COMMERCIAL IN CONFIDENCE

Triennial Environmental Audit

Independent Data Analysis for

Conditions of Consent

Cement Mill 7- DA No. 85-4-2005-i
Kiln 6 - DA No. 401-11-2002-i

20 - 22 November 2017

Report SRM – 291117

Audit Report

CONFIDENTIALITY

Information concerning your organisation's Audit Report, findings or records will not be disclosed to any external Third Party.

1.0 Purpose and Scope of the Audit:

Boral Cement Berrima commissioned Somerset Risk Management Pty Ltd (SRM) to verify the data in its Triennial Environmental Audit of Cement Mill 7 (CM7) and Kiln 6 (K6) in accordance with the Minister for Planning's Condition of Consent Section 2, 3.3 and 4.6.

Somerset Risk Management was not responsible for the preparation of any part of the Boral Reports reviewed during this assessment.

The audit was carried out using recognised standard assessment techniques based on ISO 14010 – Guidelines and General Principles for Environmental Auditing as well as ISO 14011 – Procedures for Environmental Auditing.

The audit scope required the following legal obligations be evaluated by the Auditor for compliance:

- Conditions of Consent for Development Applications DA No. 85-4-2005-i (CM7) and
- DA No. 401-11-2002-i (K6) (MOD 9)
- Operations of CM7 against the predictions of Statement of Environmental Effects (SEE) dated April 2005 and other documents listed under conditions 1.1 a) to 1.1 f) inclusive
- Operations of K6 against the predictions of SEE dated November 2002 for upgrade of works and other documents listed under conditions 1.2 a) to 1.2 p) inclusive in accordance with MOD 9.
- Environmental Protection License (EPL) 1698 revisions
- Compliance of Boral's Environmental Management Plan against the ISO 14001:2004 Standard requirements.
- Noise Impact Assessment Boral BCSC Berrima, Cement Mill 7 Project dated 3 April 2005
- Air Impact Assessment Air Quality Assessment for SEE, Cement Mill 7 Project dated 6 April 2005
- Traffic Report: Berrima Cement Works, Cement Mill 7 Project dated 11 April 2005

Details for each Condition of Consent findings are provided in the body of this report. The Auditor has reviewed evidence of NATA Accreditation and appropriate competencies for personnel collecting and analysing samples and where practicable, validates the appropriate servicing/calibration of monitoring equipment.

Based on the data review process applied during the audit, minimal discrepancies were identified and reported in the 2017 Triennial Compliance Report of CM7 and K6. The report provides a fair representation of the project's operations and monitoring programs.

The audit verified Summary Tables in the main Report as well as Data Tables and Graphical Figures included within the Report's Appendices.

It is important to note, verification was only carried out on the data acquired by Boral Cement Berrima and is referenced within this Report.

2.0 Audit Methodology

The audit was performed in accordance with ISO 19011: Guidelines for Environmental Management Systems Auditing. In conducting the audit, the following tasks were undertaken during 20 - 22 November 2017:

- Documentation provided by the HSE Advisor at Boral Cement Berrima were reviewed and evaluated for compliance
- Interviews were conducted with Senior Management and Plant Staff during the three-day audit
- Site inspections of CM7 and K6 activities were undertaken to determine the effectiveness of current controls.

3.0 Audit Report Layout

The Audit Report has been structured as follows:

- Parts 1A and 1B provide historical compliance details for Conditions of Compliance at CM7 (p7 – p31) and K6 (p34 – p89) as per the three AEMR Reporting periods from 2015 - 2017 and any follow-up Management Actions

- Parts 1A and 1B also present details of the recent outcomes from the 2017 Triennial Compliance audit where a number of Observations or anomalies were raised and recorded in red or blue font within the body of this Report.

- Parts 2A and 2B (p90- 95) and (p103 – p100) provide a summary of past and present Statements of Environmental Effects for CM7 and K6. Further to these summaries, Part 2A offers a summary assessment of predicted environmental impacts versus actual environmental impacts for the K6 upgrade for these same three reporting periods

- Part 3 (p103 – p108) presents a detailed account on the effectiveness of the Organisation's Environmental Management System's compliance for the last 12 months. Improvement Requests are denoted in blue font.

4.0 Audit Team

Olga Lihou from Somerset Risk Management Pty Ltd, a certified Senior Lead Environmental Auditor, Exemplar Global Certification No 15061, was approved by the Department of Planning and Environment prior to commencing this audit, in accordance with section 2; 3.3 of the Consent.

The following personnel kindly participated during the three-day assessment:

– Stuart Hutchings	Site Operations Manager
– Michael Curley	HSE Advisor
– Gabriel Paicu	Technical Manager/Acting Production Manager
– Branko Vuleta	Production Services and Logistics Superintendent
– Wayne Hewitt	OHS Coordinator
– John Saker	Process Systems Engineer

5.0 Report Distribution:

Name: Management Boral Cement Berrima
Director-General, Department of Planning and Environment (DP&E) - *formerly known as the Department of Planning and Infrastructure (DP&I)*
Environment Protection Authority (EPA)
Wingecarribee Shire Council

Audit Report Findings

6.0 Executive Summary

A compliance audit of Boral Cement Berrima was undertaken by Somerset Risk Management Pty Ltd against the Conditions of Consent for CM7 and Kiln 6. The Lead Environmental Auditor also focused on the consistency of each facility's operation in accordance with the SEE, EPL and Boral Cement Berrima's internal Environmental Management Plans (EMPs) against ISO 14001 requirements.

Boral Cement's Senior Management implemented and periodically update procedural documents underpinning the corporate framework to support the operation of Berrima's site EMS. The Corporate Environmental Management System continues to provide effective tools to manage the activities on Boral Cement sites, including CM7 and K6.

It was pleasing to note, with Senior Management's continued commitment and injection of appropriate resources into the site, there were no major or minor non-conformances raised during the 2017 Compliance Audit.

Volumes of objective evidence noted below, demonstrate compliance and continual improvement with each requirement of the Conditions of Consent, the SEE and the Environmental Protection License for CM7 and K6:

- ✓ All mandatory licenses, permits and approvals for Berrima Cement Works were current.
- ✓ The Environment Protection License (EPL) No.1698 was in place for the site with reporting through to the Environment Protection Authority (EPA). On the 20th September 2012, the Boral Cement Works blast furnace slag alternative raw material exemption 2012 commenced and is valid until 20th September 2016 unless revoked or amended by the EPA in writing at an earlier date.
- ✓ Since the 2008 K6 Compliance Audit, Boral Cement Ltd has submitted a further 3 annual AEMR's to the Director-General with a copy to the EPA and Wingecarribee Council for the following reporting periods: 1/5/14 – 30/4/15; 1/5/15 – 30/4/16 and 1/5/16 – 30/4/17.
- ✗ *The SRM Auditor observed the 2016-2017 AEMR had been prepared by an independent Contractor from EMM Consulting Pty Ltd. Nevertheless, SRM's Auditor could not confirm whether all the new Conditions of Consent raised in MOD 9 for Kiln 6 had been reviewed, assessed, verified and reported for compliance within their AEMR 2016-2017 combined Report. The Auditor noted MOD 9 had only been referenced in 3 sections of their Report pages 11, 12 and 13.*
- ✓ All Boral's external reporting obligations have been met on time or approved extended time, including the annual report to EPA and the AEMR to DP&E.
- ✓ Since the 2014 CM7 Compliance Audit, Boral Cement Ltd has not received any requests from the DP&E to send additional information for the AEMR. No other requests had been submitted to Boral for K6.
- ✓ Environmental improvement initiatives included:
  - dust minimisation and spillage reductions resultant from sealing quarry road, installing 2-wheel wash facilities, and improving external coal stockpiling
  - nuisance noise issues have been addressed by several fixes that included closing doors/openings, installing new doors, fixing enclosures, installing noise silencers on blasters and selected fans
  - Boral Cement Berrima site had completed planting over 12,000 seedlings before the PRP Re-Vegetation Licence deadline.

Part 1 A

Boral Cement Limited – Cement Mill 7 - Conditions of Consent

(Pages 7 – 31)

Part 1 A
Boral Cement Limited – Cement Mill 7 (CM7) - Conditions of Consent

1. GENERAL

1.1 Scope of Development:

Condition

The Applicant shall carry out the development generally in accordance with:

a) Development Application No. 85-4-2005-i lodged with the Department of Infrastructure, Planning and Natural Resources on 15 April 2005
b) Statement of Environmental Effects: Proposed Upgrade of Cement Grinding Capacity, Cement Mill 7 Project, dated April 2005 and prepared by Olsen Environmental Consulting Pty Ltd
c) Noise Impact Assessment: Boral BCSC Berrima, Cement Mill 7 Project dated 3 April 2005 and prepared by Connell Hatch
d) Air Impact Assessment: Air Quality Assessment for SEE, Cement Mill 7 Project, dated 6 April 2005 and prepared by Holmes Air Sciences
e) Traffic Report: Berrima Cement Works, Cement Mill 7 Project dated 11 April 2005 and prepared by Masson Wilson Twiney Pty Ltd
f) Correspondence with subject 'Cement Mill 7 – Implementation Dates' prepared by Mr Grant Williams, Blue Circle Southern Cement Ltd and dated 6 July 2005; and
g) the conditions of this consent.

In the event of an inconsistency between a condition of this consent and the documents listed under a) to g) above, the condition of consent shall prevail to the extent of the inconsistency.

Historical Compliance with Condition as per AEMRs 2014 - 2017

- As detailed within the AEMR, there were no non-compliances raised against the Conditions of Consent during the reporting 2014 - 2016 periods under this audit review
- As detailed within the AEMR Report 2016 - 2017, Table 2.1 Statement of Compliance, and Table 2.2 Non-Compliances, all conditions of the relevant development consent were complied with. There were no non-compliances to report. Section 3.3.1 Consents specifies that the development consent for CM7 was approved in 2005 for the establishment and operation of a new Cement Mill and has never been modified.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2017:

- As of 1 August 2010, BCSC was rebranded to Boral Cement Limited. The site of BCSC Cement Works at Berrima was consecutively renamed Boral Cement Berrima.
- Boral Cement continues to strive for environmental excellence and is committed to environmental improvements at Berrima. Boral Cement will continue to maintain regular communications with NSW Environment Protection Authority (EPA) and Department of Planning and Infrastructure (DPI) to proactively identify and address upcoming issues, monitor compliance, and work cooperatively to ensure that EPA and DPI requirements are understood and delivered.

Compliance Audit Findings November 2017:

- ✓ Since the last Compliance Audit conducted during October 2014, Boral Cement continues to maintain environmental excellence, demonstrating their commitment to continually improve their EMS at the Berrima site. Examples of continual improvement have been provided throughout Part 3 Report.
- ✓ At the time of this audit, there were no known non-conformances raised against CM7 after the 2014 -2017 Reporting periods. However, six Improvement Requests denoted in blue font in the Part 3 Report, require attention

Compliance Audit 2017		
Yes	No	NA
✓		

1.2 GENERAL

Condition

The Applicant shall operate the cement works upgrade to meet the following requirements:

a) CM7 is utilised in place of CM5; and
b) CM5 may be utilised as a secondary, back-up mill when CM7 is inoperative.

Note: *The Development Application for the cement works upgrade has been assessed and determined as a non-designated development under Part 2, Schedule 3 of the Environmental Planning and Assessment Regulation 2000. That Part requires that the cement works upgrade will not significantly increase the environmental impacts of the cement works as posed prior to the commencement of the cement works upgrade. Condition 1.2 aims to limit the impacts of the cement works, as upgraded in accordance with this consent, to reflect the intent of Part 2, Schedule 3 of the Environmental Planning and Assessment Regulation 2000.*

Historical Compliance with Condition as per AEMRs 2014 - 2017

CM5 was not operated during the reporting period. The total production from CM7 for the reporting period:

- 2014 – 2015 – 600,456 tonnes
- 2015 – 2016 – 604,073 tonnes
- 2016 – 2017 – 1,167,323 tonnes.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ CM5 did not operate during the reporting period.

Compliance Audit 2017		
Yes	No	NA
✓		

1.3 Provision of Documents:

Condition

Where practicable, the Applicant shall provide all documents and reports required to be submitted to the Director-General under this consent in an appropriate electronic format. Provision of documents and reports to other parties, as required under this consent, shall be in a format acceptable to those parties and shall aim to minimise resource consumption.

***Note**: At the date of this consent, an appropriate electronic format for submission to the Director-General is the "portable document format" (pdf) or another format that may be readily converted to pdf.*

Historical Compliance with Condition as per AEMRs 2014 - 2017

- Where possible all documentation has been provided electronically to minimise resource consumption.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ All documentation had been provided to the Auditor electronically to minimise resource consumption.

Compliance Audit 2017		
Yes	No	NA
✓		

1.4 Statutory Requirements:

Condition

The Applicant shall ensure that all necessary licences, permits and approvals are obtained and kept up-to-date as required throughout the life of the cement works. No condition of this consent removes the obligation for the Applicant to obtain, renew or comply with such licences, permits or approvals.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2017:

- All required licenses, permits and approvals are maintained on site at Boral Cement Berrima and kept up-to-date
- Environment Protection Licence (EPL) No. 1698 is in place for the site with reporting to the EPA
- There were a few Revisions to the EPA Licence and the latest being released in December 2016
- Development Consent No. DA 85-4-2005-i - approved in 2005 for the establishment and operation of the new cement mill (CM7). The Development Consent for CM7 has never been modified.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

At the time of this audit the following observations were validated:

- ✓ All required licenses, permits and approvals were being maintained on site at Boral Cement Berrima and were current
- ✓ The Environmental Protection License (EPL) No.1698; Revision Dec 2016, was in place for the site with reporting through to the EPA
- ✓ CM7 Development Consent was not modified during the reporting periods 01/05/14 to 30/04/15; 01/05/15 to 30/04/16, 01/05/16 to 30/04/17.

Compliance Audit 2017		
Yes	No	NA
✓		

1.5 Compliance:

Condition

The Applicant shall ensure that all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this consent. The Applicant shall be responsible for the environmental impacts resulting from the actions of all persons on the site including any visitors.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2017:

- Boral Cement's site inductions for all employees, contractors and sub-contractors had been reviewed and rewritten in 2014
- Environmental compliance training for site Workers (employees & Contractors), where the conditions of this Consent and other regulatory documents for the Site are communicated, is ongoing
- Due to a major company restructure, both induction and compliance packages were revised/updated in FY 2014 - 15 and Refresher Training was to be undertaken
- Environmental issues and environmental compliance are also reviewed at daily Site Lean/Management Meetings, weekly/monthly Health & Safety Meetings, and Monthly Management Meetings
- Management conducts Lean/5S/HSE site inspections to identify any issues regarding resource efficiency, environment and safety concerns
- The site induction includes Environmental Awareness Training whereby all Operators and Contractors undergo a Site Induction before commencement of work and undergo additional Refresher Training every 2 years
- Records of Environmental Training were verified for the following Operators:
  - K Turner on 1/2/2016 (1896_001)
  - I Thorpe on 24/10/2014 (1897_001)
  - M Todd on 30/10/2014 (1898_001)
  - B Dickson on 6/11/2014 (1899_001)
  - S Loiterton on 21/12/2016 (1900_001)
  - D Shanahan on 2/5/2016 (1901_001)
  - J Cergovski on 3/1/2017 (1902_001)

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ Boral Cement Site Inductions for all workers (employees, contractors and sub-contractors) and compliance packages have been reviewed and rewritten due to a major company restructure
- ✓ Environmental Refresher Training for site employees and contractors appears ongoing
- ✓ Conditions of this Consent and other regulatory documents for the site are communicated at environmental refresher training
- ✓ Environmental issues and environmental compliance are also reviewed at daily Site Lean/Management Meetings, weekly/monthly Health & Safety Meetings, and Monthly Management Meetings
- ✓ Management conducts Lean/5S/HSE site inspections to identify any issues regarding resource efficiency, environment and safety concerns.

Compliance Audit 2017		
Yes	No	NA
✓		

Observation:
SRM Auditor verified "some" training had been undertaken in September 2017. However, insufficient evidence at the time of this audit to verify whether Contractors and Sub-contractors had been included in this training program.

1.6 Compliance:

Condition

Prior to the commencement of each of the events listed from a) to b) below, or within such period as otherwise agreed by the Director-General, the Applicant shall certify in writing, to the satisfaction of the Director-General, that it has complied with all conditions of this consent applicable prior to the commencement of that event. Where an event is to be undertaken in stages, the Applicant may, subject to the agreement of the Director-General, stage the submission of compliance certification consistent with the staging of activities relating to that event. The events referred to in this condition are as follows:

a) construction of the cement works upgrade; and
b) operation of the cement works upgrade.

Historical Compliance with Condition as per AEMRs 2014 - 2017

- Compliance at commencement of operations was demonstrated in the 2007 - 2008 AEMR
- There were no changes to the operation of CM7 that required additional evidence of compliance

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

1.6 Compliance:

Compliance Audit Findings November 2017:

- ✓ Compliance was demonstrated in the 2007 – 2008 AEMR
- ✓ There were no changes to the operation of CM7 that required additional evidence of compliance.

Compliance Audit 2017		
Yes	No	NA
		✓

1.7 Compliance:

Condition

Notwithstanding Condition 1.6 of this consent, the Director-General may require an update on compliance with all, or any part, of the conditions of this consent. Any such update shall meet the reasonable requirements of the Director-General and be submitted within such period as the Director-General may agree.

Historical Compliance with Condition as per AEMRs 2014 - 2017

- DP&E did not request an update during this reporting period.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ It is understood the DP&E had not requested further updates at the time this audit was conducted
- ✓ 2016 - 17 AEMR incorporates two separate AEMRs required by the Development Consents into one report in accordance with a request from the NSW Department of Environment and Planning (DP&E) dated 5 August 2016 in response to the AEMRs provided for the 2016 reporting period.

Compliance Audit 2017		
Yes	No	NA
✓		

1.8 Compliance:

Condition

The Applicant shall meet the requirements of the Director-General in respect of the implementation of any measure necessary to ensure compliance with the conditions of this consent, and general consistency with the SEE and those documents listed under condition 1.1. The Director-General may direct that such a measure be implemented in response to the information contained within any report, plan, correspondence or other document submitted in accordance with the conditions of this consent, within such time as the Director-General may agree.

Historical Compliance with Condition as per AEMRs 2014 - 2017

- DP&E did not request any action under this Condition during the reporting period.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ At the time this audit was conducted, it was understood the DP&E had not requested any action be taken under this Condition.

Compliance Audit 2017		
Yes	No	NA
✓		

2. ENVIRONMENTAL PERFORMANCE

2.1 Noise Impacts:

Condition

Construction activities associated with the cement works upgrade shall only be carried out:

a) between 7:00 am and 6:00 pm, Monday - Friday inclusive, during periods in which the cement works is shut-down, and construction noise is audible at the boundary of the site
b) between 7:00 am and 1:00 pm on Saturdays, during periods in which the cement works is shut-down, and construction noise is audible at the boundary of the site
c) at no time on Sundays or Public Holidays, during periods when the cement works is shut-down, and construction noise is audible at the boundary of the site
d) at any time during periods in which the cement works is in operation; and
e) at any time if construction noise is inaudible at the boundary of the site.

Historical Compliance with Condition as per AEMRs 2014 - 2017

- All construction activities were completed prior to reporting periods.
- This Condition refers to the original construction project rather than ongoing operations (2014/15 AEMR and 2015/16 AEMR).

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ All construction work was completed prior to these 3 reporting periods.

Compliance Audit 2017		
Yes	No	NA
		✓

2.2 Noise Impacts

Condition

Subject to compliance with the requirements of this Consent, the cement works upgrade may be operated 24 hours per day, 7 days per week.

Historical Compliance with Condition as per AEMRs 2014 - 2017

- The site, including CM7, operates 24 hours a day, 7 days a week.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2016 - 2017:

- The noise assessment predicted that CM7 operated within the contribution criteria during the reporting period and should be allowed to continue operating 24 hours per day, 7 days per week
- Sound power levels near CM7 varied compared to those from previous years with a number of exceedances of contribution criteria. However, the exceedances are attributed to noise contributions from adjacent plant, and noise levels from CM7 were below contribution criteria.

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, the Berrima site, including CM7, operates 24 hours per day, 7 days per week
- ✓ Existing management measures effectively contain noise levels below contribution criteria.

Compliance Audit 2017		
Yes	No	NA
✓		

2.3 Noise Impacts

Condition

The Applicant shall design, construct, operate and maintain all new and upgraded components forming part of the cement works upgrade to ensure that for each receiver location listed in Table 1 below, the noise level at each receiver location does not exceed the maximum allowable noise contribution limit at the receiver location specified.

Refer to Table 1 in the Conditions of Consent – Maximum Allowable Noise Contribution Limit (dB(A))

***Note**: Noise contributions specified in Table 1 are to be interpreted as contributions from the new and upgraded components forming part of cement works upgrade only and not as noise limits for the site as a whole.*

Historical Compliance with Condition as per AEMRs 2014 - 2017

2014 – 2015:

- Compliance with this Condition previously confirmed by noise monitoring undertaken in April 2009, August/September 2010, June/July 2011, June/July 2012, and September 2013 by Hatch Pty Ltd

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

- The most recent round of noise monitoring was conducted by Hatch Pty Ltd in August 2014. The report (Annual Environmental Noise Compliance Assessment 2014, dated 29/08/2014), concludes that *"It is the assessment of this study that the plant is in compliance with its licence conditions for noise".*
- Boral Cement Berrima received four noise complaints during the reporting period. Specific complaints resulting to plant operations were addressed and corrective and preventive actions taken. The noise monitoring carried out by Hatch in recent years showed that weather conditions significantly contribute to noise transmission across the site boundary. History of noise complaints indicates that the majority of complaints arise during periods of adverse weather including temperature inversion and high winds (wind speeds above 3m/s).

- Boral Cement Berrima is continuing activities aimed at minimising the noise from the Plant. Several measures were introduced including replacement of kiln cooler fans with a quieter type and enclosure of two precipitator fans
- Cement milling activities have not changed significantly during the reporting period from those in the previous years.

2015 – 2016:

- Compliance with this Condition was previously confirmed by the Hatch Pty Ltd noise monitoring undertaken in April 2009, August/September 2010, June/July 2011, June/July 2012, September 2013, and August 2014
- The most recent round of noise monitoring was conducted by Hatch Pty Ltd in July and August 2015
- The report (Annual Environmental Noise Compliance Assessment 2015, dated 26/11/2015), confirms that the site remains compliant with the licence conditions in relation to noise emissions from the site
- The noise monitoring conducted in recent year's shows that weather conditions significantly contribute to noise transmission across the site boundary. History of noise complaints indicates that the majority of complaints arise during periods of adverse weather including temperature inversion and high winds (wind speeds above 3m/s).
- Boral Cement Berrima is continuing activities aimed at minimising the noise from the Plant. In relation to Kiln 6 overhaul activities, typically the demolition and rebuild of refractory brickwork, the site has undertaken to limit those activities during night time periods.
- Boral Cement Berrima received 2 noise complaints during the reporting period. The sources of the noise were investigated, the managers responsible for work creating the noise emissions were advised and the complainant contacted for further information and feedback.

