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|  | EPR Compliance Assessment Report | Report ID: BL1096IB/0244571 | |
| This form will report compliance with your permit as determined by an NRW officer | | | |
| Site | Padeswood Cement Works EPR/BL1096IB | Permit Ref | BL1096IB |
| Operator/ Permit holder | Castle Cement Limited | | |
| Date | 05/10/2015 | Time in | Out |
| What parts of the permit were assessed | Various | | |
| Assessment | Site Inspection | EPR Activity: | Installation: X Waste Op: Water Discharge: |
| Recipient's name/position | David Quick (Plant Manager) | | |
| Officer's name | Stuart Ross | Date issued | 05/10/2015 |

Section 1 - Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations. A detailed explanation and any action you may need to take are given in the "Detailed Assessment of Compliance" (section 3). 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 | | | Condition(s) breached |
|---|--|----|-----------------------|
| a) Permitted activities | 1. Specified by permit | N | |
| b) Infrastructure | 1. Engineering for prevention & control of pollution | N | |
| | 2. Closure & decommissioning | N | |
| | 3. Site drainage engineering (clean & foul) | N | |
| | 4. Containment of stored materials | N | |
| | 5. Plant and equipment | N | |
| c) General management | 1. Staff competency/ training | N | |
| | 2. Management system & operating procedures | C3 | 1.1.1 |
| | 3. Materials acceptance | N | |
| | 4. Storage handling, labelling, segregation | N | |
| d) Incident management | 1. Site security | N | |
| | 2. Accident, emergency & incident planning | N | |
| e) Emissions | 1. Air | N | |
| | 2. Land & Groundwater | N | |
| | 3. Surface water | N | |
| | 4. Sewer | N | |
| | 5. Waste | N | |
| f) Amenity | 1. Odour | N | |
| | 2. Noise | N | |
| | 3. Dust/fibres/particulates | C3 | 3.2.1 |
| | 4. Pests, birds & scavengers | N | |
| | 5. Deposits on road | N | |
| g) Monitoring and records, maintenance and reporting | 1. Monitoring of emissions & environment | N | |
| | 2. Records of activity, site diary, journal & events | N | |
| | 3. Maintenance records | N | |
| | 4. Reporting & notification | N | |
| h) Resource efficiency | 1. Efficient use of raw materials | N | |
| | 2. Energy | N | |

KEY: C1, C2, C3, C4 = CCS breach category (* suspended scores are marked with an asterisk),
A = Assessed (no evidence of non-compliance), N = Not assessed, NA = Not Applicable, O = Ongoing non-compliance – not scored

| | | | |
|------------------------------------|---|---|---|
| Number of breaches recorded | 2 | Total compliance score (see section 5 for scoring scheme) | 8 |
|------------------------------------|---|---|---|

If the Total No Breaches is greater than zero, then please see Section 3 for details of 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 (e.g. 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 suspended or consolidated scores.
- details of advice given
- any other areas of concern
- all actions requested
- any examples of good practice.
- a reference to photos taken

This report should be clear, comprehensive, unambiguous and normally completed within 14 days of an assessment.

In this document 'Natural Resources Wales' means the Natural Resources Body for Wales established by Article 3 of the Natural Resources Body for Wales (Establishment) Order 2012.

Between 1st and 27th December 2014, Castle Cement received 16 dust complaints from residents in the Penymynydd / Penyffordd area reporting dust on their cars / property. Prior to this there were low numbers of dust complaints (many of which were proven to be unrelated to the works) throughout 2014.

Between 1st and 21st December 2014, 6 dust complaints were received and Castle Cement collected samples for analysis. The samples were analysed by a third party laboratory and confirmed the presence of clinker dust and other materials that are likely to be from the cement works (particularly in combination) including clinker dust limestone, silica and fly ash. Analysis of weather data shows that this was a windy period with wind direction supporting the link between the dust complaints and cement works.

Between 23rd and 27th December 2014, Castle Cement received a further 10 dust complaints reporting dust on cars.

On 20/01/15 the site manager contacted NRW to report that during the annual kiln shut down (January 2015) an inspection of the internals of the kiln system (not possible during normal operation) established that there could have been the release of approximately 50Kg of dust.

An initial Part A notification was received 21/01/15 with basic detail as to what had caused the issue, reporting that 50kg of dust had been released from the kiln outlet / cooler December 2014.

Due to the high number of complaints, NRW obtained and reviewed kiln operating data, weather data, and the shift manager's daily logs.

A part B notification received 04/03/15 from Castle Cement stated that the cause of the release (as reported in the Part A notification) was due to defects on the clinker cooler heat exchanger. It reported that damage to the heat exchanger tubes could allow escape of fine clinker dust under certain conditions .e.g. positive pressure situation.

