition 7 – please submit this report as soon as possible.

6. Outstanding Compliance Actions

During the inspection 08/11/19 outstanding Compliance Assessment Report actions were discussed. Revised timescales for completing those actions was agreed and subsequently submitted to NRW by email 14/11/19.

Failure to complete the actions within the revised timescales may result in further noncompliance and enforcement action.

EPR Compliance Assessment Report

**Report ID:
CAR_NRW0035898**

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

Site	Padeswood Cement Works	Permit Ref	BL10961B
Operator/Permit holder	Castle Cement Limited	Date	24/10/2019

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.

We will now consider what enforcement action is appropriate and notify you, referencing this form.

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			
B1	C3	Refer Details Section	13/12/2019
F3	C3	Refer Details Section	31/01/2020
B5	C3	Refer Details Section	31/01/2020

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.