2016 – 2017:

- Recognition Research Pty Ltd was engaged to undertake the Noise Monitoring program during this period instead of Hatch Pty Ltd
- Boral manages noise on site in accordance with their Noise Management Plan that defines monitoring points, frequency and criteria
- Noise was measured near sources at CM7 and entered into a computer noise model which predicted the Mill's noise contribution at receivers assuming attenuation of the noise over distance
- Sound power levels near CM7 varied compared to those from previous years with a number of exceedances of contribution criteria. However, the exceedances are attributed to noise contributions from adjacent plant and noise levels from CM7 are below contribution criteria
- Operations at CM7 complied with the noise contribution consent conditions during the reporting period
- The noise assessment predicted that CM7 operated within the contribution criteria at the residential locations during the reporting period including for the worse case weather scenario
- Existing management measures effectively contain noise levels below contribution criteria. However, Boral will ensure inspection hatches are closed when not in use and apply cladding/noise absorbing material in certain areas. The sound levels were mostly the same or less than results for previous years or within measurement variation error (+/- 2 to 3dB).
- Some CM7 locations had higher sound levels compared to 2012 or earlier measurements. Where levels were higher they were mostly considered to be not caused by CM7 emissions.
- Measurement locations near CM7 with sound levels 3 dB above previous sound levels are in Figure 5.3, which shows predicted contribution sound levels at receivers based on distance attenuation. The locations in Figure 5.3 are shown in Figure 5.4. It is shown in Figure 5.3 that potential exceedances are attributable to contributions from other plant at the site, not only from CM7.
- Noise was not measured at Candowie Farm as the residence has been demolished and the property is being developed for industrial uses.

Compliance Audit Findings November 2017:

- ✓ Numerous noise reduction strategies have already been implemented through Plant Maintenance programs since the 2011 compliance audit
- ✓ Site remains compliant with license conditions as per Hatch Reports from 2009 – 2015
- ✓ Follow-up actions will include ongoing monitoring of noise levels and assessment of major noise emitters on site
- ✓ Existing management measures effectively contain noise levels below contribution criteria. However, Boral will ensure inspection hatches are closed when not in use and apply cladding/noise absorbing material in certain areas.

Compliance Audit 2017		
Yes	No	NA
✓		

2.4 Noise Impacts

Condition

The maximum allowable noise contributions identified in condition 2.3 apply under all meteorological conditions, except:

a) during wind speeds greater than 3 ms^{-1} measured at 10 metres above ground level, or

b) during temperature inversion conditions of greater than 3°C/100m and wind speeds of greater than 2 ms^{-1} measured at 10 metres above ground.

Historical Compliance with Condition as per AEMRs 2014 - 2017

- Noted.

2016 – 2017:

- The sound levels were mostly the same or less than results for previous years or within measurement variation error (+/- 2 to 3 dB)
- Some CM7 locations had higher sound levels compared to 2012 or earlier measurements. Where levels were higher they were mostly considered to be not caused by CM7 emissions.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ The Condition under all meteorological conditions and its exceptions is well understood by Boral Management.
- ✓ Existing management measures effectively contain noise levels below contribution criteria. However, Boral will ensure inspection hatches are closed when not in use and apply cladding/noise absorbing material in certain areas.
- ✓ Validated DRAFT Noise Monitoring Report submitted by independent contractors Recognition Research Pty Ltd for the September - October 2017 period.

Compliance Audit 2017		
Yes	No	NA
✓		

2.5 Noise Impacts

Condition

For the purpose of assessment of noise contributions specified under condition 2.3, noise from the cement works upgrade shall be:

a) measured at the most affected point on or within the receptor site boundary or at the most affected point within 30 m of the dwelling (rural situations), where the dwelling is more than 30 m from the property boundary, and

b) where applicable, subject to the modification factors provided in Section 4 of the New South Wales Industrial Noise Policy (EPA, 2000).

Historical Compliance with Condition as per AEMRs 2014 - 2017

- **2014 – 2015:** Noise monitoring was conducted in accordance with this condition by Hatch Pty Ltd in September 2014
- **2015 – 2016:** Noise monitoring was conducted in accordance with this condition by Hatch Pty Ltd in July and August 2015
- **2016 – 2017:** The Adelaide Street monitoring was conducted at a property at the intersection of Adelaide Street and Taylor Avenue. Attended monitoring was conducted at Argyle Street near the intersection with Taylor Avenue. Trends in noise monitoring results have been addressed. Noise will continue to be monitored at the specified locations.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ Validated DRAFT Noise Monitoring Report submitted by independent contractors Recognition Research Pty Ltd for the September - October 2017 period.

Compliance Audit 2017		
Yes	No	NA
✓		

2.6 Noise Impacts

Condition

Notwithstanding condition 2.5 of this consent, should direct measurement of noise from the site be impractical, the Applicant may employ an alternative noise assessment method deemed acceptable by the EPA (refer to Section 11 of the New South Wales Industrial Noise Policy (EPA, 2000)). Details of such an alternative noise assessment method accepted by the EPA shall be submitted to the Director-General prior to the implementation of the assessment method.

Historical Compliance with Condition as per AEMRs 2014 - 2017

2014 – 2015:

- No alternative noise assessment method has been required.

2015 – 2016:

- No alternative noise assessment method has been required.

2016 – 2017:

- Section 11 of the INP suggested the following alternate methods for determining compliance with this requirement:
  - *Method 1 - measuring existing noise levels with and without the premises operating;*
  - *Method 2 - measuring the noise emissions from each of the premises at reference locations and then calculating the noise-emission levels back to the receiver; and*
  - *Method 3 - using an accepted noise model calibrated for the particular locality and source*
- Method 2 was used for CM7 e.g. measuring the noise emissions from each of the premises at reference locations and then calculating the noise-emission levels back to the receiver. This method has been used in previous AEMRs for the site with the results accepted by DP&E.
- No management measures required.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ The Audit assessment validated that no alternative noise assessment method has been required
- ✓ INP provides alternate methods for determining noise compliance
- ✓ Method 2 was used for CM7 which has been used in previous AEMRs for the site with the results being accepted by DP&E.

Compliance Audit 2017		
Yes	No	NA
✓		

2.7	Air Quality:

Condition

The Applicant shall design, construct, operate and maintain the cement works upgrade in a manner that minimises dust emissions from the site. The raw material storage bunker associated with the cement works upgrade shall be maintained in a condition that effectively eliminates wind generated dust emissions. Dust collection systems shall be provided to all potential sources of dust production associated with the cement works upgrade.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 - 2015:

- Boral Cement Berrima is aware that elevated fugitive dust emissions from the site can occur and has the procedures in place to monitor such dust emissions
- An EPA-approved Dust Management Plan has been implemented since September 2011. It was reviewed and updated in September 2014
- The EPA works with Boral Cement on improvement programs by means of Pollution Reduction Programmes inserted as conditions of the Site Licence. Currently, a dust-related Pollution Reduction Programme (PRP 9) is being implemented which involves re-vegetation of eroded site areas. Over 15,000 seedlings of native shrubs and trees have been planted since 2012, with the first year planting demonstrating very high survival rates and vigorous growth. Additional areas have been sowed. With the expected germination rate, approximately 15,000 seedlings should be established in the sowed areas over the years, providing succession.
- A total of 31 complaints were received from the community in relation to the deposition of dust on vehicles and properties, most of them in one period of conducive weather conditions (early morning dew) in autumn 2014. All incidents were investigated, and appropriate actions were taken. Further details were provided in Attachment No. 7 - Complaints Summary for 2014 - 2015 Reporting Period.
- Boral Cement Berrima maintains a Dust Deposition Monitoring Program, currently consisting of seven dust deposition gauges located around the perimeter of the site, as detailed on the site plan provided as Attachment No 1. The current number and location of gauges were approved by the EPA in December 2012.
- Samples are collected from each gauge on a monthly basis to assess compliance against the dust deposition guidelines detailed in the *Approved Methods and Guidance for Analysis for the Modelling and Assessment of Air Pollutants in NSW* (DEC, 2005). As there is no emission limit specified in the Licence, the EPA dust deposition guideline of 4g/m^2/month (expressed as a 12-month rolling average) has been adopted for the Site.
- For the reporting period, the annualised average dust deposition data for all 7 current dust gauges have shown values below the EPA guidelines of 4g/m^2/month. Further details were provided in the AEMR 2014 for Kiln 6, Attachments No.1 and 2.

2015 - 2016:

- The 2016 AEMR CM7 (Section 2.7) and Kiln 6 AEMR has minimal data in section 2.7 other than stating that the site was compliant with the requirement. Compliance can be demonstrated however via the ongoing monitoring of dust emissions through the dust deposition gauges in various locations throughout the New Berrima surrounds and the high volume air sampler. The data from these gauges has been provided and was supplied as Appendices to the AEMR. In addition, Boral Cement Berrima continue to respond to any dust complaint from their neighbours when received, including reviewing their operations at the time to identify any operational issues that may explain those events. Those complaints were listed in the Community Complaints registers (Attachment No. 7, AEMR) and are now recorded in the Boral Safety Incident Management System (SIMS).

2016 – 2017:

- Seven dust monitoring gauges were located around the perimeter of the site and the New Berrima community (Figure 3.2 Gauge Locations). Samples were collected from each gauge on a monthly basis to assess compliance against the dust deposition guidelines detailed in the Approved Methods and Guidance for Analysis for the Modelling and Assessment of Air Pollutants in NSW (DEC, 2005). As there is no emission limit specified in the Licence, the EPA dust deposition guideline of 4 g/m^2/month (expressed as a 12-month rolling average) has been adopted for the Site. As can be seen in Figure 5.2, average dust deposition data for all seven current dust gauges for the reporting period have values below the EPA guideline of 4 g/m^2/month, with only one location (gauge 3) above 2 g/m^2/month, and Gauge 3 did not exceed 2.5 g/m^2/month.
- The graph in Figure 5.3 of AEMR 2016-2017 Report shows the results of the analysis of the dust gauges located around the site and the New Berrima community from January 2011 - April 2017. As can be seen, the current data shows that Boral Cement Berrima remains below the EPA guideline of 4 g/m^2/month. Note - Dust Gauges 4 and 6 were removed by agreement in 2013.
- Boral Cement Berrima will continue to respond rapidly to, thoroughly investigate, and rectify any dust complaints received from the local community. Increased focus on door closures, hazard reporting and preventative maintenance remains the key to minimising dust impacts internally and externally.
- Reasonable and feasible measures are being implemented to minimise fugitive dust from coal stockpiles. This includes compaction of stockpile batters (being pushed up with a loader), wetting down with a water cart in dry weather conditions, and stopping loading/unloading operations in high winds.
- The site's re-vegetation program included planting in the areas surrounding the stockpiles to create a windbreak and a dust screen.

Compliance Audit Findings November 2017:

- ✓ Test results from annual stack monitoring of CM7 for the 2 reporting periods recorded above confirm continued compliance with the total solid particle licence limit of 20 mg/m^3.
- ✓ Boral continually works on Pollution Reduction Programmes whereby over 15,000 seedlings of native shrubs and trees have been planted since 2012. Completion of seeding and tube-stock planting has ensured Boral Cement Berrima continues to maintain compliance with their Licence Condition U4.3 of the Pollution Reduction Program No 9 of the Berrima Environment Protection Licence No 1698.
- ✓ An EPA-approved Dust Management Plan has been implemented since September 2011 and updated in September 2014
- ✓ Management are focusing on reducing the dust emissions generated around the shale quarry and shale pad to ensure the EPL limit is not exceeded by the sealing of "unsealed roads" as an additional means of reducing fugitive dust emissions
- ✓ Dust control is a fundamental part of the operational management of this site. Dust is controlled through the implementation of the Dust Management Plan. As sound control measures are in place and this is supported by monitoring data, these operations will continue (issues are managed through immediate corrective action and reporting through the Incident Management Database SIMS) – Refer to page 32 2017 AEMR (K3.9).

Compliance Audit 2017		
Yes	No	NA
✓		

2.8 Air Quality

Condition

The Applicant shall take all practicable measures to ensure that all vehicles entering or leaving the site and carrying a load that may generate dust, are covered at all times, except during loading and unloading. Any such vehicles shall be covered or enclosed in a manner that will prevent emissions of dust from the vehicle at all times.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014/2015 – 2015/2016:

- All transport contractors are made aware of this requirement during site inductions.
- Section 3 of the Driver Code of Conduct – Truck and Heavy Vehicles Operator, which is part of the Berrima Traffic Management Plan (Boral Cement Berrima, reviewed in September 2014, and September 2015) includes requirements for all drivers of heavy vehicles on site to ensure they cover their loads and prevent spillages.

2016-2017:

- No complaints were received during this period and no related issues arose during this period.
- All transport contractors are made aware of this requirement during site inductions. Section 3 of the Driver Code of Conduct – Truck and Heavy Vehicles Operator, which is part of the Berrima Traffic Management Plan (Boral Cement Berrima, reviewed in September 2014) includes requirements for all drivers of heavy vehicles on site to ensure they cover their loads and prevent spillages.

Compliance Audit Findings November 2017:

The following operational controls were validated against implementation:

- ✓ All transport contractors are made aware of this requirement during site inductions
- ✓ Section 3 of the Berrima Works Driver Code of Conduct for Truck and Heavy Vehicles Operators defines all requirements for all drivers of heavy vehicles to ensure they cover their loads to prevent spillage
- ✓ Truck Operators were observed complying with Section 3 of the "Driver Code of Conduct
- ✓ Trucks were sighted with covers on their load and were utilising the truck wash facilities prior to leaving the site.

Compliance Audit 2017		
Yes	No	NA
✓		

2.9 Air Quality

Condition

All trafficable areas and vehicle manoeuvring areas associated with the cement works upgrade shall be maintained in a condition that will minimise the generation or emission of wind blown or traffic generated dust from the site at all times.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014/2015 - 2015/2016:

- All trafficable and vehicle maneuvering areas associated with CM7 7 are sealed
- Generally, around the site, paved roads are swept with a mechanical road sweeper, unpaved roads are regularly watered with recycled water to minimise dust emissions
- Speed limits are in place to limit traffic generated dust.
- During this reporting period Boral Cement Berrima has actively worked to reduce the generation of dust from vehicles and internal haul roads through implementation of the Dust Management Plan
- Some of the unsealed roads on site have been sealed in the previous years and some have been closed off and recently re-vegetated
- Two-wheel wash stations have been installed in the 2013 - 2014 reporting period, one at the exit of a shale pad, the other at the end of Quarry Road. The wheel wash stations continue to be routinely used.

2016- 2017:

- During this reporting period Boral Cement has actively worked to reduce the generation of dust from vehicles and internal haul roads through implementation of the Dust Management Plan
- Some of the unsealed roads on site have been sealed in the previous years and some have been closed off and recently re-vegetated. Two-wheel wash stations were installed in the previous reporting period, one at the exit of a shale pad, the other at the end of Quarry Road. The wheel wash stations continue to be routinely used.
- Boral Cement operates a road sweeper and water carts to minimise traffic generated and wind-blown dust from trafficable areas and vehicle manoeuvring areas. Mechanical sweepers undergo regular maintenance programs to ensure sweepers are working efficiently
- Boral Cement modified its activities such as loading, unloading and crushing of materials in open areas to minimise wind-blown dust. Actions include the use of a water cart, stopping or postponing the activities until the windy conditions subside, modifying the process to take place under cover where possible, etc.

Management Actions 2014 - 2017

- *Boral Cement continues to investigate opportunities to reduce Fugitive Dust throughout the site*
- Issues are managed through immediate corrective action and reporting through the Incident Management Database SIMS.

Compliance Audit Findings November 2017:

The following operational controls were validated against implementation:

- ✓ Boral Cement continues to investigate opportunities to reduce Fugitive Dust management throughout the site.
- ✓ Paved roads are continually swept with a mechanical road sweeper.
- ✓ Unpaved roads are watered with recycled water.
- ✓ Boral Cement continues to investigate opportunities to reduce Fugitive Dust throughout the site. Issues are managed through immediate corrective action and reporting through the Incident Management Database SIMS.

Compliance Audit 2017		
Yes	No	NA
✓		

2.10 Air Quality

Condition

The Applicant shall design, construct, operate and maintain the cement works upgrade to ensure that total solid particle emission from the exhaust stack on CM7 (EPA Identification Point 10) does not exceed 20 mg/m³ (100% concentration limit). The concentration limit specified above is based on 101.3 kPa, 273 K, dry reference conditions and shall be determined in accordance with the monitoring requirements described under condition 3.1. To avoid any doubt, this condition does not authorise the discharge or emission of any other pollutants.

Historical Compliance with Condition as per AEMRs 2014 - 2017

2014 – 2015:

- The annual stack testing of CM7 reporting period 2014 - 2015 confirmed compliance with the total solid particle (TSP) license limit of 20 mg/m^3, with test results of 10.4 mg/m^3 and 5.76 mg/m^3, averaging 8.09 mg/m^3.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2015 – 2016:

- The annual testing of CM7 main exhaust stack for total solid particles (mg/m^3) for the 2015 - 2016 reporting period was conducted by Ektimo Pty Ltd in July and August 2015, employing sampling method TM-15, and undertaken in accordance with the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales
- The measured pollutant concentrations as total solid particles were 1.9 mg/m^3 and 1.5 mg/m^3, averaging 1.7 mg/m^3, which is under the license limit of 20 mg/m^3.

2016 – 2017:

- Stack emission monitoring of solid particles for CM7 was conducted by Ektimo in July and August 2016 in accordance with the sampling methods specified under EPL 1698. The report demonstrated compliance with the emission limit as shown in Table 5.4 of the AEMR. Copies of the annual stack testing reports for 2017 were provided as Appendices B and C in the AEMR.
- The Annual Stack Emission monitoring results for solid particles of CM7 reporting period confirms compliance with the total solid particle (TSP) license limit of 20 mg/ m$^{3.}$

Compliance Audit Findings November 2017:

- ✓ Annual stack testing of CM7 for the last 3 reporting periods confirm compliance with CM7 emission limit.
- ✓ All test certificates sighted were NATA endorsed.

Compliance Audit 2017		
Yes	No	NA
✓		

2.11 Water Quality:

Condition

Except as may be expressly provided by a Licence under the Protection of the Environment Operations Act 1997 in relation to the cement works upgrade, section 120 of that Act (pollution of waters) shall be complied with in, and in connection with, the carrying out of the cement works upgrade.

Historical Compliance with Condition as per AEMRs 2014 - 2017

- Lake Quality receives storm water drainage from the site. That water is used back in the process and in site maintenance. Water in Lake Quality is monitored monthly. The lake overflows offsite only in intensive rain periods. Each overflow event is monitored for a range of water quality parameters, a per Consent requirements. The frequency of sample collection is "once every overflow event".

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015:

- During the current reporting period, 9 overflow events occurred. Samples were collected for analysis by an independent contractor, Australian Laboratory Services, on 18/8/14, 15/9/14, 16/10/14, 2/12/14, 26/12/14, 5/01/15, 2/2/15, 27/2/15, 21/4/15.
- The results of the monitoring are provided in the response to Condition 4.3 and 4.3A of the of the K6 Upgrade AEMR 2015, and are graphed against all overflow event results, from 2010 to 2015 in Attachment No. 6 of the K6 AEMR.

2015 – 2016:

- During the reporting period, 4 overflow events occurred. Samples were collected for analysis by an independent contractor, Australian Laboratory Services, on 19/6/2015, 20/7/2015, 25/8/2015 and 4/2/2016.
- The results of the monitoring are provided in the response to Condition 4.3 and 4.3A, and are graphed against all overflow event results, from 2010 to 2016 in Attachment No 6.

2016 – 2017:

- No water volume and quality discharge limits are specified in EPL 1698
- Boral monitors overflows from Lake Quality, which receives stormwater from the site, for the parameters in figures 10 to 13. The water is reused in site processes and the lake only overflows during heavy rainfall. There were eight overflows during the reporting period and figures 10 to 13 demonstrate that water quality was in line with and in some instances better than historical results
- Lake Quality's overflow generally meets the typical NSW discharge criteria. Occasionally, an exceedance of pH may occur in the overflow due to alkaline nature of raw materials and products handled on site.

Compliance Audit Findings November 2017:

- ✓ When overflow events occur, the overflowing water is sampled during the discharge by independent contractor ALS
- ✓ ALS are a NATA Accredited Laboratory # 825, qualified to undertake sampling and testing in accordance with ISO/IEC 17025 requirements
- ✓ A Water Management Plan is implemented at the Works, which includes the CM7 area and is reviewed every three years or after an incident and is revised/improved as deficiencies become apparent.

Compliance Audit 2017		
Yes	No	NA
✓		

2.12 Erosion and Sediment Control:

Condition

All construction vehicles exiting the site, having had access to unpaved areas, shall depart via a wheel-wash facility.

Historical Compliance with Condition as per AEMRs 2014 - 2017

- All Construction work on the Berrima site for CM7 (and K6) had ceased prior to the three reporting periods and no additional construction work was undertaken.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ All Construction work on the Berrima site had ceased prior to the last three reporting periods.

Compliance Audit 2017		
Yes	No	NA
		✓

2.13 Erosion and Sediment Control

Condition

All erosion and sedimentation controls required as part of this consent shall be maintained for the duration of the construction works, and until such time as all ground disturbed by the construction works, has been stabilised and rehabilitated so that it no longer acts as a source of sediment.

Historical Compliance with Condition as per AEMRs 2014 - 2017

- Construction had ceased prior to this reporting period
- The ground had been stabilised and rehabilitated.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

✓ Since Construction has ceased prior to this reporting period and the ground had been stabilised and rehabilitated.

Compliance Audit 2017		
Yes	No	NA
		✓

2.14 Drainage and Stormwater:

Condition

The Applicant shall ensure that the cement works upgrade does not lead to an increase in the volume or flow rate of stormwater leaving the site over and above pre-development flow conditions.

Historical Compliance with Condition as per AEMRs 2014 - 2017

2014– 2015:

- This reporting period was a particularly wet year, resulting in the above-average overflow from Lake Quality. This increase however was not related to the works upgrade but to the weather pattern fluctuations.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014/2015 – 2015/2016:

- Compliance with this Condition was established in the 2007 - 2008 AEMR.
- Boral Cement Berrima actively harvests rainwater from within site catchment for operational purposes, further reducing stormwater leaving the site.

2016 – 2017:

- Compliance with this condition was established in the 2008 AEMR.
- Boral Cement harvests rainwater from the site catchment for operational use, which reduces stormwater leaving the site.

Compliance Audit Findings November 2017:

✓ Upon review of the last three reporting periods, CM7 has not lead to any increase in the volume or flow rate of stormwater leaving the site

✓ Boral Cement continues to actively harvest their rainwater for operational purposes, evidenced by reduced volumes of stormwater leaving the site.