Following a review of information collected from Castle Cement it was also noted that the shift manager's logs reported frequent kiln ID fan tripping due to vibration. The logs also indicate that the kiln tonnage operating at the upper range of normal kiln capacity.

NRW issued a Regulation 60(1) notice on 14/05/15 requiring further information on the issues related to the clinker cooler and also comments regarding kiln ID fan trips made in the shift manager's logs.

The subsequent response to the notice received 03/06/15 reported that;

Kiln ID Fan

The kiln ID fan tripped 18 times in December which is a concern with regards to potential dust release. Castle Cement reports that there was no release and the kiln stopped in a controlled manner. However, NRW is aware that during kiln stoppages there is the potential for positive pressure to develop in the kiln and cause a release of dust from the kiln seals.

The primary cause of the trips was reportedly build-up of coating on the blades which shedded unevenly causing vibration. It also reported wear to the bearings.

The fan was subject to some maintenance by site staff and then rebalanced 17/12/15 by a contractor and performance improved although there were still several trips up until kiln shutdown 30/12/15.

The fan impeller, shaft and bearings were replaced as part of the annual shutdown work (January 2015)

Clinker Cooler Heat Exchanger

The heat exchange operates under negative pressure and significant dust release would only occur when the heat exchanger was operating under positive pressure. Process data shows 9 minutes of positive pressure (not consecutive) out of 19401 minutes between 15th and 27th December on 22/12/14, 23/12/15 and 27/12/15 when dust could have been released.

Abrasion by clinker dust causes abrasion of the cooler tubes. In Jan 2014 the inserts at the top of the tubes were replaced with some blanked off.

In January 2015 an inspection by Castle Cement identified holes of approximately 5cm long and 2cm wide in the tubes and new, longer inserts were installed to prevent a recurrence until the cooler is replaced January 2016.

Permit Breaches

1. Permit condition 1.1.1 requires *that the operator shall manage and operate the activities in accordance with a written management system that identifies and minimises the risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances and those drawn to the attention of the operator as a result of complaints.*

Using sufficient competent persons and resources

Natural Resources Wales considers that the Environmental Management System did not minimise the risk of pollution by allowing the continued operation of the kiln with frequent kiln ID fan trips. Steps should have been taken to ensure reliable operation of the ID fan (effective maintenance), or stop the operation of the kiln to prevent the high number of unplanned stoppages and the associated risk of dust release from the kiln. This attracts a CCS score of 3.

2. Permit condition 3.2.1 requires that *'Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures...have been taken, to prevent or where that is not practicable, minimise those emissions'.*


Natural Resources Wales considers that there was inadequate inspection and maintenance to prevent a deterioration in the clinker cooler heat exchanger tubes. Given the wear identified a more frequent maintenance interval i.e. quarterly or 6 monthly inspection would have been prudent. This attracts a CCS score of 3.

ACTIONS

1. Review and report to NRW, your decision making process and associated criteria for ceasing kiln operations when critical plant and equipment, the failure or degradation of which may cause an environmental impact – dust.
2. Review the suitability of the current inspection and maintenance provisions for critical plant & equipment associated with kiln operations, the failure of which may cause an environmental impact (dust) including, but not limited to the kiln ID fan and clinker cooler heat exchanger. Provide NRW with the findings of your review (including the existing inspection and maintenance provisions) and proposals for improvement, where appropriate to prevent and minimise incidents such as those identified in this report.
3. Confirm the findings of the additional inspection of the cooler tubes scheduled for July – Sept 2015.

Please complete the above actions by Friday 20th November 2015.

Note . A separate warning letter issued for the permit breaches identified above.

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| Operator/ Permit | Castle Cement Limited | Date | 02/10/2015 |

| | | | |
|---|--|---|-------------------------------------|
| Section 3- Enforcement Response | | Only one of the boxes below should be ticked | |
| 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. | | | <input type="checkbox"/> |
| 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. | | | <input checked="" type="checkbox"/> |
| We will now consider what enforcement action is appropriate and notify you, referencing this form. | | | <input type="checkbox"/> |

| Section 4- Action(s) | | | |
|--|--------------|-------------------------|----------|
| Where non-compliance has been detected and an enforcement response has been selected above, this section summarises the steps you need to take to return to compliance and also provides timescales for this to be done. | | | |
| Criteria Ref. | CCS Category | Action Required/Advised | Due Date |
| See Section 1 above | | | |
| C2 | C3 | Refer details section | 20/11/15 |
| F3 | C3 | Refer details section | 20/11/15 |

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 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 which 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 fulfill 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 (e.g. 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 and taking any resulting action
- preventing breaches of environmental law
- assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Information 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 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 the officer's line managers. 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.