Compliance Audit 2017		
Yes	No	NA
✓		

2.15 Traffic and Transport:

Condition

The Applicant shall establish a bus transport system generally consistent with that identified in section 6.6.7 of the SEE referred to in condition 1.2b to transport construction employees to and from the site during the construction period.

Historical Compliance with Condition as per AEMRs 2014-2017

- Construction ceased prior to this reporting period and therefore this condition does not apply
- Boral Cement requested that DPI remove this condition out of the Consent as it refers to the original project construction and not to ongoing operations.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

✓ This condition refers to construction rather than the ongoing operation and therefore does not apply to this reporting period. Compliance has been demonstrated in the previous AEMRs.

Compliance Audit 2017		
Yes	No	NA
		✓

2.16 Traffic and Transport

Condition

The Applicant shall ensure that vehicles associated with the cement works upgrade do not stand or park on any public road or footpath adjacent to the site. Measures provided by the Applicant shall include sufficient onsite parking for all employees and contractors during construction and operation of the cement works upgrade and management measures to ensure that heavy vehicles entering the site are not permitted to queue on Taylor Avenue at any time.

Historical Compliance with Condition as per AEMRs 2014 - 2017

- Construction activities were completed prior to the commencement of this reporting period
- Sufficient parking is provided on site for all employees and contractors during operation of the upgrade. In addition, there is sufficient distance between the weighbridge and the site entrance on Taylor Avenue to prevent heavy vehicles queuing on Taylor Avenue.
- Employee car parking was extended 2 years ago. Employee carpark has additional/unused capacity. Queuing has not been an issue/has not been observed.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ Construction activities were completed prior to the commencement of this reporting period and this Compliance audit
- ✓ At the time of the upgrade, sufficient parking was provided to all employees and contractors
- ✓ Heavy vehicles do not queue on Taylor Avenue, as there is sufficient distance between the weighbridge and the site entrance on Taylor Avenue to prevent heavy vehicles queuing on Taylor Avenue
- ✓ Employee car parking was extended 2 years ago. Employee car park has additional/unused capacity. Queuing has not been an issue/ has not been observed.

Compliance Audit 2017		
Yes	No	NA
✓		

2.17 Traffic and Transport

Condition

The Applicant shall install an advance warning signage along Taylor Avenue to advise vehicles approaching the entrance to the site of turning truck traffic in the area. This signage is to be installed prior to the commencement of operations of the cement works upgrade. Details of the design and installation of this signage are to be provided to the satisfaction of the Director-General prior to the commencement of operations at the cement works upgrade.

Historical Compliance with Condition as per AEMRs 2014 - 2017

- Warning signage has been installed along Taylor Avenue
- Signs will be replaced if damaged or defaced.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ Boral Cement Berrima have installed appropriate advance "Warning Signage" along Taylor Avenue.
- ✓ Boral Cement continues to comply with this Consent Condition.

Compliance Audit 2017		
Yes	No	NA
✓		

2.18 Water Management:

Condition

The Applicant shall not cause, permit or allow any waste generated outside CM7 to be received at CM7 for storage, treatment, processing, reprocessing or disposal, or any waste generated at CM7 to be disposed of at CM7, except as expressly permitted by a licence under the Protection of the Environment Operations Act (POEO) 1997. This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if it requires an environment protection licence under the POEO Act 1997.

Historical Compliance with Condition as per AEMRs 2014 - 2017

- No waste generated outside CM7 has been received for storage, treatment, processing, reprocessing or disposal, nor has any waste generated at CM7 or been disposed of, at CM7
- Old refractory bricks are crushed and recycled back through the kiln to prevent the need for waste to be sent offsite to landfill. No waste materials.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ Management had documented and implemented a Waste Management Plan; Version 4, September 2014
- ✓ In the last three reporting periods, the following observations were validated:
  1. No waste generated outside CM7 has been received for storage, treatment, processing, reprocessing or disposal
  2. No waste generated at CM7 has been disposed of at CM7
  3. Any materials rejected from various processing activities are collected and transported to specific designated areas for further recycling back into the processes
  4. Examples noted include AF203, CO58 (limestone), TS05, CO61 (mix of raw materials – re-used onsite as road fill), steel slag from RM7, and clinker from the kiln/cooler

Compliance Audit 2017		
Yes	No	NA
✓		

2.19 Visual Amenity:

Condition

The Applicant shall ensure that all external lighting associated with the cement works upgrade, and including those lights already erected, is mounted, screened, and directed in such a manner so as not to create a nuisance to surrounding properties or roadways. The lighting shall be the minimum level of illumination necessary and shall comply with AS 4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting.

Historical Compliance with Condition as per AEMRs 2014 – 2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014/2015 – 2015/2016:

- Lighting of CM7 does not impact greatly on the visual amenity of the surrounding properties and roadways
- There were no complaints regarding light spill during this reporting period
- Boral Cement Berrima requires operational lighting for the safety and wellbeing of staff and contractors on site
- Completed Landscaping Plans will further minimise light penetration outside site boundaries.

2016 – 2017:

- Provision of lighting at the Berrima Cement Works complies with AS 4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting
- No community complaints regarding light spill have been received during the reporting period – the community has not previously complained about light spill from the site.

Compliance Audit Findings November 2017:

- ✓ There have been no complaints regarding external lighting during the last three reporting periods
- ✓ Over time, the Landscaping Plans will help to further minimise light penetration outside site boundaries
- ✓ Management measures are sufficient to keep light spill from the site within acceptable limits – a minimum amount of lights must be on during night-time for safety

Compliance Audit 2017		
Yes	No	NA
✓		

3. ENVIRONMENTAL MONITORING AND AUDITING

3.1 Air Quality:

Condition

During operation of the cement works upgrade, the Applicant shall periodically determine the pollutant concentration for total solid particles (mg/m^3) at the main exhaust stack for CM7 (EPA Identification Point 10) employing sampling method TM-15. This pollutant concentration shall be determined on an annual basis. The Sampling Method shall be undertaken in accordance with the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales.

Historical Compliance with Condition as per AEMRs 2014 - 2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015:

- The annual testing of CM7 main exhaust stack for total solid particles (mg/m^3) for the 2014 - 2015 reporting period was conducted by ECS Stack Pty Ltd in June 2014, employing sampling method TM-15, and undertaken in accordance with the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales
- The measured pollutant concentrations as total solid particles were 10.4 mg/m^3 and 5.76 mg/m^3, averaging 8.09 mg/m^3, which is under the license limit of 20 mg/m^3.

2015 – 2016:

- The annual testing of CM7 main exhaust stack for total solid particles (mg/m3) for the 2015 - 2016 reporting period was conducted by Ektimo Pty Ltd in July and August 2015, employing sampling method TM-15, and undertaken in accordance with the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales
- The measured pollutant concentrations as total solid particles were 1.9 mg/m^3 and 1.5 mg/m^3, averaging 1.7 mg/m^3, which is under the licence limit of 20 mg/m^3.

2016 – 2017:

- The annual testing of CM7 main exhaust stack for total solid particles for the 2016 - 2017 reporting period was conducted by Ektimo Pty Ltd in July and August 2016, employing sampling method TM-15, and undertaken in accordance with the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales
- The measured pollutant concentrations as total solid particles were 3.9 mg/m^3 and <2 mg/m^3, averaging ≤2.7 mg/m3, which is below the license limit of 20 mg/m^3
- In addition, Wingecarribee Council is about to start a major road project east of the site which will see improvements to rail operations. This will necessitate the relocation of the high-volume air sampler. This is currently under review with the objective of having the sampler relocated by the end of the next reporting period.

Compliance Audit Findings November 2017:

- ✓ The annual testing of CM7 main exhaust stack for total solid particles (mg/m^3) for the 2014 - 2015 reporting period was conducted by ECS Stack Pty Ltd in June 2014, employing sampling method TM-15 and undertaken in accordance with the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales. The measured pollutant concentrations as total solid particles were 6.5 mg/m^3 and 8.7 mg/m^3 and below licence limit of 20 mg/m^3 during 2014 - 2015 reporting period. ECS Stack Pty Ltd Report RSN14032 #1 confirmed all measured pollutant concentrations were below the license limit of 20 mg/m^3.
- ✓ The annual testing of CM7 main exhaust stack for total solid particles (mg/m3) for the 2015 - 2016 reporting period was conducted by Ektimo Pty Ltd in July and August 2015,

Compliance Audit 2017		
Yes	No	NA
✓		

employing sampling method TM-15, and undertaken in accordance with the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales. The measured pollutant concentrations as total solid particles were 1.9 mg/m^3 and 1.5 mg/m^3, averaging 1.7 mg/m^3, which is under the licence limit of 20 mg/m^3.

- ✓ The annual testing of CM7 main exhaust stack for total solid particles for the 2013 - 2014 reporting period was conducted by Ektimo Pty Ltd in July and August 2016, employing sampling method TM-15, and undertaken in accordance with the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales (Attachment No. 4 AEMR). The measured pollutant concentrations as total solid particles were 3.9 mg/m^3 and <2 mg/m^3, averaging ≤2.7 mg/m^3, which is below the licence limit of 20 mg/m^3.
- ✓ Relocation of high-volume air sampler is currently under review with the objective of having the sampler relocated by the end of the next reporting period due to Wingecarribee Council starting a major road project east of the site which will see improvements to rail operations.

3.2 Air Quality

Condition

If the results of the monitoring required under condition 3.1 and EPL 1698 indicate that the operation of any component of the cement works upgrade, when operating under design loads and normal operating conditions, exceeds the limit imposed under condition 2.10 and EPL 1698, the Applicant shall provide details of remedial measures to be implemented to reduce air quality limits to the levels required.

Details of the remedial measures and a timetable for implementation shall be submitted to the Director-General for Approval within such period as the Director-General may require, and be accompanied by evidence that the EPA is satisfied that the remedial measures are acceptable.

Historical Compliance with Condition as per AEMRs 2014 - 2017

- Annual stack testing of CM7 for the 2014 - 2017 reporting periods confirm compliance with Condition 2.10 and EPL 1698. No remedial measures were required.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ Annual stack testing of CM7 for the three reporting periods confirms compliance with Condition 2.10 and EPL 1698
- ✓ No remedial measures were required.

Compliance Audit 2017		
Yes	No	NA
✓		

3.3 Auditing:

Condition

Within one year of the commencement of operation of the cement works upgrade, and every three years thereafter or as otherwise required by the Director-General, the Applicant shall commission an independent person or team to undertake an Environmental Audit of the cement works upgrade. The independent person or team shall be approved by the Director-General, prior to the commencement of the Audit. An Environmental Audit Report shall be submitted for comment to the Director-General, the DEC and Council, within three months of the completion of the Audit. The Audit shall:

a) be carried out in accordance with ISO 19011: Guidelines for Quality and/or Environmental Management Systems Auditing
b) assess compliance with the requirements of this consent, and other licences and approvals that apply to the cement works upgrade
c) assess the cement works upgrade operations against the predictions made and conclusions drawn in the SEE and other documents listed under conditions 1.1 a) to 1.1 f), inclusive; and
d) review the effectiveness of the environmental management of the cement works upgrade, including any environmental impact mitigation works.

The Director-General may, having considered any submission made by the DEC and/or Council in response to the Environmental Audit Report, require the Applicant to undertake works to address the findings or recommendations presented in the Report. Any such works shall be completed within such time as the Director-General may agree.

Historical Compliance with Condition as per AEMRs 2014 - 2017

- The last three-yearly audit was conducted by an independent Auditor (Somerset Risk Management – approved by Director-General) in November 2014. The report was submitted to DP&E and approved by the Department.
- No major or minor findings were raised during this audit
- This report has been prepared for the triennial audit requirement in accordance with the consent conditions that requires three-yearly audits
- This audit has been conducted for the Licence Reporting Period 2017 - 2018.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ The Compliance Audit of CM7 and K6 was completed in November 2014 by Senior Lead Environmental Auditor, Ms Olga Lihou (Exemplar Global Certification # 15061) with approval given by DPE
- ✓ All requirements defined in sections a, b, c and d of this Condition were audited and found to meet all requirements.
- ✓ Six Improvement Requests were raised in the Part 3 ISO 14001:2004 Compliance Report

Compliance Audit 2017		
Yes	No	NA
✓		

3.4 Auditing:

Condition

The Director-General may, having considered any submission made by the Applicant, consent to the incorporation of the environmental auditing requirements listed under condition 3.3 into the Environmental Audit Report required under the conditions of consent for other development at the site.

Historical Compliance with Condition as per AEMRs 2014 - 2017

- No action was required in the reporting periods.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ At the time of this Audit - no action was required in any of the three reporting periods.

Compliance Audit 2017		
Yes	No	NA
✓		

4. COMMUNITY INFORMATION AND INVOLVEMENT

4.1

Condition

Subject to confidentiality, the Applicant shall make all documents required under this consent available for public inspection upon request. This shall include provision of all documents at the site for inspection by visitors, and in an appropriate electronic format on the Applicant's internet site, should one exist.

Historical Compliance with Condition as per AEMRs 2014 - 2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014-2015:

- Subject to confidentiality, documentation required under this consent is available for inspection at the site upon request. Where appropriate, information is made available in a suitable electronic format on Boral Cement Berrima's website: http://www.boral.com.au/article/berrima_cement_poela_data.asp.
- However, due to an administrative error, website uploads of the Environmental Management Plans updated in September 2014 and of the Noise Monitoring Report 2014 were delayed. This constituted a minor administrative non-compliance.
- This has been rectified quickly after its detection and Boral Cement Berrima has remained in compliance since.

2015 – 2016:

- Subject to confidentiality, documentation required under this consent is available for inspection at the site upon request. Where appropriate, information is made available in a suitable electronic format on Boral Cement Berrima's website: http://www.boral.com.au/article/berrima_cement_poela_data.asp.

2016 – 2017:

- Development Consent No. 401-11-2002-i, Development Consent No. 85-4-2005-i and EPL 1698 are available for inspection on request at Boral Cement Berrima. Current environmental monitoring data under the EPL is available at http://www.boral.com.au/article/nsw_poela_environmental_reporting.asp**.** The site's Environmental Management Plans and some previous AEMRs are available at http://www.boral.com.au/article/berrima_cement_environment.asp

Compliance Audit Findings November 2017:

- ✓ Where appropriate, documents are made available electronically via the Boral Cement website
- ✓ Upon Request, all non-confidential documentation in hard copy format, is made available for inspection at the Boral Cement Berrima site
- ✓ In 2014 - 2015 reporting period the website upload of the EMP and NMR were delayed due to an administration error. A minor non-compliance was received and issue rectified soon after. Boral Cement Berrima has remained in compliance since.
- ✓ Boral Cement continues to make information available on request at the site and on the site's website
- ✓ Boral Cement will continue to make information available on request at the site and on the site's website.

Compliance Audit 2017		
Yes	No	NA
✓		

4.2 Complaints Procedure

Condition

Prior to the commencement of construction for the cement works upgrade, the Applicant shall ensure that the following are available for community complaints for the life of the cement works upgrade (including construction and operation):

a) a telephone number on which complaints about operations on the site may be registered
b) a postal address to which written complaints may be sent; and
c) an email address to which electronic complaints may be transmitted, should the Applicant have email capabilities.

The telephone number, the postal address and the email address shall be displayed on a sign near the entrance to the site, in a position that is clearly visible to the Public. These details shall also be provided on the Applicant's internet site, should one exist.

Historical Compliance with Condition as per AEMRs 2014 - 2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

- The site complaints procedure is well established
- Contact details for Boral Cement Berrima are included on all site entrance signage, and include a telephone number, postal address and email address
- Details are provided on the Boral Cement Berrima internet site**:** http://www.boral.com.au/article/berrima_cement_contacts.asp**.**

2016-2017:

- Berrima Cement Plant's complaints procedures are documented in the Operation Environmental Management Plan and subordinate plans. Contact details for Boral Cement Berrima are included on all site entrance signage, and include a telephone number, postal address and email address. Additionally, contact details are provided on the website http://www.boral.com.au/article/berrima_cement_contacts.asp

Compliance Audit Findings November 2017:

- ✓ The site complaints procedure continues to be effectively managed
- ✓ Contact details are sign-posted at each site entrance and include a contact telephone number, postal address and email address
- ✓ Contact details are also provided on the Boral internet site located at http://www.boral.com.au/article/berrima_cement_contacts.asp
- ✓ Boral historically and continues to provide contact information on signs and on the site's website
- ✓ Boral will continue to make contact information available on signs and on the Site's website.

Compliance Audit 2017		
Yes	No	NA
✓		

4.3 Complaints Procedure

Condition

The Applicant shall record details of all complaints received through the means listed under condition 4.2 of this consent in an up-to-date Complaints Register. The Register shall record, but not necessarily be limited to:

a) the date and time, where relevant, of the complaint;
b) the means by which the complaint was made (telephone, mail or email);
c) any personal details of the complainant provided, or if no details were provided, a note to that effect;
d) the nature of the complaint;
e) any action(s) taken by the Applicant in relation to the complaint, including any follow-up contact with the complainant; and
f) if no action was taken by the Applicant in relation to the complaint, the reason(s) why no action was taken.

The record of a complaint must be kept for at least four years after it was made. The Complaints Register shall be made available for inspection by the DEC or the Director-General upon request.

Historical Compliance with Condition as per AEMRs 2014-2017

Boral Cement has an established complaints procedure. A summary of all complaints (by type) were received during the following reporting periods:

- **May 2014 – April 2015:** Dust complaints – 31, Noise complaints – 4, Other complaints – 0
- **May 2015 – April 2016:** Dust complaints – 12, Noise complaints – 2, Other complaints (vehicle issues) – 1
- **May 2016 – April 2017:** Dust complaints – 16, Noise complaints – 0, Other complaints – 0

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

The complaints detailed above are addressed in the Kiln 6 Upgrade AEMRs and its attachments and are not specific to Cement Mill 7. A copy of the complaints register including the details required under Condition 5.3 has been provided with the Kiln 6 Upgrade AEMR (Attachment 7) for each reporting period.

Compliance Audit Findings November 2017:

- ✓ The site Complaint Register continues to be well maintained
- ✓ Noise and dust complaints are forwarded to EPA in the Annual Returns and the DP&E in the Annual Environmental Management Reports
- ✓ Boral Cement Berrima continues to investigate strategies to actively reduce its dust and noise impacts on the local community
- ✓ Berrima Cement Plant's complaints procedures are documented in the Operation Environmental Management Plan and subordinate plans. A summary of all complaints (by type) received during the reporting periods is provided in Appendices.

Compliance Audit 2017		
Yes	No	NA
✓		

5. Environmental Management

5.1 CEMP:

Condition

*The Applicant shall prepare and implement a **Construction Environmental Management Plan (CEMP)** to outline environmental management practices and procedures to be followed during the construction of the cement works upgrade. The Plan shall include, but not necessarily be limited to:*

a) a description of all activities to be undertaken on the site during construction, including an indication of stages of construction, where relevant
b) statutory and other obligations that the Applicant is required to fulfil during construction, including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies
c) specific consideration of measures to address any requirements of the Department and the DEC during construction
d) details of how the environmental performance of the construction works will be monitored, and what actions will be taken to address identified adverse environmental impacts
e) a description of the roles and responsibilities for all relevant employees involved in construction; and
f) the Management Plans listed under condition 5.2 of this consent.

The CEMP shall be submitted for the approval of the Director-General prior to the commencement of construction of the cement works upgrade. Notwithstanding, where construction work is to be undertaken in stages, the Applicant may, subject to the agreement of the Director-General, stage the submission of the CEMP consistent with the staging of activities relating to that work. Construction of each stage shall not commence until written approval has been received from the Director-General. Upon receipt of the Director-General's approval, the Applicant shall supply a copy of the CEMP to the DEC as soon as practicable.

Historical Compliance with Condition as per AEMRs 2014-2017

- All construction activities were completed prior to this reporting period.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

✓ Since the last compliance audit conducted in November 2014, all construction activities were completed prior to this reporting period.

Compliance Audit 2017		
Yes	No	NA
		✓

5.2 (Noise)

a) **Condition**

As part of the CEMP for the cement works upgrade, required under condition 5.1 of this consent, the Applicant shall prepare and implement the following Management Plans:

*a) A **Noise Management Plan** to outline measures to minimise the impacts from the construction of the cement works upgrade on local noise levels. The Plan shall address the requirements of the DEC and shall include, but not necessarily be limited to:*

i. identification of all major sources of noise that may be emitted as a result of the construction of the cement works upgrade
ii. specification of the noise criteria as it applies to the particular activity
iii. procedures for the monitoring of noise emissions from the cement works upgrade, in accordance with any requirements of the DEC
iv. protocols for the minimisation of noise emissions
v. description of procedures to be undertaken if any non-compliance is detected.

Historical Compliance with Condition as per AEMRs 2014-2017

- All construction activities were completed prior to this reporting period.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

✓ All construction activities were completed prior to the last three reporting periods. Boral Cement Berrima continues to monitor levels of noise emissions from its operations

✓ Noise monitoring was conducted by external contractors Recognition Research during September/October 2017. A Draft Report was issued on 30 November 2017.

Compliance Audit 2017		
Yes	No	NA
		✓

5.2 (Traffic)

b) **Condition**

*A **Traffic Management Plan** to outline management of traffic conflicts associated with the construction of the cement works upgrade. The Plan shall include, but not necessarily be limited to:*

i. details of traffic routes used by construction vehicles
ii. the number and type of vehicles to be used in the construction of the cement works upgrade, and their movements to, from and within the site per day
iii. minimum requirements for vehicle maintenance to address noise and exhaust emissions
iv. speed limits to be observed along routes to and from the sites and within the site; and
v. behaviour requirements for vehicle drivers to and from the site and within the site.

Historical Compliance with Condition as per AEMRs 2014-2017

- All construction activities were completed prior to this reporting period.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017

✓ All construction activities were completed prior to the last three reporting periods.

Compliance Audit 2017		
Yes	No	NA
		✓

5.2 (Erosion and Sediment Control)

c) **Condition**

*An **Erosion and Sedimentation Management Plan** to detail measures to minimise erosion during construction of the cement works upgrade. The Plan shall address the requirements of the DEC and shall include, but not necessarily be limited to:*

i. details of erosion, sediment and surface water pollution control measures and practices to be implemented during construction of the cement works upgrade; and
ii. *demonstration that erosion and sediment control measures have been prepared in accordance with the requirements for such plans outlined in Landcom's manual titled Managing Urban Stormwater: Soils and Construction, Volume 1, 4th Edition, March 2004.*

Historical Compliance with Condition as per AEMRs 2014-2017

- All construction activities were completed prior to this reporting period
- Boral Cement requested that DPI remove this condition out of the Consent as it refers to the original project construction and not to ongoing operations.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ Since all construction activities were completed prior to the last three reporting periods, Somerset Risk Management recommends the DP&E removes this condition out of the Consent as it refers to the original project construction and not to ongoing operations.

Compliance Audit 2017		
Yes	No	NA
		✓

5.3 OEMP

Condition

The Applicant shall prepare and implement an ***Operation Environmental Management Plan (OEMP)*** *to detail an environmental management framework, practices and procedures to be followed during the operation of the cement works upgrade. The plan shall include, but not necessarily be limited to:*

a) identification of all statutory and other obligations that the Applicant is required to fulfil in relation to operation of the Cement Works' upgrade, including all consents, Licenses, approvals and consultations;
b) a description of the roles and responsibilities for all relevant employees involved in the operation of the cement works upgrade;
c) overall environmental policies and principles to be applied to the operation of the cement works upgrade;
d) standards and performance measures to be applied to the cement works upgrade, and a means by which environmental performance can be periodically reviewed and improved;
e) management policies to ensure that environmental performance goals are met and to comply with the conditions of this consent;
f) the Management Plans listed under condition 0 of this consent; and
g) the environmental monitoring requirements outlined under conditions 3.1 to 3.4 of this consent, inclusive.

The OEMP shall be submitted for the approval of the Director-General no later than one month prior to the commencement of operation of the cement works upgrade, or within such period otherwise agreed by the Director-General. Operation shall not commence until written approval has been received from the Director-General. Upon receipt of the Director-General's approval, the Applicant shall supply a copy of the OEMP to the DEC and Council as soon as practicable.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015:

- The original compliance with the submission and approval of the OEMP was detailed in the 2007/2008 AEMR.
- The OEMP was reviewed in updated in September 2014. It continues to reflect the extent of current operations and environmental management needs associated with these operations. The OEMP will be formally reviewed by the end of the next 3-year cycle or earlier if site operations significantly change.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2015 – 2016:

- The original compliance with the submission and approval of the OEMP was detailed in the 2007/2008 AEMR.
- The OEMP was last reviewed and updated in September 2014. However, the 2015 - 2016 AEMR advised a review had occurred in 2015 – but no evidence to verify otherwise.
- The OEMP will be formally reviewed by the end of the next 3-year cycle or earlier if site operations significantly change.

2016 – 2017:

- The OEMP was last reviewed and updated in the reporting period September 2014, revision 4. It continues to reflect the extent of current operations and environmental management needs associated with these operations.
- The OEMP requires a formal review by the end of a 3-year cycle or earlier if site operations significantly change. However, the OEMP exceeded the September 2017 review date.

Compliance Audit Findings November 2017:

- ✓ The original compliance submission and approval of the OEMP was detailed in the 2007/2008 AEMR
- ✓ Senior Management updated their site-wide Operation Environmental Management Plan; CMT-ENV-002 V4; Sept 2014, to ensure the previous 2011 version underwent a review for the end of 3-year cycle.
- ✓ Boral Cement was currently undertaking a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. The Project needs an Operational Environmental Management Plan before it 'goes live'. It made sense therefore to review the site EMP's in light of the project. Boral Cement had engaged a consultant to create this on their behalf. Whilst the current documents were overdue for review - the process remained valid.

Compliance Audit 2017		
Yes	No	NA
✓		

5.4 OEMP

Condition

The Director-General may, having considered any submission made by the Applicant, consent to the incorporation of the requirements listed under condition 5.3 into the AEMR required under the conditions of consent for other development at the site.

Historical Compliance with Condition as per AEMRs 2014-2017

- No submissions have been made by Boral Cement.
- Boral Cement however requests that the consent conditions for Cement Mill 7 and Kiln 6 be consolidated and construction related conditions be removed.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ No submissions have been made by Boral Cement.

Compliance Audit 2017		
Yes	No	NA
		✓

5.5 (Noise)

a)

Condition

As part of the OEMP for the cement works upgrade, required under condition 5.3 of this consent, the Applicant shall prepare and implement the following Management Plans:
Noise Management Plan *to outline measures to minimise the impacts from the operation of the cement works upgrade on local noise levels. The Plan shall address the requirements of the DEC and shall include, but not necessarily be limited to:*

i) identification of all major sources of noise that may be emitted as a result of the operation of the cement works upgrade;
ii) specification of the noise criteria as it applies to the particular activity;
iii) procedures for the monitoring of noise emissions from the cement works upgrade, in accordance with any requirements of the DEC;
iv) protocols for the minimisation of noise emissions;
v) description of procedures to be undertaken if any non-compliance is detected.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015:

- The Berrima Works Noise Management Plan was updated in September 2014 and is part of Berrima's Environmental Management Plans. The Plan will be formally reviewed by the end of the next 3-year cycle or earlier if site operations significantly change.
- The latest round of noise monitoring was conducted and reported in August 2014. The plant remains in compliance with its noise limits.

2015 – 2016:

- The Berrima Works Noise Management Plan was updated in September 2015 and is part of Berrima's Environmental Management Plans. The Plan will be formally reviewed by the end of the next 3-year cycle or earlier if site operations significantly change.
- The latest round of noise monitoring was conducted and reported in August 2015. The plant remains in compliance with its noise limits.
- The NMP was last reviewed and updated in the reporting period September 2014, revision 7. However, the NMP advised a further Revision was undertaken in September 2015– without adequate evidence to support this update had been released.

2016 – 2017:

- The NMP was last reviewed and updated in the reporting period September 2014, revision 7and continued to reflect the extent of current operations and environmental management needs associated with these operations
- The NMP Rev 7, requires a formal review by the end of a 3-year cycle or earlier if site operations had significantly changed
- The latest round of noise monitoring was conducted by Hatch in July/August 2016 and reported in October 2016
- The plant remains in compliance with its noise limits.

Compliance Audit Findings November 2017:

- ✓ The Berrima Noise Management Plan (NMP); CMT-ENV-004 version 7 had exceeded its 3-yearly expiry date in September 2017.
- ✓ External noise monitoring undertaken by Hatch, for the last 3 reporting periods, adequately demonstrates Boral has continued a noise monitoring program to identify the sources of site noise that contribute to off-site noise complaints and has implemented a number of improvement plans since the last audit, to address these concerns.
- ✓ Annual Noise monitoring was undertaken by a new external provider Recognition Research Pty Ltd during September – October 2017. A DRAFT copy of their Annual Environmental Noise Assessment Report for September - October 2017 was released on 30th November, 2017.
- ✓ Boral Cement was currently undertaking a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. The Project needs an Operational Environmental Management Plan before it 'goes live'. It made sense therefore to review the site EMP's in light of the project. Boral Cement had engaged a consultant to create this on their behalf. Whilst the current documents were overdue for review - the process remained valid.

Compliance Audit 2017		
Yes	No	NA
✓		

5.5 **(Air)**

b)

Condition

Air Quality Management Plan to outline measures to minimise and manage any impacts from the operation of the cement works upgrade on local air quality. The Plan shall address the requirements of the DEC, and shall include, but not necessarily be limited to:

i. identification of all major sources of particulate air pollutants that may be emitted as result of the operation of the cement works upgrade, including identification of the major components and quantities of these emissions;

ii. monitoring of particulate emissions from the cement works upgrade, in accordance with any requirements of the DEC;

iii. procedures for the minimisation of particulate emissions from the cement works upgrade, and the reduction of these emissions over time, where appropriate;

iv. protocols for regular maintenance of process equipment to minimise the potential for dust emissions;

v. description of procedures to be undertaken if any non-compliance is detected.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 - 2015:

- The Air Quality Management Plan was last updated in September 2014 Rev 4 and is part of Berrima's Environmental Management Plans. The Plan will be formally reviewed by the end of the next 3-year cycle or earlier if site operations significantly change
- Annual stack testing was conducted in June 2014. All monitoring results were within their respective emission limits.

2015 - 2016:

- The Air Quality Management Plan was last updated in September 2015 and is part of Berrima's Environmental Management Plans. The Plan will be formally reviewed by the end of the next three-year cycle or earlier if site operations significantly change
- Annual stack testing was conducted in July and August 2015. All monitoring results were within their respective emission limits.
- The AQMP was last reviewed and updated in the reporting period September 2014. However, the AQMP advised a further 5th Revision had been undertaken in September 2015– without adequate evidence to support this update had been released.

2016 – 2017:

- The AQMP was reviewed and updated in the reporting period September 2014, revision 4. It continues to reflect the extent of current operations and environmental management needs associated with these operations
- The AQMP requires a formal review by the end of a 3-year cycle or earlier if site operations significantly change
- Annual stack testing was conducted by Ektimo Pty Ltd in July and August 2016 (Ref: R003079-1, dated 4.10.16). All monitoring results were within their respective emission limits.

Compliance Audit Findings November 2017:

Compliance Audit 2017		
Yes	No	NA
✓		

- ✓ Air Quality monitoring and reporting to the EPA continues to occur in each Licensing period
- ✓ Boral Cement is currently undertaking a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. The Project needs an Operational Environmental Management Plan before it 'goes live'. It makes sense, therefore, to review the site EMP's in light of the project. Boral Cement have engaged a consultant to create this on their behalf. Whilst the current documents are overdue for review the process remains valid.

5.5 **(Water)**

c)

Condition

Water Supply Strategy *with an aim to investigate and pursue options for the use of alternative sources of water, such as stormwater reuse or treated effluent from sewage treatment plants, in order to reduce the dependency on extracting water from the Wingecarribee River.*

i. *Note: Options for the use of alternative water sources considered as part of the Water Supply Strategy may be the subject of a separate approvals process.*

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

- A Water Supply Strategy has previously been provided. It was broadened into the Water Management Plan which was last reviewed and updated in September 2014 and is part of Berrima's Environmental Management Plans. The Plan will be formally reviewed by the end of the next 3-year cycle or earlier if site operations change.
- The WMP was reviewed and updated in the reporting period September 2014, revision 3. It continues to reflect the extent of current operations and environmental management needs associated with these operations.
- The WMP requires a formal review by the end of a 3-year cycle or earlier if site operations significantly change.

Management Actions for 2014-2017

– *Boral Cement Berrima will continue to investigate additional ways to increase on-site harvesting and storage of stormwater.*

Compliance Audit Findings November 2017:

Compliance Audit 2017		
Yes	No	NA
✓		

- ✓ A Water Supply Strategy has previously been provided.
- ✓ Water Management Plan was last reviewed in September 2014 and is part of Berrima's EMP and the plan/s are required to be formally reviewed 3 yearly.
- ✓ Boral Cement Berrima continues to actively manage and increase the harvesting, storage and use of rainwater falling on the site (within the allowable limits by reworking the quarry so that it has the capacity to operate as a water storage pond.
- ✓ Improved water management procedures to minimise water discharged from the site by drawing-down Lake Quality and Lake Breed and storing their water elsewhere on site, thereby providing greater volume for capture during rainfall events (minimising overflow losses); and
- ✓ Investigations into improving the ways by which water can be moved around the site to facilitate improved storage options.
- ✓ The capacity for storing harvested water on site while maintaining full operations is currently approximately 150 ML. Current operations require up to 0.8 ML of water use per day.
- ✓ Boral manages water on site in accordance with the Water Management Plan, which describes the monitoring points, frequency and parameters. Storm water and residual process water from all areas of the Works (including Kiln 6 and Mill 7) is harvested and used on site with water quality in the storages (Lake Quality and Lake Breed) tested monthly, and water quality in the receiving waterway (Wingecarribee River) tested every three months. Water is only discharged from site during very heavy rainfall, with eight overflows during the reporting period.
- ✓ The overall water management performance of the site is good and that water quality results were in line with and in some instances better than historical results.
- ✓ The water management performance at Mill 7 is also good and that the conditions have been complied with during the reporting period.
- ✓ The last revision of Water Management Plan CMT-ENV-005 V3 was undertaken in September 2014, as part of their 3 yearly reviews.
- ✓ Boral Cement was currently undertaking a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. The Project needs an Operational Environmental Management Plan before it 'goes live'. It made sense therefore to review the site EMP's in light of the project. Boral Cement had engaged a consultant to create this on their behalf. Whilst the current documents were overdue for review - the process remained valid.
- ✓ The WMP has since been revised in November 2017.

5.5 (Transport)

d) **Condition**

Transport Management Plan to outline management of traffic conflicts associated with the operation of the cement works upgrade. The Code shall include, but not necessarily be limited to:

I) details of any restriction to traffic routes;
ii) minimum requirements for vehicle maintenance to address noise and exhaust emissions;
iii) speed limits to be observed along routes to and from the sites and within the site; and
iv) behaviour requirements for vehicle drivers to and from the site and within the site.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

- A Transport Code of Conduct (including Driver Code of Conduct) was prepared by BCSC prior to the Kiln6 construction works (July 2003)
- The Transport Code of Conduct addressed the management of traffic during the site operations, and specifically the requirements of the Development Consent conditions. It addressed both heavy and passenger vehicles. All employees and contractors were made aware that responsible driving is a condition of employment at the Berrima site
- The *Driver Code of Conduct for Passenger Vehicles and Utility Operators* and *Driver Code of Conduct for Truck and Heavy Vehicle Operators* were updated in September 2014 and September 2015 and are part of Berrima's Environmental Management Plans. The Plan will be formally reviewed by the end of a 3-year cycle or earlier if site operations change
- Driver codes outline the driving behavior expected of all Workers (employees and contractors). Driver Code of Conduct is included in induction training. Refresher Training is provided and regular audits are conducted
- Drivers are continually evaluated for compliance against these codes during workplace observations
- In case truck drivers associated with Boral Cement Berrima are found to be in breach of Driver Code of Conduct, incident reports would be prepared
- The TMP was reviewed and updated in the reporting period September 2014, revision 3. It continues to reflect the extent of current operations and environmental management needs associated with these operations
- The TMP requires a formal review by the end of a 3-year cycle or earlier if site operations significantly change.

2016 – 2017:

- Boral manages traffic on site in accordance with the Traffic Management Plan
- Four of the conditions relate to construction, however, there was no construction during the reporting period (Table 5.8). Two of the conditions relate to parking provision and truck queuing. Sufficient car parking has historically, and continues to be, provided to accommodate employee and visitor vehicles on site without the need to park on surrounding public roads. Deliveries of fuel and ingredient materials for Kiln 6, and ingredient materials for Mill 7, have not historically, and continue to not, require queuing of trucks along Taylor Avenue. Therefore, operations at Kiln 6 and Mill 7 complied with the traffic and transport consent conditions during the reporting period.
- The TPM had not exceeded its three-yearly expiry review date at the time of this audit.

Compliance Audit Findings November 2017:

- ✓ Driver codes outline the driving behaviour expected of all workers (employees and contractors). Driver Code of Conduct is included in Induction Training. Refresher Training is provided, and regular audits are conducted.
- ✓ Drivers are continually evaluated for compliance against these codes during workplace observations. In case truck drivers associated with Boral Cement Berrima are found to be in breach of its Driver Code of Conduct, Incident Reports would be prepared.
- ✓ The *Driver Code of Conduct for Passenger Vehicles and Utility Operators,* and *Driver Code of Conduct for Truck and Heavy Vehicle Operators* were last updated in September 2015 and are part of Berrima's Environmental Management Plans.
- ✓ Sufficient car parking continues to accommodate employee and visitor vehicles on site without the need to park on surrounding public roads.
- ✓ Operations at Mill 7 complied with the Traffic and Transport Consent Conditions during the reporting periods.
- ✓ Berrima Cement was undertaking a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. The Project needed an Operational Environmental Management Plan before it 'goes live'- therefore an action to review the site EMP's in light of the project was initiated. Berrima Cement engaged a consultant to review and the EMP on their behalf. Whilst the current documents were overdue for review the process remained valid at the time of the November 2017 Compliance Audit.

Compliance Audit 2017		
Yes	No	NA
✓		

5.6 (Transport)

Condition

Within three years of the commencement of operation of the cement works upgrade, and at least every three years thereafter, the Applicant shall undertake a formal review of the Operation Environmental Management Plan (OEMP) required under condition 5.3 of this consent. The review shall ensure that the OEMP is up-to-date and all changes to procedures and practices since the previous review have been fully incorporated into the OEMP. The Applicant shall notify the Director-General, Council and the DEC of the completion of each review, and shall supply a copy of the updated OEMP to those parties on request. The Applicant shall also make any revised OEMP available for public inspection on request.

Historical Compliance with Condition as per AEMRs 2014-2017

- Boral Cement Berrima completed a full review of the site Operational EMP and the associated specific EMPs (Water, Air, Noise, Waste, Dust and Traffic Management Plans) in September 2014 and September 2015. The Plans will be formally reviewed by the end of the next 3-year cycle or earlier if site operations significantly change.
- The documents are available for public inspection on request and are also uploaded on the Berrima internet page
- Due to an administrative error notification from DP&E, EPA and the Council about the Environmental Management Plans update was delayed. This constituted a minor administrative noncompliance. This has been rectified immediately after its detection and Boral Cement Berrima has remained in compliance since.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ Boral Cement had undertaken a full review of their site OEMP and the associated specific EMPs (Water, Air, Noise, Waste, Dust and Traffic Management Plans in September 2014
- ✓ Berrima Cement was undertaking a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. The Project needed an Operational Environmental Management Plan before it 'goes live'- therefore an action to review the site EMP's in light of the project was initiated. Berrima Cement engaged a consultant to review and the EMP on their behalf. Whilst the current documents were overdue for review the process remained valid at the time of the November 2017 Compliance Audit.

Compliance Audit 2017		
Yes	No	NA
✓		

6.0 ENVIRONMENTAL REPORTING

6.1 Incident Reporting:

Condition

The Applicant shall notify the DEC and the Director-General of any incident with actual or potential significant off-site impacts on people or the biophysical environment as soon as practicable after the occurrence of the incident. The Applicant shall provide written details of the incident to the EPA and the Director-General within seven days of the date on which the incident occurred.

Historical Compliance with Condition as per AEMRs 2014-2017

- During this reporting period there were no environmental incidents associated with Cement Mill 7 that resulted in actual or potential off-site environmental impacts. Furthermore, no site-wide environmental incidents with actual or potential significant off-site impacts on people or the biophysical environment occurred during the reporting period
- Pollution Incident Notification (PIN) Standard Operating Procedure (SOP) was developed for the site in response to the requirements of the NSW's POELA Act 2011. The PIN SOP was last updated in March 2017 and is annually reviewed & updated.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Management Actions for 2014-2017

- *Boral Cement will immediately notify by phone five compulsory government authorities, (EPA, NSW Fire & Rescue, Local Council, Public Health Unit, WorkCover) of any future incidents causing or threatening material harm immediately upon becoming aware of the pollution incident, followed by written notification within 7 days*
- *DP&E will be notified as soon as practicable, followed by written notification within 7 days.*

Compliance Audit Findings November 2017:

- ✓ All Incidents are captured in an online Incident Report Register called SiteSafe
- ✓ DP&E are to be notified as soon as practicable, followed by written notification within 7 days
- ✓ Boral Cement will immediately notify by phone five compulsory government authorities, (EPA, NSW Fire & Rescue, Local Council, Public Health Unit, SafeWork NSW) of any future incidents causing or threatening material harm immediately upon becoming aware of the pollution incident, followed by written notification within 7 days
- ✓ At the time of this audit, there had not been any environmental incidents associated with Cement Mill 7
- ✓ The PIN SOP was last updated in March 2017.

Compliance Audit 2017		
Yes	No	NA
✓		

6.2 Incident Reporting:

Condition

The Applicant shall meet the requirements of the Director-General to address the cause or impact of any incident, as it relates to this consent, reported in accordance with condition 6.1, within such period as the Director-General may agree.

Note: Condition 6.2 of this consent does not limit or preclude the DEC from requiring any action to address the cause or impact of any incident, in the context of the EPA's statutory role in relation to the cement works upgrade.

Historical Compliance with Condition as per AEMRs 2014-2017

- The Director General has not required Boral Cement to address any incident relating to Cement Mill 7 during this reporting period
- No non-compliances or reportable incidents occurred during the reporting periods as confirmed by the AEMR reports.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ The Director General had not required Boral Cement to address any incidents relating to Cement Mill 7 during the three reporting periods nor at the time this audit was undertaken.

Compliance Audit 2017		
Yes	No	NA
✓		

6.3 Annual Performance Reporting

Condition

The Applicant shall, throughout the life of the cement works upgrade, prepare and submit for the approval of the Director-General, an Annual Environmental Management Report (AEMR). The AEMR shall review the performance of the cement works upgrade against the Operation Environmental Management Plan (refer to condition 5.3 of this consent), the conditions of this consent and other Licenses and approvals relating to the cement works upgrade. The AEMR shall include, but not necessarily be limited to:

a) details of compliance with the conditions of this consent
b) a copy of the Complaints Register (refer to condition 4.3 of this consent) for the preceding twelve month period (exclusive of personal details), and details of how these complaints were addressed and resolved
c) a comparison of the environmental impacts and performance of the cement works upgrade against the environmental impacts and performance predicted in the SEE and the additional information listed under condition 1.1
d) results of all environmental monitoring required under this consent and other approvals, including interpretations and discussion by a suitably qualified person
e) a list of all occasions in the preceding twelve-month period when environmental performance goals for the cement works upgrade have not been achieved, indicating the reason for failure to meet the goals and the action taken to prevent recurrence of that type of incident
f) identification of trends in monitoring data over the life of the cement works upgrade to date
g) a list of variations obtained to approvals applicable to the cement works upgrade and to the site during the preceding twelve-month period; and
h) environmental management targets and strategies for the following twelve-month period, taking into account identified trends in monitoring results.

Historical Compliance with Condition as per AEMRs 2014-2017

a) Addressed throughout AEMR's for reporting periods 2014-15, 2015-16, and 2016-17
b) Addressed in the Complaints Register Attachment No.7 of reporting periods 2014-15, 2015-16, and 2016-17
c) A comparison of the impacts predicted in the SEE versus actual impacts was provided in the Cement Mill 7 compliance audit report by Somerset Risk Management (May 2008) – a copy of which was provided with the amended AEMR for 2007-08 in December 2008. There have been no changes to the project since the audit was finalised
Also, addressed in Kiln 6 Upgrade Project - Comparison of SEE Predicted Impacts vs Actual Impacts, Attachment No.8 for reporting periods 2014-15, 2015-16, 2016-17
d) Addressed in the Kiln 6 Upgrade AEMR for 2015, 2016 and 2017
e) The site, including Cement Mill 7 achieved its environmental performance goals
f) Addressed in the Kiln 6 Upgrade AEMR for 2015, 2016 and 2017
g) Cement Mill 7 Development Consent was not modified during the reporting periods 01/05/14 to 30/04/15, nor during 01/05/15 to 30/04/16, nor during 01/05/16 to 30/04/17
h) The primary environmental management targets & strategies for the following reporting periods are:
   – maintain full compliance with the conditions of Planning Consents

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

- to further minimise the fugitive dust emissions generated from raw material and clinker stockpiles, unsealed areas and process leaks/upsets
- to further reduce noise emissions by implementing noise attenuators and other measures where technically and economically feasible
- to continue implementing processes and procedures to track operational and environmental trends.

Management Actions for 2014-2017:

- *Boral Cement Berrima will strive to implement the environmental management objectives and strategies detailed above.*

Compliance Audit Findings November 2017:

✓ Management continue committed to implementing the above environmental objectives, targets & strategies, validated by the approval and delivery of the Noise, Dust and Re-Vegetation Project Management Plans.

Compliance Audit 2017		
Yes	No	NA
✓		

6.4 Annual Performance Reporting

Condition

The Applicant shall submit a copy of the AEMR to the Director-General, the DEC and Council every year, with the first AEMR to be submitted within twelve months of commencement of operation of the cement works upgrade; and the second and subsequent AEMRs to be submitted concurrently with the DEC's Annual Return.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015:

- The Annual Return for the EPL 1698 for the period of 1 May 2014 to 30 April 2015 was due by 30 June 2015 and was submitted to EPA before the due date
- The AEMR relates to the annual reporting period from 1 May 2014 to 30 April 2015 and was submitted prior to 30 June 2015, concurrently with the EPA Return.

2015 – 2016:

- The Annual Return for the EPL 1698 for the period of 1 May 2015 to 30 April 2016 was due by 30 June 2015 and was submitted to EPA before the due date
- The AEMR relates to the annual reporting period from 1 May 2015 to 30 April 2016 and was submitted before its 30 June 2015 deadline, concurrently with the EPA Return.

2016 – 2017:

- The Annual Return for the EPL 1698 for the period of 1 May 2016 to 30 April 2017 was due by 30 June 2016 and was submitted to EPA before the due date
- The AEMR relates to the annual reporting period from 1 May 2016 to 30 April 2017 and was submitted before its 30 June 2016 deadline, concurrently with the EPA Return.

Compliance Audit Findings November 2017:

All Boral's external reporting obligations have been met on time, including the annual report to EPA and the AEMRs to DP&E.

Compliance Audit 2017		
Yes	No	NA
✓		

6.5 Annual Performance Reporting

Condition

The Director-General may require the Applicant to address certain matters in relation to the environmental performance of the cement works upgrade, in response to review of the Annual Environmental Report and any comments received from the DEC and/or Council. Any action required to be undertaken shall be completed within such period as the Director-General may agree.
Note: The AEMR does not aim to satisfy any requirement of the DEC with regard to any Annual Return required under any License issued for the cement works upgrade under the Protection of the Environment Operations Act 1997.

Historical Compliance with Condition as per AEMRs 2014-2017

- No requests were received during these reporting periods 2014/15, 2015/16
- For the 2016 reporting period, DPE required three actions be undertaken by 31 August 2016; Boral to update the AEMRs for the development consents for Kiln 6 and Mill 7 to include:
  - incorporate the noise monitoring results and interpretation of these results for the works
  - more detailed interpretation of the data for key monitoring parameters, and
  - to omit personal details from the Complaints Register in Attachment 7
- The updated reports were submitted on 30 August 2016
- In addition, DP&E made the following four (4) recommendations regarding environmental management for the 2017 reporting period, as follows:
  1. Provide additional detail of measures being undertaken to address key environmental management targets, in particular the measures being undertaken to further reduce noise emissions by implementing noise attenuators and other measures where technically and economically feasible. Previous actions had addressed noise issues (impeller replacement and Precipitation Fan roller doors). The 2016 noise report shows that the sight remains in compliance with noise conditions. Activities throughout the year focused on preventative maintenance. See Section 5.2 in AEMR.

2. Consider combining both AEMRs into one report for the site. The Department has published the Post-approval requirements for State significant mining developments Annual Review Guideline (2015) (the Guideline). While referencing mining operations, it provides a good indication of the standard and general content of AEMRs expected by the Department. It is recommended that the guideline is considered in the preparation of all future AEMRs. Note that the guideline states that 'where there is any inconsistency between the post approval guidelines and the conditions placed on an operation's approval, the condition will prevail'.
This AEMR incorporates the AEMRs required for the development consents for Kiln 6 and Mill 7 into the one report. In addition, this AEMR has been prepared in accordance with the Guideline as requested by DP&E.

3 Request that the information on the website is reviewed to ensure that the most up to date information is provided. The website has been updated with all relevant information as at June 2017.

4 Ensure a copy of the complaints register is made available and kept up to date on the company's website. Boral is in the process of putting their up-to-date Complaints Register on their website as at June 2017.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ No other requests have been submitted to Boral in relation to this Condition for Cement Mill 7
- ✓ The AEMRs prepared for the development consents for Kiln 6 and Mill 7 (Development Consent No. DA 401-11-2002-i and DA 85-4-2005i respectfully) for the 2016 reporting period, DP&E required three actions be undertaken by 31 August 2016. In addition, DPE made four recommendations regarding environmental management for the 2017 reporting period. Details on the three actions required by DP&E for the 2016 reporting period are provided in Table 4.1. Details on the four recommendations made by DP&E for environmental management for the 2017 reporting period are provided in table 4.2 of the 2016/17 AEMR.

Compliance Audit 2017		
Yes	No	NA
✓		

6.6 Annual Performance Reporting

Condition

The Director-General may, having considered any submission made by the Applicant, consent to the incorporation of the requirements listed under condition 6.3 into the AEMR required under the conditions of consent for other development at the site.

Historical Compliance with Condition as per AEMRs 2014-2017

- No submission has been made.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ To date, no submissions were made to the Director-General for consideration.

Compliance Audit 2017		
Yes	No	NA
✓		

Part 1 B

Boral Cement Limited – KILN 6 - Conditions of Consent

Please note the Auditor from Somerset Risk Management Pty Ltd (SRM) was advised the 2016-2017 AEMR had been prepared by an independent Contractor from EMM Consulting Pty Ltd to provide a summary of compliance with the two development consents applicable to the Berrima Cement Works.

Nevertheless, SRM's Auditor could not confirm whether all the new Conditions of Consent raised in MOD 9 for Kiln 6 had been reviewed, assessed, verified and reported for compliance within their AEMR 2016-2017 combined Report. **The Auditor observed EMM Consulting had only made reference to MOD 9 in the following 3 pages/sections of their AEMR 2016-2017 Report**

- **Table 3.2 Approvals for Kiln - The use of up to 100,000 tpa of SWDF as a non-standard fuel for Kiln 6. Page 11**
- **As part of MOD 9, conditions relating to MOD 6 (the stockpiling of coal from Berrima Colliery for sale and transport to Port Kembla) were deleted. Page 12**
- **Note that no non-standard fuels or SWDFs were used at the Works from the time MOD 9 was approved and the end of the reporting period dated 28 June 2017. Page 13**

(Pages 33 – 89)

Part 1 B

Boral Cement Limited – KILN 6 - Conditions of Consent

1. GENERAL

1.1 **Scope of Development:**

Condition

The Applicant shall implement all practicable measures to prevent or minimise any harm to the environment that may result from the construction and operation of the cement works upgrade.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

For the reporting period 2014-2017

Boral took on-going actions to improve environmental management and compliance at the Berrima Works, including:

- Working to improve dust and noise management on site;
- Continuing community engagement; and
- Liaising with NSW Environmental Protection Authority (EPA) and Department of Planning and Infrastructure (DPI) to proactively identify and address upcoming issues, monitor compliance, and work cooperatively to ensure that EPA and DPI requirements are understood and delivered.
- During the reporting period, there were no known non-compliances raised against Kiln 6.
- The Tri-Annual Environmental Audit was conducted in November 2017 by Somerset Risk Management. The auditor noted in her report that *"Boral Cement continues to maintain environmental excellence, demonstrating their commitment to continually improve their EMS at the Berrima site."* Examples of continual improvement were provided to the EPA and DPI.

Management Actions

- *Boral Cement Berrima is committed to work towards further improving environmental management at the Berrima Site as documented throughout the remainder of this AEMR.*

Compliance Audit Findings November 2017:

Compliance Audit 2017		
Yes	No	NA
✓		

- ✓ Boral Cement continues to maintain environmental excellence by demonstrating their commitment to continually improve their EMS at the Berrima site. Examples have been provided throughout Part 3 EMS Compliance Reporting.
- ✓ Boral Cement continues to maintain regular communications with the EPA and DPE to preempt and address potential issues, monitor compliance, and work cooperatively to ensure legislated requirements are understood and delivered in an efficient and timely manner.
- ✓ At the time of this audit, there were no known non-conformances raised against Kiln 6.

1.2 **MOD 9 CONDITION INTRODUCED DURING 2016-2017**

Condition

The Applicant shall carry out the development generally in accordance with:

a) Development Application No. 401-11-2002-i, lodged with the Department of Planning on 22 November 2002;
b) Berrima Kiln 6 Upgrade Project – Statement of Environmental Effects, dated November 2002 and prepared by Olsen Environmental Consulting;
c) Noise Impact Assessment for Kiln 6 Upgrade Project, dated 4 November 2002 and prepared by Hatch Associates Pty Limited;
d) Air Quality Review – New Berrima Plant, Number 6 Kiln Upgrade, dated 19 November 2002 and prepared by Holmes Air Sciences;
e) additional information supplied to the Department by the Applicant regarding noise, air and water dated 22 January 2003;
f) additional information supplied to the Department by the Applicant regarding the design of the second pre-heater tower dated 4 February 2003;
g) additional information supplied to the Department by the Applicant regarding air and noise dated 13 February 2003;
h) additional information supplied to the EPA by the Applicant regarding discharge points from Lake Quality dated 4 March 2003 &forwarded to the Dept .by the Applicant on 31 March 2003;
i) modification application MOD-2-1-2004-i and accompanying documents lodged on 5 January 2004, including:
  i) the Statement of Environmental Effects, Berrima Kiln 6, Non-Standard Fuels and Materials prepared by Blue Circle Southern Cement; and
  ii) Blue Circle Southern Cement Berrima Plant, Proposed Non-Standard Fuels Modifications, Additional Information, dated 3 June 2004;
j) modification application MOD-109-9-2006-i, relating to the definition of HiCal50 as an alternative fuel and prohibition of hazardous wastes;
k) modification application MOD-12-2-2007-I, to permit trial use of tyre chips;
l) MOD 4 to vary the usage rate of coke fines; and
m) MOD 5 to permit coal deliveries by rail;
n) MOD 6 to permit coal stockpiling on the site, as detailed in Berrima Cement Works Modification 6: Environmental Assessment, Coal Stockpiling for Sale, prepared by EMGA Mitchell McLennan and dated 16 June 2014, and in Response to Submissions: Berrima Colliery Continued Operations MP 10_0172, Berrima Cement Works DA No. 401-11-2002-i MOD 6, prepared by EMGA Mitchell McLennan and dated November 2014;
o) MOD 7 for the trial and potential full-scale use of Granulated Blast Furnace Slag as an additive raw material in kiln 6 and accompanying documents:
  i. the Environmental Assessment entitled 'Berrima Cement Works Planning Consent Modification 7 - Environmental Assessment - Use of Granulated Blast Furnace Slag in K6 at Berrima',

dated 17 October 2001 and prepared by Boral Cement Limited; and

ii. *the Response to Submissions report entitled 'Berrima Cement Works – Kiln 6 Development Consent Modification 7', dated 7 December 2014 and prepared by Boral Cement Limited.*

p) MOD 9 refer to the use of Solid Waste Derived Fuels as a non-standard fuel for Kiln 6 and accompanying documents:

i. *the Environmental Assessment entitled 'Use of Waste Derived Fuels Kiln 6, Berrima Cement Works DA 401-11-2002 – Modification 9' dated July 2015 and prepared by Boral Cement Limited; and*

ii. *the Response to Submissions report entitled 'Boral Berrima Cement Works Modification 9 – Use of Solid Waste Derived Fuels Response to Submissions' dated 22 January 2016 and prepared by SLR Consulting Australia Pty Ltd.*

q) the conditions of this consent.

In the event of an inconsistency between a condition of this consent and the documents listed under a) to r) above, the conditions of consent shall prevail to the extent of the inconsistency.

Historical Compliance with Condition as per AEMRs 2014- 2017

- As detailed within each AEMR's for the 3 Reporting periods, operation of Kiln 6 has been carried out generally in accordance with the requirements of this Condition.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, the operation of Kiln 6 had been carried out in accordance with the requirements of this Condition.

Compliance Audit 2017		
Yes	No	NA
✓		

LIMITS OF CONSENT

1.3 **The AEMR report for 2011-12 included condition b) referring to demolished Kiln 5 (compliance reported as "Not Applicable" in the 2011-12 AEMR). The Condition b) was removed in a modification dated 31/8/2012 and the former Condition c) became b) as below:**

Condition

a) the upgraded Kiln 6 is to be utilised as the primary and principal kiln on the site; and

b) the production capacity of the upgraded Kiln 6 is to be limited to ensure that the maximum clinker production capacity of Kiln 6 does not exceed 1.560 million tonnes per annum (rolling annual average).

Historical Compliance with Condition as per AEMRs 2014-2017

- Kiln 6 was the only kiln used on site during the reporting period for 2014-2015, 2015-2016 and 2016-2017.
- The annual clinker production in the reporting period (May 2014 – April 2015) totalled 1,380,919 tonnes.
- The annual clinker production in the reporting period (May 2015 – April 2016) totalled 1,430,187 tonnes.
- The annual clinker production in the reporting period (May 2016 – April 2017) totalled 1,486,418 tonnes.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ Kiln 6 was the only kiln used on site during the compliance audit.

Compliance Audit 2017		
Yes	No	NA
✓		

1.3A **This Condition was introduced during 2015 – 2016.**

Condition

Deliveries of coal to the site may be made by road or rail transport.

Historical Compliance with Condition as per AEMRs 2014-2017

- Coal was delivered to the cement works by road in the reporting periods for 2014-2015, 2015 – 2016.
- Unclear what mode of transport Coal was delivered to Site during 2016-2017 as this information was not made available within the 2016-2017 AEMR Report?
- Subsequent modifications to the development consent for Kiln 6, approved by delegates of the NSW Minister for Planning, have allowed the use of rail for coal deliveries (refer to Application MOD 5, date approved 31.08.09).

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- SRM Assessor verified Coal had been delivered to cement works by road during 2017.

Compliance Audit 2017		
Yes	No	NA
✓		

1.3 B — ***This Condition was introduced during 2014– 2015 – then Deleted during 2016-2017 as per MOD 9 5/10/2016***

Condition

The Applicant is permitted to stockpile up to 25,000 tonnes of coal on the site for off-site dispatch and sale. This quantity of coal is in addition to any coal stockpiled or handled on the site for the purpose of cement production.

Historical Compliance with Condition as per AEMRs 2014-2017

- No coal was stockpiled for sale in the reporting period. The Berrima Colliery, which was the source of the potential sale product, was transitioned into "care and maintenance" mode from October 2013 and no longer undertakes coal mining.
- Subsequent modifications to the development consent for Kiln 6, approved by delegates of the NSW Minister for Planning, have allowed the stockpiling of coal for sale on the site (refer to Application MOD 6, date approved 20.06.12).
- As part of MOD 9, conditions relating to MOD 6 (the stockpiling of coal from Berrima Colliery for sale and transport to Port Kembla) were deleted.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ No coal was stockpiled for sale during the compliance audit.

Compliance Audit 2017		
Yes	No	NA
		✓

1.4A — **Non Standard Fuels**

Condition

Subject to meeting the requirements of this consent, and the requirements of a licence issued under the Protection of the Environment Operations Act 1997 for the site, the following fuels are permitted to be received at the site for use at the upgraded Kiln 6 development at the quantities, firing rates and proportions specified in Table 1.

Refer to Table 1 in Conditions of Consent – Permitted Fuels for use in upgraded Kiln 6

Historical Compliance with Condition as per AEMRs 2014-2017

2014-2015:

- Total fuel used in the kiln during the reporting period was 214,956 tonnes, with the following composition: Coal 207,476 tonnes (96.5% of total fuel), Coke Breeze – 7,480 tonnes (3.5% of total fuel).
- Additionally, small amounts of diesel were used during kiln start-ups.
- No Hi Cal 50, AKF1 or AKF5 were received or used during this reporting period.

2015–2016:

- Total fuel used in the kiln during the reporting period was 214,758 tonnes of coal.
- Small amounts of diesel were used during kiln start-ups.
- No Hi Cal 50, AKF1 or AKF5 were received or used during this reporting period.

2016 – 2017:

- Total fuel used in the kiln during the reporting period was 223,989 tonnes of coal. Small amounts of diesel are used during kiln start-ups. None of the other fuels in this condition were received, stored or used during this reporting period.
- The use of waste derived non-standard fuels has not recommenced and there are no trends to report and no management measures are necessary.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, no Hi Cal 50, AKF1 or AKF5 alternate fuels were received or used in Kiln 6. Small amounts of diesel and fuel oil were being used during the kiln light ups.

Compliance Audit 2017		
Yes	No	NA
✓		

1.4B

Condition

No AKF5 is permitted to be received at the site until the necessary storage facilities and kiln feeding infrastructure have been constructed in accordance with any such approvals. Storage of AKF5 must be in accordance with the Fire and Rescue NSW Guidelines For Bulk Storage Of Rubber Tyres.

If the Applicant proposes to exceed the stockpile sizes and heights within the above Guidelines, the Applicant must obtain written approval from Fire and Rescue NSW, to the satisfaction of the Secretary

Historical Compliance with Condition as per AEMRs 2014-2017

- No AKF 5 was received, stored or used at the site during the 3 reporting periods.
- The use of waste derived non-standard fuels has not recommenced and there are no trends to report and no management measures are necessary.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, No AKF 5 was received, nor being stored on site.

Compliance Audit 2017		
Yes	No	NA
✓		

1.4C

Condition

Hi Cal 50 and AKF1 are approved for use at the development under this consent subject to the detailed design for any necessary storage facilities and kiln feeding infrastructure being approved to the Secretary. In particular, the detailed design shall:

a) demonstrate that the storage facilities would be appropriately bunded in accordance with the relevant Australian Standards, especially Australian Standard AS1940-2004 (for AKF1, this would include having a minimum capacity sufficient to accommodate catastrophic failure of the tank and that adequate measures are in place to ensure a catastrophic failure of a tanker during transfer was adequately contained to ensure no off-site discharge;

b) include appropriate measures to ensure liquids draining from the bund (and other containment areas) are kept separate and adequately treated prior to discharge to the on-site storm water management system, and demonstrate that these measures were developed in consultation with the Sydney Catchment Authority and Wingecarribee Shire Council; and

c) include a Fire Safety Study prepared in accordance with the Department's guideline Hazardous Industry Planning Advisory Paper No. 2: Fire Safety Study and in consultation with the Fire and Rescue NSW

A construction certificate must not be issued in relation to any necessary storage facilities and kiln feeding infrastructure until the Secretary has approved the detailed design parameters. No Hi Cal 50 or AKF1 is permitted to be received at the site under this consent until any necessary storage facilities and kiln feeding infrastructure have been constructed in accordance with the detailed design parameters approved by the Secretary.

Historical Compliance with Condition as per AEMRs 2014-2017

- Compliance has previously been demonstrated in the 2007-2008 AEMR.
- The use of waste derived non-standard fuels has not recommenced and there are no trends to report and no management measures are necessary.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

Compliance has previously been demonstrated in the 2007-2008 AEMR.

Compliance Audit 2017		
Yes	No	NA
✓		

1.4CA

Condition

Notwithstanding condition 1.4C of this consent, the Applicant is permitted to undertake a single trial of chipped tyres in the development, ahead of the construction of storage facilities and kiln feeding infrastructure for AKF5, provided that the trial meets the following requirements:

a) no more than 205 tonnes of 2" chipped tyres is to be received at the site for the trial;

b) the trial shall be conducted over no more than six months from the date of first receipt of the trial materials, after which any remaining trial materials shall be removed from the site to a facility lawfully permitted to accept the materials;

c) the trial shall be undertaken for the purpose of investigation design and operational aspects of the full scale use of AKF5

d) the trial shall be undertaken in full compliance with the environmental performance standards stipulated in this consent and the requirements of the EPL for the site

e) the Applicant shall consult with and meet the requirements of the EPA with respect to undertaking the trial, and shall not commence the trial without the prior written approval of the EPA;

f) trial materials shall be stored in an area that is sealed, or otherwise treated to the satisfaction of the Secretary, and away from all potential ignition sources;

g) the Applicant shall notify the Fire and Rescue NSW prior to the receipt of trial materials on the site, and address any requirements with respect to the safe storage of the trial materials;

h) the Applicant shall notify the Secretary, the EPA and the Community Liaison Group prior to the commencement of the trial; and

i) the Applicant shall report the status and outcomes of the trial to the Secretary and the EPA on a monthly basis from the date that trial materials are first received on the site until conclusion of the trial.

Historical Compliance with Condition as per AEMRs 2014-2017

- Boral Cement Berrima did not conduct any tyre trials in the 3 reporting periods.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, Boral Cement did not intend to conduct the AKF5 trial and had no AKF5 stored on site.
- ✓ Trials are considered a "one-off event" that does not display reportable trends.
- ✓ No trials were conducted and no associated management actions were required.

Compliance Audit 2017		
Yes	No	NA
		✓

1.4D

Condition

Only Standard Fuels are permitted to be used at the development during start-up and shut-down.

Historical Compliance with Condition as per AEMRs 2014-2017

- No non-standard fuels were received, stored or used during the 3 reporting periods.
- The use of waste derived non-standard fuels has not recommenced and there are no trends to report and no management measures are necessary

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ No Non-Standard Fuels were used at the time of this audit.

Compliance Audit 2017		
Yes	No	NA
✓		

1.4E

Condition

Non-Standard Fuels are not permitted to be stored at the site for longer than 3 months, except with the written permission of the Secretary

Historical Compliance with Condition as per AEMRs 2014-2017

- No AKF1 and no AKF5 are currently stored on site.
- DP&E approved (by letter dated 11 February 2009) the ongoing storage of the existing Hi Cal 50/60 stockpile, however this material is no longer used at this site.
- The use of waste derived non-standard fuels has not recommenced and there are no trends to report and no management measures are necessary.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ No AKF1 and no AKF5 are currently stored on site.
- ✓ The storage of the existing Hi Cal 50/60 stockpile is ongoing as per DPI approval of 2009.

Compliance Audit 2017		
Yes	No	NA
✓		

1.4F

Condition

No Non-Standard Fuel is permitted to be received at, or used at the development, unless it complies with:

a) the handling, transporting, sampling, analysis and quality control requirements of this consent;
b) any requirements of a licence issued under the Protection of the Environment Operations Act 1997 for the site &
c) the fuel specification for that specific fuel.

Historical Compliance with Condition as per AEMRs 2014-2017

- No Non-Standard Fuels were received, stored or used during the 3 reporting periods.
- The use of waste derived non-standard fuels has not recommenced and there are no trends to report and no management measures are necessary.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ No Non-Standard Fuels were received at the site at the time of this audit.

Compliance Audit 2017		
Yes	No	NA
✓		

1.4G

Condition

Prior to the receipt of the first batch of a Group 1 Non-Standard Fuel from a particular supplier, the Applicant shall certify in writing to the Secretary that the supplier has implemented appropriate quality control and quality assurance procedures to ensure that the Applicant's responsibilities under this consent can be met. At the request of the Secretary, the Applicant shall forward a copy of the supplier's quality control and quality assurance procedures to the Department demonstrating how those procedures cause the Applicant to meet the requirements of this consent.

Historical Compliance with Condition as per AEMRs 2014-2017

- There were no Non-Standard Fuels were received, stored or used during the 3 reporting periods.
- The use of waste derived non-standard fuels has not recommenced and there are no trends to report and no management measures are necessary

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ There were no Non-Standard Fuels received at the time of this Audit.

Compliance Audit 2017		
Yes	No	NA
✓		

1.4H **MOD 9 CONDITION INTRODUCED DURING 2016-2017**

Condition

Prior to the receipt of the first batch of a Group 2 Non-Standard Fuel from a particular supplier, the Applicant shall certify in writing to the Secretary that the supplier has met the pre-qualification requirements set out in the approved Quality Assurance and Control Procedure for Receipt and NSW Use of Solid Waste Derived Fuels (Appendix 1 of the consent) and that the Applicant's Responsibilities under this consent can be met. At the request of the Secretary, the Applicant shall forward a copy of the supplier's quality control and quality assurance procedures to the Department demonstrating how those procedures cause the Applicant to meet the requirements of this consent.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition was not applicable for the reporting period 2014-2016
- There were no Non-Standard Fuels were received, stored or used during the 2017 reporting periods.
- The use of waste derived non-standard fuels has not commenced and there are no trends to report and no management measures necessary.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ There were no Non-Standard Fuels received at the time of this Audit.
- ✓ The use of waste derived non-standard fuels has not recommenced and there are no trends to report and no management measures necessary.

Compliance Audit 2017		
Yes	No	NA
		✓

1.4I **MOD 9 CONDITION INTRODUCED DURING 2016-2017**

Condition

Prior to the receipt of the first batch of SWDF the Applicant shall develop and submit operational procedures for co-firing SWDF to ensure that the temperature of gas generated in the process is raised to a minimum temperature of 8500C for a minimum of two seconds. Operational procedures must include interlocks in the process control system

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition was not applicable for the reporting period 2014-2016
- There were no Non-Standard Fuels including Solid Waste Derived Fuel were received, stored or used during the 2017 reporting periods.
- The use of waste derived non-standard fuels has not commenced and there are no trends to report and no management measures necessary

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ There were no Non-Standard Fuels including SWDF received at the time of this Audit
- ✓ The use of waste derived non-standard fuels has not recommenced and there are no trends to report and no management measures necessary

Compliance Audit 2017		
Yes	No	NA
		✓

1.5	***Requirement DELETED as per MOD 9 5/10/2016***

Condition

Where practicable, the Applicant shall provide all documents and reports required to be submitted to the Secretary under this consent in an appropriate electronic format. Provision of documents and reports to other parties, as required under this consent, shall be in a format acceptable to those parties and shall aim to minimise resource consumption.

Historical Compliance with Condition as per AEMRs 2014-2017

- Where practicable all documentation submitted to DP&E had been provided electronically.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

✓ The Auditor confirmed that all documentation was being submitted to the DP&E electronically.

Compliance Audit 2017		
Yes	No	NA
		✓

1.6	**Statutory Requirements**

Condition

The Applicant shall ensure that all necessary licences, permits and approvals are obtained and kept up-to-date as required throughout the life of the cement works. No condition of this consent removes the obligation for the Applicant to obtain, renew or comply with such licences, permits or approvals.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015

- All required licenses, permits and approvals are maintained on site at Boral Cement Berrima and kept up to date.
- The Environmental Protection License (EPL) No.1698 was in place for the site
- The last modification to the Development Consent (Mod. 8) was approved on 5 August 2012, aligning it with the Environmental Protection Licence changes.

2015 – 2016

- All required licenses, permits and approvals are maintained on site at Boral Cement Berrima and kept up to date.
- The last modification to the Development Consent (Mod. 8) was approved on 5 August 2012, aligning it with the Environmental Protection Licence changes.
- The Environmental Protection License (EPL) No.1698 was in place for the site

2016 – 2017

- All required licenses, permits and approvals are maintained on site at Boral Cement Berrima and kept up to date
- The Environmental Protection License (EPL) No.1698 was in place for the site. Dec 2016
- The last modification to the Development Consent (Mod. 9) was approved on 5 October 2016 (the use of up to 100,000 tpa of SWDF as a non-standard fuel for Kiln 6, including the construction of a fuel storage and kiln feeding system, and the deletion of conditions relating to MOD 6.), aligning it with the Environmental Protection Licence changes.

Compliance Audit Findings November 2017:

✓ All required licenses, permits and approvals continue being maintained.
✓ There have been no further modifications to the Development Consent since 5 October 2016.
✓ The Environmental Protection License (EPL) No.1698 version date 23-12-2016 was current at the time of this audit.

Compliance Audit 2017		
Yes	No	NA
✓		

✘ The SRM Independent Auditor observed an error with the following information reported externally by EMM Consulting within Table 3.2. of their 2016-2017 AEMR Report; "*Approvals for Kiln 6, S3.3.2 Licences of the AEMR Report dated 2016-2017 states there has been no variation or amendment to the EPL since 14 July 2015*".
It is important to note - there was an amendment made to the Environmental Protection License (EPL) No.1698 on 23-12-2016, relating to special condition clauses included in the licence issued 23/12/2016, which means the conditions set out in the latest version of licence listed below - do not yet apply. These special conditions were included to cover the period up to the commencement of the use of the alternate fuels program. Essentially, the changes to the licence are interpreted as not yet applicable and therefore the AEMR was compiled based on the conditions to be met at the time.

- ***Section - M2****. Requirement to monitor concentration of pollutants discharged (after Point 19 on Page 18); Note - Refer to Special Condition E2 - Special Transitional Monitoring Condition for the applicable monitoring requirements at Licenced Discharge Point 2, prior to the use of non-standard fuels in No. 6 Kiln. The monitoring requirements set out in Special Condition E2 - Special Transitional Monitoring Condition are as per the previous version of the licence for M 2.2 Point 2 using standard fuels. The monitoring requirements set out above at M2.2 Point 2 apply after the commencement of use of non-standard fuels.*
- ***Section - E2. Special Transitional Monitoring Condition (****Page 27)*
- ***E2.1 Background:*** *Following The Department of Environment and Planning (DPE) issuing approval for Modification 9 (Mod9) - Use of Waste Derived Fuels in Kiln 6 - the Environment Protection Authority (EPA) reviewed Environment Protection Licence (EPL) 1698 and modified monitoring, limit and operational requirements to be consistent with the consent and application documents submitted by Boral. The additional air monitoring requirements and limit conditions at licenced discharge point 2 (the No. 6 Kiln stack) were added specifically to provide a robust*

assessment of any air emissions changes at the commencement of the use of non-standard fuels in No. 6 Kiln.

- ***E2.2 Requirements:*** *This special condition varies the monitoring required at M2.2 Point 2 until such time as the commencement of the use of non-standard fuels. Until the commencement of use of non-standard fuels in the No. 6 Kiln the licensee must monitor the air emissions using the monitoring requirements set out in condition E2.3 below.*
- ***E2.3 Standard Fuel Monitoring Requirements.***

COMPLIANCE

1.7 ***Requirement DELETED as per MOD 9 5/10/2016***

Condition

The Applicant shall ensure that all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this consent. The Applicant shall be responsible for the environmental impacts resulting from the actions of all persons on the site, including any visitors.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015

- Boral Cement's site inductions for all employees, contractors and sub-contractors have been reviewed and rewritten in 2014. Environmental compliance training for site employees, where the conditions of this Consent and other regulatory documents for the Site are communicated, is ongoing.
- Due to a major company restructure, both induction and compliance packages were revised/updated in FY 2014-15 and refresher training was undertaken.
- Environmental issues and environmental compliance are also reviewed at daily site Lean Management meetings, weekly Health & Safety meetings, and monthly management meetings.
- Management conducts Lean/5S/HSE site inspections to identify any issues regarding resource efficiency, environment and safety.

2015 – 2016

- Boral Cement's site inductions for all employees, contractors and sub-contractors have been reviewed and rewritten in 2014. Environmental compliance training for site employees, where the conditions of this Consent and other regulatory documents for the Site are communicated, is ongoing.
- Due to a major company restructure, both induction and compliance packages were revised/updated in FY 2014-15 and refresher training was undertaken.
- Environmental issues and environmental compliance are also reviewed at daily site Lean Management meetings, and monthly management meetings.
- The site conducts Lean/5S/HSE site inspections to identify any issues regarding resource efficiency, environment and safety.
- Environmental near miss and incident reporting is managed through the company/site Incident Management processes.

2016 – 2017

- Boral Cement's site inductions for all Workers (employees, contractors and sub-contractors) were to be reviewed and were to be rewritten in 2014. However, this did not take place as planned
- Due to a major company restructure, both induction and compliance packages were to be revised/updated in FY 2014-15 and refresher training would commence accordingly.
- Boral Cement Site Inductions for all Workers (employees, contractors and sub-contractors) and compliance packages have been reviewed and rewritten due to a major company restructure
- Environmental Refresher Training for site employees and contractors appears ongoing
- Conditions of this Consent and other regulatory documents for the site are communicated at environmental refresher training
- Environmental issues and environmental compliance are also reviewed at daily Site Lean/Management Meetings, weekly/monthly Health & Safety Meetings, and Monthly Management Meetings
- Management conducts Lean/5S/HSE site inspections to identify any issues regarding resource efficiency, environment and safety concerns.

Observation:

SRM Auditor verified "some" training had been undertaken in September 2017. However, insufficient evidence at the time of this audit to verify whether Contractors and Sub-contractors had been included in this training program.

Compliance Audit Findings November 2017:

Compliance Audit 2017		
Yes	No	NA
		✓

- ✓ Boral Cement Site Inductions for all workers (employees, contractors and sub-contractors) and compliance packages have been reviewed and rewritten due to a major company restructure.
- ✓ Environmental Refresher Training for site Workers (employees and contractors) appears ongoing
- ✓ Conditions of this Consent and other regulatory documents for the site are communicated at environmental refresher training
- ✓ Environmental issues and environmental compliance are also reviewed at daily Site Lean/Management Meetings, weekly/monthly Health & Safety Meetings, and Monthly Management Meetings
- ✓ Management conducts Lean/5S/HSE site inspections to identify any issues regarding resource efficiency, environment and safety concerns.
- ✓ All contractors continue being provided with a more detailed induction training package that focuses on environmental compliance in addition to the previous Health & Safety component.
- ✓ Environmental issues and environmental compliance are also reviewed at daily site meetings (Lean Management), weekly Health & Safety Meetings, and monthly management meetings.
- ✓ Management conduct Gemba Walks / Talks on site with operators to discuss any issues with environment &safety.

- ✓ SRM Auditor verified site inductions included environmental training. All Workers were being inducted prior to commencing work on site and received additional training through this process, or may require re-induction using the same process every 2 years.

Observation:

- ✓ *SRM Auditor verified "some" training had been undertaken in September 2017. However, insufficient evidence at the time of this audit to verify whether Contractors and Sub-contractors had been included in this training program*. Boral Cement Site Inductions for all Workers (employees, contractors and sub-contractors) has been reviewed and rewritten to include larger proportions of environmental material in response to the management action raised from 2013 -2014 AEMR.

1.8 ***Requirement DELETED as per MOD 9 5/10/2016***

Condition

Prior to the commencement of each of the events listed from a) to b) below, or within such period as otherwise agreed by the Director-General, the Applicant shall certify in writing, to the satisfaction of the Director-General, that it has complied with all conditions of this consent applicable prior to the commencement of that event.
Where an event is to be undertaken in stages, the Applicant may, subject to the agreement of the Director-General, stage the submission of compliance certification consistent with the staging of activities relating to that event. The events referred to in this condition are as follows:

a) construction of the cement works upgrade; and
b) operation of the cement works upgrade.

Historical Compliance with Condition as per AEMRs 2014-2017

- Compliance with this Condition was demonstrated in the 2007-2008 AEMR.
- There were no changes to the operation of Kiln 6, that would require additional evidence of compliance

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ Compliance was demonstrated in the 2007 – 2014 AEMR.
- ✓ There were no changes to the operation of Kiln 6 at the time of this audit, which required additional evidence of compliance

.

Compliance Audit 2017		
Yes	No	NA
		✓

1.9 ***Requirement DELETED as per MOD 9 5/10/2016***

Condition

Notwithstanding conditions 1.8 of this consent, the Director-General may require an update on compliance with all, or any part, of the conditions of this consent. Any such update shall meet the reasonable requirements of the Director-General and be submitted within such period as the Director-General may agree.

Historical Compliance with Condition as per AEMRs 2014-2017

- The DP&E has not requested such an update during these 3 reporting periods.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ It is understood the DP&E had not requested an update at the time this audit was conducted.

Compliance Audit 2017		
Yes	No	NA
		✓

1.10 ***Requirement DELETED as per MOD 9 5/10/2016***

Condition

The Applicant shall meet the requirements of the Director-General in respect of the implementation of any measure necessary to ensure compliance with the conditions of this consent, and general consistency with the SEE and those documents listed under condition 1.2. The Director-General may direct that such a measure be implemented in response to the information contained within any report, plan, correspondence or other document submitted in accordance with the conditions of this consent, within such time as the Director-General may agree.

Historical Compliance with Condition as per AEMRs 2014-2017

- Boral Cement understood its need for compliance with the requirements of the Director General and the Conditions of Consent, SEE and documents listed in Condition 1.2.
- Boral Cement was aware their operations on site, may have the potential to impact on the local environment and details of environmental monitoring have been compiled in each of the annual reports.

2014 – 2015	2015 – 2016	2016 – 2017	
NA	NA	Yes	No
✓	✓	✓	

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, Boral Cement was of the understanding that it continues to maintain compliance with the requirements of the Director General and the Conditions of Consent, SEE and documents listed in Condition 1.2.
- ✓ Boral Cement is however aware that the operation of the site can impact on the local environment and details of environmental monitoring have been compiled in each of the annual reports.

Compliance Audit 2017		
Yes	No	NA
		✓

1.11 MOD 9 CONDITION INTRODUCED DURING 2016-2017

Condition

With the written consent of the Secretary, the Applicant may submit any strategy, plan or program required by this consent on a progressive basis and/or combines any strategy, plan or program required by this consent.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition did not apply in 2014-2016 reporting period.
- Boral Cement Berrima has submitted to and received approval for its Final Draft Version of the Construction Environmental Management Plan- Berrima Solid Waste Derived Fuels Project- Kiln 6 Upgrade MOD on the 18/9/2017.

2014 – 2015	2015 – 2016	2016 – 2017	
NA	NA	Yes	No
✓	✓	✓	

Compliance Audit Findings November 2017:

- ✓ Boral Cement Berrima has submitted to and received approval for its Final Draft Version of the Construction Environmental Management Plan- Berrima Solid Waste Derived Fuels Project- Kiln 6 Upgrade MOD on the 18/9/2017.

Compliance Audit 2017		
Yes	No	NA
✓		

1.12 MOD 9 CONDITION INTRODUCED DURING 2016-2017

Condition

The Applicant must comply with all reasonable requirements of the Secretary arising from the Department's assessment of:
a) any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted in accordance with this consent; and
b) the implementation of any actions or measures contained in these documents.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition did not apply in 2014-2016 reporting period.
- Boral Cement Berrima has submitted to and received approval for its Final Draft Version of the Construction Environmental Management Plan- Berrima Solid Waste Derived Fuels Project- Kiln 6 Upgrade MOD on the 18/9/2017

2014 – 2015	2015 – 2016	2016 – 2017	
NA	NA	Yes	No
✓	✓	✓	

Compliance Audit Findings November 2017:

- ✓ It is understood that Boral Cement has complied with all reasonable requirements of the Secretary arising from the Department's assessment

Compliance Audit 2017		
Yes	No	NA
✓		

2. CONSTRUCTION & OCCUPATION CERTIFICATION

2.1

Condition

In relation to the construction and occupation of the cement works upgrade, the Applicant shall provide to the Secretary and Council the following:

a) written notification of the appointment of a Principal Certifying Authority;
b) copies of all Construction Certificates issued for the cement works upgrade;
c) written notification of the intention to commence construction work, to be received at least two working days prior to the commencement of construction. In the event that more than one Construction Certificate is issued, notification shall be provided prior to the commencement of construction the subject of each Certificate;
d) copies of all Occupation Certificates issued for the cement works upgrade; and
e) *written notification of the intention to occupy all relevant components of the cement works for which an Occupation Certificate has issued, to be received at least two working days prior to occupation. In the event that more than one Occupation Certificate is issued, notification shall be provided prior to the occupation the subject of each Certificate.*

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition does not apply to these 3 reporting periods. Compliance has been demonstrated in the previous AEMRs.
- Boral Cement requested that this condition be removed from the consent as it refers to construction and initial occupation, rather than the on-going operation.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ All construction work was completed prior to these 3 reporting periods.

Compliance Audit 2017		
Yes	No	NA
		✓

2.2 ***Requirement DELETED from MOD 9 5/10/2016***

Condition

Prior to the commencement of any construction work associated with the cement works upgrade, the Applicant shall erect at least one sign at the site and in a prominent position at the site boundary where the sign can be viewed from the nearest public place. The sign shall indicate:
the name, address and telephone number of the Principal Certifying Authority;
the name of the person in charge of the construction site and telephone number at which that person may be contacted outside working hours; and
a statement that unauthorised entry to the construction site is prohibited.
The sign(s) shall be maintained for the duration of construction works.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition does not apply in these 3 reporting periods. Compliance has been demonstrated in the previous AEMRs.
- Boral Cement has requested that this condition be removed from the consent as it refers to construction, rather than on-going operation.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ This condition did not apply at the time of this audit.
- ✓ Compliance has been demonstrated in the previous AEMRs.

Compliance Audit 2017		
Yes	No	NA
		✓

3. **NOISE**

CONSTRUCTION NOISE

3.1

Condition

Construction activities associated with the cement works upgrade shall only be carried out:

a) between 7:00 am and 6:00 pm, Monday to Friday inclusive, during periods in which the cement works is shut-down, and construction noise is audible at the boundary of the site;
b) between 7:00 am and 1:00 pm on Saturdays, during periods in which the cement works is shut-down, and construction noise is audible at the boundary of the site;
c) at no time on Sundays or public holidays, during periods when the cement works is shut-down, and construction noise is audible at the boundary of the site;
d) at any time during periods in which the cement works is in operation; and
e) at any time if construction noise is inaudible at the boundary of the site.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition does not apply to this reporting periods**.**
- Compliance has been demonstrated in the previous AEMRs.
- Boral Cement requested that this condition be removed from the consent as it refers to construction, rather than on-going operations.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ All construction work was completed prior to the 3 reporting periods.
- ✓ Compliance has been demonstrated in the previous AEMR's.

Compliance Audit 2017		
Yes	No	NA
		✓

3.1A **MOD 9 CONDITION INTRODUCED DURING 2016-2017**

Condition

The Development shall be constructed with the aim of achieving the construction noise management levels detailed in the Interim Construction Noise Guideline (Department of Environment and Climate Change, 2009). All feasible and reasonable noise mitigation measures shall be implemented and any activities that could exceed the construction noise management levels shall be identified and managed in accordance with the CEMP

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition was not applicable in 2014-2016 reporting periods
- There was no construction activity during 2016-2017 reporting periods.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ There was no construction activity during the reporting period.
- ✓ Construction Environmental Management Plan of Berrima Solid Waste Derived Fuels Project has been finalized following comments by the DP&E, EPA and Council- authorized by Rod Wallace - Planning & Development Manager on 18/9/2017.
- ✓ Construction of the new work has not commenced at the time of 2017 audit by SRM

Compliance Audit 2017		
Yes	No	NA
		✓

3.1B **MOD 9 CONDITION INTRODUCED DURING 2016-2017**

Condition

Where Feasible and Reasonable, operation noise mitigation measures shall be implemented at the start of Construction (or at other times during construction) to minimise construction noise impacts.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition is not applicable in 2014-2016 reporting periods

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ There was no construction activity during the reporting period.
- ✓ Construction Environmental Management Plan of Berrima Solid Waste Derived Fuels Project has been finalized following comments by the DP&E, EPA and Council- authorized by Rod Wallace - Planning & Development Manager on 18/9/2017.
- ✓ Construction of the new work has not commenced at the time of 2017 audit by SRM

Compliance Audit 2017		
Yes	No	NA
		✓

3.2 **OPERATIONAL NOISE**

Condition

Subject to compliance with the requirements of this consent, the cement works upgrade may be operated 24 hours per day, 7 days of the week.

Historical Compliance with Condition as per AEMRs 2014-2017

- The cement works operates 24 hours per day, 7 days a week.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2016-2017:

- The noise assessment demonstrated that Kiln 6 operated within the objectives required to achieve contribution criteria during the reporting period and should be allowed to continue operating 24 hours/day, 7 days/week (Figure 5.1 AEMR 2016/2017).
- The noise sources at Kiln 6 produced more noise in 2016 than they did in 2005 but overall remain below the objective sound pressure levels. One exception is the new radicon cooler, which generated slightly more noise than the objective (Figure 5.1). However, the contribution of this component to the overall noise generated by Kiln 6 was not enough to result in an exceedance of criteria.
- Increases of more than 7 dB would be required to lead to potential exceedances of criteria.
- Existing management measures effective contain noise levels below contribution criteria. However, Boral will ensure inspection hatches are closed when not in use and applying cladding/noise absorbing material in certain areas.

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, the Boral Cement works, including Kiln 6, continues to operate 24 hours a day, 7 days a week.
- ✓ The noise assessment demonstrated that Kiln 6 operated within the objectives required to achieve contribution criteria during the reporting period verified in Figure 5.1 AEMR 2016/2017).

Compliance Audit 2017		
Yes	No	NA
✓		

3.3 **OPERATIONAL NOISE**

Condition

The Applicant shall design, construct, operate and maintain all new and upgraded components forming part of the cement works upgrade to ensure that for each receiver location listed in Table 2 below, the noise level at each receiver location does not exceed the maximum allowable noise contribution limit at the receiver location specified.

Refer to Table 2 of the Conditions of Consent – Maximum Allowable Noise Contribution Limit (dB(A))

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015:

- Compliance with this Condition was previously confirmed by the Hatch Pty Ltd noise monitoring undertaken in April 2009, August/September 2010, June/July 2011, June/July 2012, September 2013.
- The most recent round of noise monitoring was conducted by Hatch Pty Ltd in August 2014. The report (Annual Environmental Noise Compliance Assessment 2014, dated 29/08/2014), concludes that *"It is the assessment of this study that the plant is in compliance with its licence conditions for noise"*.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

- Boral Cement Berrima received 4 Noise complaints during the reporting period. Specific complaints resulting to plant operations were addressed and corrective and preventive actions taken. The noise monitoring carried out by Hatch in recent years showed that weather conditions significantly contribute to noise transmission across the site boundary. History of noise complaints indicates that the majority of complaints arise during periods of adverse weather including temperature inversion and high winds (wind speeds above 3m/s).
- Boral Cement Berrima is continuing activities aimed at minimising the noise from the plant. Several measures were introduced including replacement of kiln cooler fans with a quieter type and enclosure of two precipitator fans.

2015 – 2016:

- Compliance with this Condition was previously confirmed by the Hatch Pty Ltd noise monitoring undertaken in April 2009, August/September 2010, June/July 2011, June/July 2012, September 2013, and August 2014. The most recent round of noise monitoring was conducted by Hatch Pty Ltd in July and August 2015.
- The report (Annual Environmental Noise Compliance Assessment 2015, dated 26/11/2015), confirms that the site remains compliant with the licence conditions in relation to noise emissions from the site.
- The noise monitoring carried out by in recent year's shows that weather conditions significantly contribute to noise transmission across the site boundary. History of noise complaints indicates that the majority of complaints arise during periods of adverse weather including temperature inversion and high winds (wind speeds above 3m/s).
- Boral Cement Berrima is continuing activities aimed at minimising the noise from the plant. In relation to Kiln 6 overhaul activities, typically the demolition and rebuild of refractory brickwork, the site has undertaken to limit those activities during night time periods.
- Boral Cement Berrima received 2 noise complaints during the reporting period. The sources of the noise were investigated, the managers responsible for work creating the noise emissions were advised and the complainant contacted for further information and feedback.

2016 – 2017:

- Boral manages noise on site in accordance with the Noise Management Plan, which describes the monitoring points, frequency and criteria.
- The monitoring results were analysed to determine the contributions from the project components as follows: noise was measured near sources at the kiln and compared to allowable (objective) sound pressure levels for the kiln (Figure 5.1 of AEMR 2016/2017 report). The objective sound levels were calculated for the original environmental impact assessment and represent the maximum noise level that can be generated at the kiln before contribution criteria for receivers are exceeded.
- The noise sources at Kiln 6 produced more noise in 2016 than they did in 2005 but overall remain below the objective sound pressure levels. Measures are recommended to further reduce noise, such as closing inspection hatches when not in use.
- Operations at Kiln 6 complied with the noise contribution consent conditions during the reporting period.
- The noise assessment demonstrated that Kiln 6 operated within the objectives required to achieve contribution criteria at the residential locations during the reporting period.
- Trends at the receivers are:
  - 4 Melbourne Street – this location is an interface area between industrial and residential land uses and is heavily influenced by road noise. The long-term average noise level is 46 dBA, which is above the recommended maximum noise level of 45 dBA. However, Kiln 6 noise levels are below the contribution criteria.
  - Chelsey Park Farm and Candowie Farm – noise was not measured at these receivers as the residences have been demolished and the properties are being developed for industrial uses.
- Existing management measures effectively contain noise levels below contribution criteria. However, Boral will ensure inspection hatches are closed when not in use and apply cladding/noise absorbing material in certain areas.

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, the Boral Cement Plant was compliant with its licence conditions for noise.
- ✓ Numerous noise reduction strategies such as the replacement of kiln cooler fans with a quieter type are geared towards removing environmental noise issues and ensuring inspection hatches are closed when not in use and apply cladding/noise absorbing material in certain areas

.

Compliance Audit 2017		
Yes	No	NA
✓		

3.4 ***Requirement DELETED from MOD 9 5/10/2016***

Condition

The maximum allowable noise contributions identified in condition 3.3 apply under all meteorological conditions, except:

a) during wind speeds greater than 3ms^{-1} measured at 10 metres above ground level; or

b) during temperature inversion conditions of greater than 3°C/ 100m and wind speeds of greater than 3ms^{-1} measured at 10 metres above ground.

Historical Compliance with Condition as per AEMRs 2014-2017

- This Condition under all meteorological situations and its exceptions for the nuisance noise is well understood by Boral Management during the reporting period for 2014 – 2015, 2015 – 2016 and 2016 – 2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ This condition was not applicable for the 2017 auditing period

Compliance Audit 2017		
Yes	No	NA
		✓

3.5 ***Requirement DELETED from MOD 9 5/10/2016***

Condition

For the purpose of assessment of noise contributions specified under condition 3.3, noise from the cement works upgrade shall be:

a) measured at the most affected point on or within the receptor site boundary or at the most affected point within 30m of the dwelling (rural situations), where the dwelling is more than 30m from the property boundary; and

b) where applicable, subject to the modification factors provided in Section 4 of the New South Wales Industrial Noise Policy (EPA, 2000).

Historical Compliance with Condition as per AEMRs 2014-2017

- Noise monitoring was conducted in accordance with this condition by Hatch Pty Ltd during the first 3 Reporting Periods 2014-2015 and 2015 – 2016.
- External Provider Recognition Research Pty Ltd was engaged to undertake Noise Monitoring for the 2016-2017 Reporting Period.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ Noise monitoring programs conducted by independent external contractors Hatch Pty Ltd and Recognition Research Pty Ltd were validated in accordance with this condition.
- ✓ The following Annual Environmental Noise Assessment Reports confirmed these requirements were being met:
  - Hatch Report H344733 ENVREP1110, Rev 0, August 2015
  - Hatch Report H344733-00000-007-120-0008 Rev 0 dated 7/10/2016, confirmed these requirements were being met.
  - Recognition Research Pty Ltd Annual Environmental Noise Assessment Report; September – October 2017; RR Rep: 003 Rev 0; dated 30.11.2017 (Status Final Draft).

Compliance Audit 2017		
Yes	No	NA
		✓

3.6 ***Requirement DELETED from MOD 9 5/10/2016***

Condition

Notwithstanding condition 3.5 of this consent, should direct measurement of noise from the site be impractical, the Applicant may employ an alternative noise assessment method deemed acceptable by the EPA (refer to Section 11 of the New South Wales Industrial Noise Policy (EPA, 2000)). Details of such an alternative noise assessment method accepted by the EPA shall be submitted to the Director-General prior to the implementation of the assessment method.

Historical Compliance with Condition as per AEMRs 2014-2017

- No alternative noise assessment method has been required.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ The Audit assessment validated that no alternative noise assessment method has been required.

Compliance Audit 2017		
Yes	No	NA
		✓

AIR QUALITY

3.7 **DUST MINIMISATION**

Condition

The Applicant shall design, construct, operate and maintain the cement works upgrade in a manner that minimises dust emissions from the site and complies with the EPL.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015

- Boral Cement Berrima is aware that elevated fugitive dust emissions from the site can occur and has the procedures in place to monitor such dust emissions.
- An EPA-approved Dust Management Plan has been implemented since September 2011. It was reviewed and updated in September 2014.
- The EPA works with Boral Cement on improvement programs by means of Pollution Reduction Programmes inserted as conditions of the site Licence. Currently, a dust-related Pollution Reduction Programme (PRP 9) is being implemented which involves revegetation of eroded site areas. Over 15,000 seedlings of native shrubs and trees have been planted since 2012, with the first year planting demonstrating very high survival rates and vigorous growth. Additional areas have been sowed. With the expected germination rate, approximately 15,000 seedlings should be established in the sowed areas over the years, providing succession.
- A total of 31 complaints were received from the community in relation to the deposition of dust on vehicles and properties, most of them in one period of conducive weather conditions (early morning dew) in autumn 2014. All incidents were investigated and appropriate actions were taken. Further details are provided in Attachment No 7 - Complaints Summary.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

- Boral Cement Berrima maintains a Dust Deposition Monitoring Program, currently consisting of seven dust deposition gauges located around the perimeter of the site, as detailed on the site plan provided as Attachment No 1. The current number and location of gauges were approved by the EPA in December 2012.
- Samples are collected from each gauge on a monthly basis to assess compliance against the dust deposition guidelines detailed in the *Approved Methods and Guidance for Analysis for the Modelling and Assessment of Air Pollutants in NSW* (DEC, 2005). As there is no emission limit specified in the Licence, the EPA dust deposition guideline of 4g/m^2/month (expressed as a 12-month rolling average) has been adopted for the Site.
- A graph of the rolling averages for the 7 dust deposition gauges is provided in Attachment No. 2. For the reporting period, the annualised average dust deposition data for all 7 current dust gauges have shown values below the EPA guideline of 4g/m^2/month.

2015 – 2016

- Boral Cement Berrima is aware that elevated fugitive dust emissions from the site can occur and has the procedures in place to monitor such dust emissions.
- An EPA-approved Dust Management Plan has been implemented since September 2011. It was reviewed and updated in September 2015.
- The EPA works with Boral Cement on improvement programs by means of Pollution Reduction Programmes inserted as conditions of the site Licence. Currently, a dust-related Pollution Reduction Programme (PRP 9) was completed which involved revegetation of eroded site areas. Over 15,000 seedlings of native shrubs and trees have been planted, with demonstrated very high survival rates and vigorous growth. Additional areas were subsequently sown. With the expected germination rate, approximately 15,000 seedlings should be established in the sowed areas over the years, providing succession.
- A total of 31 complaints were received from the community in relation to the deposition of dust on vehicles and properties. The complainants were contacted after the complaints were received. Further details were provided in Attachment No 7 - Complaints Summary.
- Boral Cement Berrima maintains a Dust Deposition Monitoring Program, currently consisting of seven dust deposition gauges located around the perimeter of the site, as detailed on the site plan was provided as Attachment No 1. The current number and location of gauges were approved by the EPA in December 2012.
- Samples are collected from each gauge on a monthly basis to assess compliance against the dust deposition guidelines detailed in the Approved Methods and Guidance for Analysis for the Modelling and Assessment of Air Pollutants in NSW (DEC, 2005). As there is no emission limit specified in the Licence, the EPA dust deposition guideline of 4g/m2/month (expressed as a 12-month rolling average) has been adopted for the Site.
- A graph of the rolling averages for the 7 dust deposition gauges was provided in Attachment No. 2. For the reporting period, the annualised average dust deposition data for all 7 current dust gauges have shown values below the EPA guideline of 4g/m2/month

2016 – 2017

- Boral Cement operates its plant to ensure point source emissions meet required standards. Both the continuous monitoring data of particles (Kiln 6) and specialised testing of Kiln 6 and Mill 7 in July/August 2016 showed compliance with agreed standards both over the 2016-17 reporting year and consistently over the last 5 years.
- Boral Cement maintains a dust deposition monitoring program, currently consisting of seven dust deposition gauges located around the perimeter of the site. Samples are collected from each gauge on a monthly basis to assess compliance against the EPA's dust deposition guidelines.
- Average dust deposition data for all seven current dust gauges for the reporting period have values well below the EPA guideline of 4 g/m2/month, with only one location (Gauge 3) above 2 g/m2/month, and Gauge 3 did not exceed 2.5 g/m2/month. These results confirm that the current dust control measures on site are generally working well.
- A total of 16 complaints were received from the community in relation to the deposition of dust on vehicles and properties. All the complainants were contacted after the complaints were received.
- **Dust monitoring -** Seven (7) dust monitoring gauges are located around the perimeter of the site and the New Berrima community. The locations of the gauges are shown on Figure 3.2. Samples are collected from each gauge on a monthly basis to assess compliance against the dust deposition guidelines detailed in the Approved Methods and Guidance for Analysis for the Modelling and Assessment of Air Pollutants in NSW (DEC, 2005). As there is no emission limit specified in the Licence, the EPA dust deposition guideline of 4 g/m2/month (expressed as a 12-month rolling average) has been adopted for the Site. As can be seen in Figure 5.2, average dust deposition data for all seven current dust gauges for the reporting period have values below the EPA guideline of 4 g/m2/month, with only one location (gauge 3) above 2 g/m2/month, and Gauge 3 did not exceed 2.5 g/m2/month.
- **Stack Emissions -** For the EPL year 1 April 2016 to the 30 May 2017, stack emission monitoring data for Kiln 6 also shows that the Works maintained emissions well under the EPA limit for the whole year as seen in Figure 5.4. Periods where emissions were zero correspond with Kiln outages. For example, the majority of January 2017 was the FY17 Kiln overhaul project. A total of 16 complaints were received from the community in relation to the deposition of dust on vehicles and properties. The complainants were contacted after the complaints were received. Further details are provided in Appendix E -Complaints Summary.
- The graph in Figure 5.3 shows the results of the analysis of the dust gauges located around the site and the New Berrima community from January 2011-April 2017. As can be seen, the current data shows that Boral Cement remain below the EPA guideline of 4 g/m2/month. Note that Dust Gauges 4 and 6 were removed by agreement in 2013. Long term continuous stack emission monitoring of particle emission for Kiln 6 (see Figure 5.5) shows particulates have been continuously within EPA Standards since a single exceedance in June 2013. Boral Cement Berrima will continue to respond rapidly to, thoroughly investigate, and rectify any dust complaints received from the local community. Increased focus on door closures, hazard reporting and preventative maintenance remains key to minimising dust impacts internally and externally.
- Dust control is a fundamental part of the operational management of this site. Dust is controlled through the implementation of the Dust Management Plan. As sound control measures are in place and this is supported by monitoring data, these operations will continue.

<u>Management Actions 2014 – 2015 and 2015-2016</u>

- Boral Cement Berrima will continue to respond rapidly to, thoroughly investigate, and rectify any dust complaints received from the local community. Affected residents are provided with a voucher to have their vehicle cleaned where appropriate.
- Where the generation of dust is otherwise unavoidable Boral Cement Berrima attempts, where possible, to minimise, relocate or cease activities that cause dust generation during periods of

windy weather. Water carts operate during periods of predicted high wind to assist with dust suppression.

- The PRP9 for re-vegetation and landscaping will continue for another year, with additional seedlings planned to be planted in selected areas

.

Compliance Audit Findings November 2017:

The following operational controls were validated against implementation

Compliance Audit 2017		
Yes	No	NA
✓		

- ✓ Boral Cement continues to investigate opportunities to reduce Fugitive Dust management throughout the site.
- ✓ Boral Cement has completed Stage 1 and Stage 2 of the Pollution Reduction Plan (PRP 9) which involved re-vegetation of eroded site areas. Over 12,000 seedlings of native shrubs and trees have been planted since 2012, with the first year planting demonstrating very high survival rates and vigorous growth. Additional areas were sown.
- ✓ An EPA-approved Dust Management Plan has been implemented since September 2011 and updated in September 2014.
- ✓ Paved roads are swept with a mechanical road sweeper. Unpaved roads are watered with recycled water and Speed limits are in place to limit traffic-generated dust.
- ✓ Some unsealed roads have been previously blocked off to prevent their use - these will be re-vegetated as part of the currently implemented landscaping plan.
- ✓ Two-wheel wash stations were installed during the 2016 – 2017 reporting period, one at the exit of a shale pad, the other at the end of Quarry Rd
- ✓ Pathways and stairs to the general office are swept daily.

3. **This condition was inserted in 2015-2016**

Condition

The Applicant shall apply all reasonable and feasible measures to minimise the generation of dust from coal stockpiles, including but not necessarily limited to:

a) compaction of stockpile batters to minimise pick up of dust;
b) installation of water sprays or use of a water cart to keep stockpile surfaces wet, if dust is being generated; and
c) *cessation of stockpile generation during periods of high wind, if dust generation cannot be controlled.*

Historical Compliance with Condition as per AEMRs 2015– 2017

- Reasonable and feasible measures are being implemented to minimise fugitive dust from coal stockpiles. This includes compaction of stockpile batters (being pushed up with a loader), wetting down with a water cart in dry weather conditions and stopping loading/unloading operations in high winds.
- The re-vegetation programme mentioned in Point 3.7 included planting in the areas surrounding the stockpiles to create a windbreak and a dust screen.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

The following Controls were operational and appeared to be effective in minimising fugitive dust from coal stockpiles;

Compliance Audit 2017		
Yes	No	NA
✓		

- ✓ compaction of stockpile batters (being pushed up with a loader),
- ✓ wetting down with a water cart in dry weather conditions and
- ✓ stopping loading/unloading operations in high winds.
- ✓ The re-vegetation programme mentioned in Point 3.7 included planting in the areas surrounding the stockpiles to create a windbreak and a dust screen. Stages 1 & 2 had been completed at the time of this audit.

3.8

Condition

The Applicant shall take all practicable measures to ensure that all vehicles entering or leaving the site and carrying a load that may generate dust are covered at all times, except during loading and unloading. Any such vehicles shall be covered or enclosed in a manner that will prevent emissions of dust from the vehicle at all times.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015 & 2015 – 2016:

- All transport contractors are made aware of this requirement during site inductions.
- Section 3 of the *Driver Code of Conduct – Truck and Heavy Vehicles Operators (*Boral Cement Berrima, September 2011) includes requirements for all drivers of heavy vehicles on site to ensure they cover their loads and prevent spillages.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2016 – 2017:

- No complaints were received during this period and no related issues arose during this period.
- All transport contractors are made aware of this requirement during site inductions. Section 3 of the Driver Code of Conduct – Truck and Heavy Vehicles Operator, which is part of the Berrima Traffic Management Plan (Boral Cement Berrima, reviewed in September 2014) includes requirements for all drivers of heavy vehicles on site to ensure they cover their loads and prevent spillages.

Compliance Audit Findings November 2017:

- ✓ The NSW Chain of Responsibility Legislation clearly defines the requirements for all vehicles >10 tonnes - loads must be covered and restrained.
- ✓ All transport contractors are made aware of this requirement during site inductions.
- ✓ To meet this legislative requirement, Section 3 of the Berrima Works' Driver Code of Conduct for Truck and Heavy Vehicles Operators (latest revision September 2014) defines all requirements for all drivers of heavy vehicles - to ensure they cover their loads to prevent spillage.
- ✓ Truck Operators were observed complying with Section 3 of the "Driver Code of Conduct. Trucks were sighted with covers on their load and were utilizing the truck wash facilities prior to leaving the site.

Compliance Audit 2017		
Yes	No	NA
✓		

3.9

Condition

All trafficable areas and vehicle manoeuvring areas on the site shall be maintained in a condition that will minimise the generation or emission of windblown or traffic generated dust from the site at all times.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015 & 2015 – 2016:

- During the 3 reporting periods Boral Cement Berrima has actively worked to reduce the generation of dust from vehicles and internal haul roads through implementation of the Dust Management Plan.
- Some of the unsealed roads on site have been sealed in the previous years and some have been closed off and recently re-vegetated. Two-wheel wash stations were installed in the previous reporting period, one at the exit of a shale pad, the other at the end of Quarry Rd. The wheel wash stations continue to be routinely used.
- Boral Cement Berrima operates a road sweeper and a water cart to minimise traffic generated and wind-blown dust from trafficable areas and vehicle manoeuvring areas. Mechanical sweepers undergo regular maintenance programs, to ensure sweepers are working efficiently.
- Boral Cement Berrima modified its activities such as loading, unloading and crushing of materials in open areas to minimise wind-blown dust. Actions include the use of a water cart, stopping or postponing the activities until the windy conditions subside, modifying the process to take place under cover where possible, etc.

2016 – 2017:

- During this reporting period Boral Cement has actively worked to reduce the generation of dust from vehicles and internal haul roads through implementation of the Dust Management Plan.
- Some of the unsealed roads on site have been sealed in the previous years and some have been closed off and recently re-vegetated. Two-wheel wash stations were installed in the previous reporting period, one at the exit of a shale pad, the other at the end of Quarry Road. The wheel wash stations continue to be routinely used.
- Boral Cement operates a road sweeper and water carts to minimise traffic generated and wind-blown dust from trafficable areas and vehicle maneuvering areas. Mechanical sweepers undergo regular maintenance programs, to ensure sweepers are working efficiently. Boral Cement modified its activities such as loading, unloading and crushing of materials in open areas to minimise wind-blown dust. Actions include the use of a water cart, stopping or postponing the activities until the windy conditions subside, modifying the process to take place under cover Boral Cement continues to investigate opportunities to reduce Fugitive Dust throughout the site. Issues are managed through immediate corrective action and reporting through the Incident Management Database SIMS.

Management Actions

- Boral Cement Berrima continues to investigate opportunities to reduce Fugitive Dust throughout the site.

Compliance Audit Findings November 2017:

- ✓ Stages 1 and 2 of PRP9 had been completed and plans for Stage 3 re-vegetation was progressing.
- ✓ Paved roads were being swept with a mechanical road sweeper.
- ✓ Unpaved roads are watered with recycled water.
- ✓ The 2-wheel wash stations appear effective in reducing "traffic generated dust" from the site.

Compliance Audit 2017		
Yes	No	NA
✓		

AIR QUALITY DISCHARGES

3.10A ***Requirement DELETED as per MOD 9 5/10/2016***

Condition

The Applicant shall design, construct, operate and maintain the cement works upgrade to ensure that for each discharge point listed in Table 3 (Standard Fuels Only) and Table 4 (Non-Standard Fuels) below, the concentration of each pollutant listed for that discharge point does not exceed the maximum allowable discharge concentration limit for that pollutant at the discharge point specified. All concentration limits specified in the table are based on 101.3 kPa, 273 K, dry reference conditions (unless otherwise agreed with the EPA) and shall be determined in accordance with the monitoring requirements described under condition 4.1.

Refer to Table 3 in Conditions of Consent – Maximum Allowable Discharge Concentration Limits (Air) When Kiln 6 is using only Standard Fuels

Refer to Table 4 in Conditions of Consent – Maximum Allowable Discharge Concentration Limits (Air) When Kiln 6 is using Non-Standard Fuels

Historical Compliance with Condition as per AEMRs 2014-2017 – Stack Testing

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015:

- Stack emission monitoring for standard fuels was conducted by ECS Stack Pty Ltd in June 2014 in accordance with the sampling methods specified under the Environment Protection Licence 1698. The report demonstrated compliance with the emission limits for standard fuels for all monitoring points. The summary of stack monitoring data for Kiln 6 since 2003 was presented in Attachment 3 of the AEMR 2015 Report.

2014 – 2015:

- Stack emission monitoring for standard fuels was conducted by ECS Stack Pty Ltd in July and August 2015 in accordance with the sampling methods specified under the Environment Protection Licence 1698. The report demonstrated compliance with the emission limits for standard fuels for all monitoring points. The summary of stack monitoring data for Kiln 6 since 2003 was presented in Attachment 3. of the AEMR 2016 Report.

2016 – 2017

- Stack emission monitoring for standard fuels was conducted by Ektimo in July and August 2016 in accordance with the sampling methods specified under EPL 1698. The report demonstrated compliance with the emission limits for standard fuels for all monitoring parameters.
- No non-standard fuels were used during this reporting period so no non-standard fuels stack testing was required.
- The summary of annual stack testing reports for Kiln 6 for 2017 were validated in Appendices B & C.
- The summary of stack monitoring data for Kiln 6 since 2003 was presented in graphs Appendix D i/ii of the 2016-2016 AEMR Report.

Compliance Audit Findings November 2017:

Compliance Audit 2017		
Yes	No	NA
		✓

- ✓ Stack emission monitoring for standard fuels was conducted by Ektimo in July and August 2016 in accordance with the sampling methods specified under EPL 1698. The report demonstrated compliance with the emission limits for standard fuels for all monitoring parameters.
- ✓ No non-standard fuels were used during this reporting period so no non-standard fuels stack testing was required.
- ✓ The summary of annual stack testing reports for Kiln 6 for 2017 were validated in Appendices B & C.
- ✓ The summary of stack monitoring data for Kiln 6 since 2003 was presented in graphs Appendix D i/ii of the 2016-2016 AEMR Report.

Historical Compliance with Condition as per AEMRs 2014-2017

Continuous Emissions Monitoring

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

- On 30th March 2012, the site received a new EPA license; since then the Opacity was replaced with continuous monitoring of Solid Particles.
- The plant was in compliance with the licence limits for continuous monitoring of Solid Particles (for Standard Fuels) in the 3 reporting periods.
- The kiln operated for a total of 7,432 hours during each reporting period between 2014-2015 and 2015-2016.
- The summary of continuous particulate monitoring data for Kiln 6 since 2012 was being presented in Attachment 5.

2016 – 2017

- A summary of continuous particulate monitoring data for Kiln 6 from May 2016 to April 2017 was presented in Table 5.4 Response to Air Quality Conditions of AEMR 2016/2017 report. The Works was in compliance with the license limit for continuous monitoring of solid particles (for standard fuels) in the whole reporting period. The kiln operated for a total of 7,681.8 hours during this reporting period.
- A summary of continuous particulate monitoring data for Kiln 6 since 2012 was presented in Figure 5.5 of the AEMR 2016-2017 Report. This long term continuous stack emission monitoring of particle emission (shows particulate levels have been continuously within EPA standards since a single exceedance in June 2013.

Compliance Audit Findings November 2017:

Compliance Audit 2017		
Yes	No	NA
		✓

- ✓ No non-standard fuels were being used; therefore, no Non-Standard Fuels stack testing was required.
- ✓ At the time of this audit, the plant was in compliance with the license limit for continuous monitoring of Solid Particles (for Standard Fuels)
- ✓ The Summary of Stack Monitoring data for Kiln 6 since 2003 was presented in Appendix D. According to EMM Consulting Pty Ltd, they have advised Boral Cement in Table 5.4, K3.10 of their Report that Appendix D requires updating

3.10 ***This new Condition replaces the previously deleted S3.10 above, as per MOD 9 5/10/2016***

Condition

The Applicant shall install and operate equipment in line with best practice to ensure that the Development complies with all load limits, air emission limits and air quality monitoring requirements as specified in the EPL for the site.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015	2015 – 2016	2016 – 2017	
NA	NA	Yes	No
✓	✓	✓	

- This condition is not applicable in 2014-2016 reporting periods

2016 – 2017 Stack Testing

- Stack emission monitoring for standard fuels was conducted by Ektimo in July and August 2016 in accordance with the sampling methods specified under EPL 1698. The report demonstrated compliance with the emission limits for standard fuels for all monitoring parameters.
- No non-standard fuels were used during this reporting period so no non-standard fuels stack testing was required.
- The summary of annual stack testing reports for Kiln 6 for 2017 were validated in Appendices B & C.
- The summary of stack monitoring data for Kiln 6 since 2003 was presented in graphs Appendix D i/ii of the 2016-2017 AEMR Report.

2016 – 2017 Continuous Emissions Monitoring

- A summary of continuous particulate monitoring data for Kiln 6 from May 2016 to April 2017 was presented in Table 5.4 Response to Air Quality Conditions of AEMR 2016/2017 report. The Works was in compliance with the license limit for continuous monitoring of solid particles (for standard fuels) in the whole reporting period. The kiln operated for a total of 7,681.8 hours during this reporting period.
- A summary of continuous particulate monitoring data for Kiln 6 since 2012 was presented in Figure 5.5 of the AEMR 2016-2017 Report. This long term continuous stack emission monitoring of particle emission (shows particulate levels have been continuously within EPA standards since a single exceedance in June 2013.

Compliance Audit Findings November 2017:

- ✓ No non-standard fuels were being used; therefore, no Non-Standard Fuels stack testing was required.
- ✓ At the time of this audit, the plant was in compliance with the license limit for continuous monitoring of Solid Particles (for Standard Fuels)
- ✓ The Summary of Stack Monitoring data for Kiln 6 since 2003 was presented in Appendix D 2016-2017 AEMR. According to EMM Consulting Pty Ltd, they have advised Boral Cement in Table 5.4, K3.10 of their Report that Appendix D requires updating

Compliance Audit 2017		
Yes	No	NA
✓		

3.10A ***Requirement DELETED as per MOD 9 5/10/2016***

Condition

For the purposes of compliance with condition 3.10, for each pollutant specified in Table 4 in condition 3.10, the reference conditions and averaging period of a pollutant discharged must be reported according to the reference conditions and averaging period specified for that pollutant in Table 5, or as otherwise agreed to by EPA.

Refer to Table 5 in Conditions of Consent – Reporting Reference Conditions and Averaging Periods

Historical Compliance with Condition as per AEMRs 2014-2017

- All monitoring and reporting of pollutants in the current reporting period was in accordance with the relevant test methods, averaging periods and reference conditions specified in the Planning Consent and EPL 1698.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ This condition is not applicable for the auditing period

Compliance Audit 2017		
Yes	No	NA
		✓

CONSTRUCTION SOIL AND WATER QUALITY MANAGEMENT

3.11 ***Requirement DELETED as per MOD 9 5/10/2016***

Condition

Except as may be expressly provided by a licence under the Protection of the Environment Operations Act 1997 in relation to the cement works upgrade, section 120 of that Act (pollution of waters) shall be complied with in, and in connection with, the carrying out of the cement works upgrade.

Historical Compliance with Condition as per AEMRs 2014-2017

- Lake Quality receives storm water drainage from the site and that water is used back in the process and in site maintenance. Water in Lake Quality is monitored monthly.
- The lake overflows offsite only in intensive rain periods. Each overflow event is monitored for a range of water quality parameters, a per Consent requirements.
- The frequency of sample collection is "once every overflow event".

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015:

- During the current reporting period, 9 overflow events occurred. Samples were collected for analysis by an independent contractor, Australian Laboratory Services, on 18/8/14, 15/9/14, 16/10/14, 2/12/14, 26/12/14, 5/01/15, 2/2/15, 27/2/15, and 21/4/15.
- The results of the monitoring were provided in the response to Condition 4.3 and 4.3A, and were graphed against all overflow event results, from 2010 to 2015 in AEMR Attachment No 6.

2015 – 2016:

- During the current reporting period, 4 overflow events occurred. Samples were collected for analysis by an independent contractor, Australian Laboratory Services, on the 19/6/2015, the 20/7/2015, the 25/8/2015 as well as 4/2/2016. The sample
- Results from the monitoring were provided in the response to Condition 4.3 and 4.3A, and were graphed against all overflow event results from 2010 to 2016 in AEMR Attachment No 6.
- There were four rain events during the last licence year. Of the rain events that were sampled, one sample taken in August 2015 showed elevated total suspended solids at 197 mg/L. In discussion with the consulting monitoring organisation believes that the reported levels were a result of poor sampling techniques as opposed to a pollution event.
- Analysis of the overflow samples shows that during overflow events there has been no deterioration in relation to historical data in the water discharged from the site.

2016 – 2017:

- Boral manages water on site in accordance with the Water Management Plan, which describes the monitoring points, frequency and parameters. Storm water and residual process water from all areas of the Works (including Kiln 6 and Mill 7) is harvested and used on site with water quality in the storages (Lake Quality and Lake Breed) tested monthly, and water quality in the receiving waterway (Wingecarribee River) tested every three months. Water is only discharged from site during very heavy rainfall, with eight overflows during the reporting period.
- During the current reporting period 8 overflow events occurred.
- The results of the monitoring were validated in response to Condition 4.3 and 4.3A, and graphs of all overflow event results, from 2010 to 2017 were validated in Figures 5.10, 5.11, 5.12/attachment no.6 (c) and 5.13/attachment no.6 (d).

Compliance Audit Findings November 2017:

- ✓ There were no overflow events recorded at the time of this audit, since the 2016 -2017 reporting period.
- ✓ When overflow events occur, the overflowing water is sampled during the discharge by independent contractor ALS.
- ✓ ALS is a NATA Accredited Laboratory Registration Number is 825, who are qualified to undertake sampling and testing in accordance with ISO/IEC 17025 requirements.
- ✓ Overall water management performance of the site, Kiln 6 and Mill 7 is good and that water quality results were in line with and in some instances better than historical results also the conditions have been complied with during the reporting period.

Compliance Audit 2017		
Yes	No	NA
		✓

3.11 ***This new Condition replaces the previously deleted S3.10 above, as per MOD 9 5/10/2016***

Condition

Soil and water management measures consistent with Managing Urban Stormwater – Soils and Construction Vol.1 (Landcom, 2004) (the Blue Book) shall be employed during construction of the Development to minimise soil erosion and the discharge of sediment and other pollutants to land and/or waters.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition is not applicable in 2014-2016 reporting periods
- During 2016-2017 period, there was no construction activities
-

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ There was no construction activity during the reporting period.
- ✓ Construction Environmental Management Plan of Berrima Solid Waste Derived Fuels Project has been finalized following comments by the DP&E, EPA and Council- authorized by Rod Wallace - Planning & Development Manager on 18/9/2017.
- ✓ Construction of the new work has not commenced at the time of 2017 audit by SRM

Compliance Audit 2017		
Yes	No	NA
		✓

3.12

Condition

All construction vehicles exiting the site, having had access to unpaved areas, shall depart via a wheel-wash facility

Historical Compliance with Condition as per AEMRs 2014-2017

- Not applicable to this reporting period.
- Boral Cement had requested this condition be removed from the consent as it refers to construction, not on-going operation.
- Compliance has been demonstrated in the previous AEMRs.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ There was no construction activity during the reporting period.
- ✓ Construction Environmental Management Plan of Berrima Solid Waste Derived Fuels Project has been finalized following comments by the DP&E, EPA and Council- authorized by Rod Wallace - Planning & Development Manager on 18/9/2017.
- ✓ Construction of the new work has not commenced at the time of 2017 audit by SRM

Compliance Audit 2017		
Yes	No	NA
		✓

3.13

Condition

All erosion and sedimentation controls required as part of this consent shall be maintained for the duration of the construction works, and until such time as all ground disturbed by the construction works, has been stabilised and rehabilitated so that it no longer acts as a source of sediment.

Historical Compliance with Condition as per AEMRs 2014-2017

- Not applicable to this reporting period.
- Boral Cement requested that this condition be removed from the consent as it refers to construction, not on-going operation.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

- Compliance has been demonstrated in the previous AEMRs.

Compliance Audit Findings November 2017:

- ✓ Since Construction has ceased prior to this audit and the ground had been stabilised and rehabilitated

Compliance Audit 2017		
Yes	No	NA
		✓

.

WATER DISCHARGE LIMITS

3.14 ***Requirement DELETED from MOD 9 5/10/2016***

Condition

The Applicant shall ensure that the cement works upgrade does not lead to an increase in the volume or flow rate of storm water leaving the site over and above pre-development flow conditions.

Historical Compliance with Condition as per AEMRs 2014-2017

- Compliance with this Condition was established in the 2007-2008 AEMR.
- Boral Cement Berrima continues to actively harvest rainwater from within site catchment for operational purposes, further reducing stormwater leaving the site.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014-2015:

- reporting period was a particularly wet year, resulting in the above-average overflow from Lake Quality. This increase however was not related to the works upgrade but more so with the weather pattern fluctuations.
- No water volume and quality discharge limits were specified in EPL 1698 and water was not regarded as a project risk (SLR 2015).
- Boral monitors overflows from Lake Quality, which receives stormwater from the site, for the parameters in figures 10 to 13. The water is reused in site processes and the lake only overflows during heavy rainfall. There were eight overflows during the reporting period and Figures 10 - 13 in the AEMR demonstrate that water quality was in line with and in some instances better than historical results.
- Lake Quality's overflow generally meets the typical NSW discharge criteria. Occasionally, an exceedance of pH may occur in the overflow due to alkaline nature of raw materials and products handled on site.
- A Water Management Plan is implemented at the Works, which includes the Kiln 6 area and is reviewed every three years or after an incident and is revised/improved as deficiencies become apparent.

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, Boral Cement Berrima had increased their harvesting, storage and use of rainwater falling on the site (within the allowable limits by reworking the quarry so that it has the capacity to operate as a water storage pond.
- ✓ Improved water management procedures have minimised water discharged from the site by drawing-down Lake Quality and Lake Breed and storing their water elsewhere on site, thereby providing greater volume for capture during rainfall events (minimising overflow losses)
- ✓ The capacity for storing harvested water on site while maintaining full operations is currently approximately 150 ML. Current operations require up to 0.8 ML of water use per day.
- ✓ The latest revision of Water Management Plan CMT-ENV-005 V3 was undertaken in September 2014, as part of their 3 yearly Document reviews and was due for review at time of this audit.

Compliance Audit 2017		
Yes	No	NA
		✓

3.14 ***This new Condition replaces the previously deleted S3.14 above, INSERTED as per MOD 9 5/10/2016***

Condition

The Applicant shall ensure that all surface water discharges from the site comply with the:

a) discharge limits (both volume and quality) set for the development in any EPL; or

b) relevant provisions of the POEO Act.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition is not applicable in 2014-2016 reporting periods

2014 – 2015	2015 – 2016	2016 – 2017	
NA	NA	Yes	No
✓	✓	✓	

2016 – 2017

- No water volume and quality discharge limits were specified in EPL 1698 and water was not regarded as a project risk (SLR 2015).
- Boral monitors overflows from Lake Quality, which receives stormwater from the site, for the parameters in figures 10 to 13. The water is reused in site processes and the lake only overflows during heavy rainfall. There were eight overflows during the reporting period and Figures 10 - 13 in the AEMR demonstrate that water quality was in line with and in some instances better than historical results.
- Lake Quality's overflow generally meets the typical NSW discharge criteria. Occasionally, an exceedance of pH may occur in the overflow due to alkaline nature of raw materials and products handled on site.
- A Water Management Plan is implemented at the Works, which includes the Kiln 6 area and is reviewed every three years or after an incident and is revised/improved as deficiencies become apparent.

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, Boral Cement Berrima had increased their harvesting, storage and use of rainwater falling on the site (within the allowable limits by reworking the quarry so that it has the capacity to operate as a water storage pond.
- ✓ Improved water management procedures have minimised water discharged from the site by drawing-down Lake Quality and Lake Breed and storing their water elsewhere on site, thereby providing greater volume for capture during rainfall events (minimising overflow losses)
- ✓ The capacity for storing harvested water on site while maintaining full operations is currently approximately 150 ML. Current operations require up to 0.8 ML of water use per day.
- ✓ The latest revision of Water Management Plan CMT-ENV-005 V3 was undertaken in September 2014, as part of their 3 yearly Document reviews and was due for review at time of this audit.

Compliance Audit 2017		
Yes	No	NA
✓		

3.15 TRAFFIC AND ACCESS

Condition

The Applicant shall establish a bus transport system generally consistent with that identified in section 6.9 of the SEE to transport construction employees to and from the site during the construction period.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition refers to construction rather than the ongoing operation and therefore does not apply to this reporting period.
- Compliance has been demonstrated in the previous AEMRs.
- Construction timeframes are short and no performance trends were established.
- No on-going management required at the time of this audit.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ Since Construction had ceased prior to this audit, bus transport systems were no longer required.

Compliance Audit 2017		
Yes	No	NA
		✓

3.16

Condition

The Applicant shall ensure that vehicles associated with the cement works upgrade do not stand or park on any public road or footpath adjacent to the site. Measures provided by the Applicant shall include sufficient parking for all employees and contractors during construction and operation of the cement works upgrade and management measures to ensure that heavy vehicles entering the site are not permitted to queue on Taylor Avenue at any time.

Historical Compliance with Condition as per AEMRs 2014-2017

- Construction activities were completed prior to the commencement of this reporting period and therefore are not applicable.
- Sufficient parking is being provided on site for all employees and contractors during operation of the upgrade. In addition, there is sufficient distance between the weighbridge and the site entrance on Taylor Avenue to prevent heavy vehicles queuing on Taylor Avenue.
- Employee car parking was extended 2 years ago. Employee car park has additional/unused capacity. Queuing has not been an issue/ has not been observed

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ Construction activities were completed prior to the last 3 reporting periods and this Compliance audit.
- ✓ At the time of the audit, sufficient parking was made available to all employees, contractors and visitors.
- ✓ Heavy vehicles were no longer queuing on Taylor Avenue, as there is sufficient distance between the weighbridge and the site entrance on Taylor Avenue.
- ✓ Sufficient car parking has historically, and continues to be, provided to accommodate employee and visitor vehicles on site without the need to park on surrounding public roads. Deliveries of fuel and ingredient materials for Kiln 6, and ingredient materials for Mill 7, have not historically, and continue to not, require queuing of trucks along Taylor Avenue. Therefore, operations at Kiln 6 and Mill 7 complied with the traffic and transport consent conditions during the reporting period.

Compliance Audit 2017		
Yes	No	NA
✓		

16A — **Requirement *DELETED as per MOD 9 5/10/2016***

Condition

No more than five coal haulage campaigns between the site and Port Kembla are permitted in any calendar year. The Applicant shall schedule and manage each coal haulage campaign to ensure that its duration does not exceed seven days

.

Historical Compliance with Condition as per AEMRs 2014-2017

- The Berrima Colliery, which was the source of the potential sale product, is in the closure phase and no longer undertakes coal mining.
- No haulage campaigns were undertaken in the reporting period. This condition therefore does not apply.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

2016-2017:

- As no non-standard fuels including SWDF were used in the reporting period, no levy was payable.
- Payment of the levy will commence once nonstandard fuels start being received at the site.

Compliance Audit Findings November 2017:

✓ No haulage campaigns were undertaken in the reporting period. This condition therefore does not apply.

Compliance Audit 2017		
Yes	No	NA
		✓

3.16A — ***This new Condition replaces the previously deleted S3.16A above, INSERTED as per MOD 9 5/10/2016***

Condition

The Applicant shall pay a road maintenance levy to Council of 4 cents/tonne/km for the transport of SWDF.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition is not applicable in 2014-2017 reporting periods

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

✓ As no non-standard fuels including SWDF were used in the reporting period, no levy was payable

✓ Payment of the levy will commence once non-standard fuels start being received at the site.

Compliance Audit 2017		
Yes	No	NA
		✓

3.16B — ***Requirement DELETED as per MOD 9 5/10/2016***

Condition

Coal haulage from the site during campaigns is permitted to occur between 4:00am and 4:00pm. The Applicant shall endeavour to schedule coal haulage campaigns to avoid heavy vehicle movements on Sundays and public holidays, wherever practicable to do so.

Historical Compliance with Condition as per AEMRs 2014-2017

- No haulage campaigns were undertaken in the reporting period. This condition therefore does not apply.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

✓ No haulage campaigns were undertaken in the reporting period. This condition therefore does not apply.

Compliance Audit 2017		
Yes	No	NA
		✓

3.16C — ***Requirement DELETED as per MOD 9 5/10/2016***

Condition

All road transport of cement clinker from the site and transport of coal for stockpiling at the site shall be suspended for the duration of each coal haulage campaign to Port Kembla.

Historical Compliance with Condition as per AEMRs 2014-2017

- No haulage campaigns were undertaken in the reporting period. This condition therefore does not apply.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

✓ No haulage campaigns were undertaken in the reporting period. This condition therefore does not apply.

Compliance Audit 2017		
Yes	No	NA
		✓

3.16D	***Requirement from MOD 9 5/10/2016***

Condition

The Applicant shall prepare and implement a Traffic Management Plan to minimise and manage the impacts of coal haulage campaigns to Port Kembla to the satisfaction of the Director-General. This plan must be prepared in consultation with RMS and Council, and be submitted for approval to the Director-General by 30 September 2012.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016	2016-2017
Yes	No	NA	NA
✓		✓	✓

2014-2015

- Coal Haulage Traffic Management Plan was submitted to the Department in November 2012, after securing a short time extension (DPI email dated 12 September 2012).
- No haulage campaigns were undertaken in the reporting period.

2015-2016 and 2016-2017:

- Since the colliery is not in care and maintenance, coal is no longer being transported from the site, and this section therefore does not now apply.

Compliance Audit Findings November 2017:

- With the mine in care and maintenance with a view to closure, this condition no longer applies.

Compliance Audit 2017		
Yes	No	NA
		✓

3.16E	***Requirement DELETED as per MOD 9 5/10/2016***

Condition

The Applicant shall commission a review of the conduct of coal haulage campaigns and their impacts on the community at the conclusion of the second campaign. This review is to be conducted by an independent and suitably qualified person whose appointment has been approved by the Director General. The review must identify the impacts and provide measures to mitigate them in the future where reasonable and feasible to do so. The review report is to be provided to the Director General within three months of the second campaign.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

2014-2015:

- Due to adverse economic conditions, culminating in the transition of the coal mine into the "care and maintenance" mode followed by the decision to close the mine, haulage campaigns have not commenced since this approval was granted. This condition therefore has not been triggered.

2015-2016 and 2016-2017:

- With the mine in care and maintenance with a view to closure, this condition no longer applies.

Compliance Audit Findings November 2017:

- With the mine in care and maintenance with a view to closure, this condition no longer applies.

Compliance Audit 2017		
Yes	No	NA
		✓

	WASTE
3.17	**WASTE MANAGEMENT IMPACT**

Condition

Except as otherwise permitted by this consent and a licence issued under the Protection of the Environment Operations Act the Applicant shall not cause, or allow any waste generated outside the site to be received at the site for storage, treatment, processing, reprocessing or disposal, or any waste generated at the site to be disposed of at the site.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

- Boral Cement did not receive any waste material generated outside of the site unless authorised by the consent and EPL.
- The automatic gate system is operational at the main site entry to reduce the potential for illegal disposal of material on site from external unauthorised parties.

2016 – 2017:

- Boral manages waste on site in accordance with the Waste Management Plan which describes recycling and disposal requirements for the different waste categories generated and used on site. This document and the Operation Environmental Management Plan have not yet been updated in accordance with Condition 6.7 to incorporate measures for management of non-standard fuels, as use of these fuels has not recommenced.
- No waste generated outside the Works was received at the site during the reporting period. Receipt of waste derived non-standard fuels permitted to be accepted at the site has not commenced.

- The site has not historically received waste from offsite as truck loads are inspected at the gate in accordance with the Waste Management Plan. The Operational Environmental Management Plan will be updated in accordance with Condition 6.7 to incorporate measures for management of non-standard fuels prior to their use at the site.
- The Waste Management Plan currently prohibits the acceptance of waste from offsite. This and the Operational Environmental Management Plan will be updated in accordance with Condition 6.7 to incorporate measures for management of non-standard fuels prior to their use at the site.

Compliance Audit Findings November 2017:

- ✓ The Waste Management Plan & OEMP had been revised in September 2014, however has not been updated in accordance with Condition 6.7 to incorporate measures for management of non-standard fuels, as use of these fuels has not recommenced.
- ✓ All vehicles entering and exiting the site are monitored via cameras, to avoid illegal on site tipping.

Compliance Audit 2017		
Yes	No	NA
✓		

3.17A

Condition

Condition 3.17 of this consent only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require a licence under the Protection of the Environment Operations Act 1997, and does not include:

a) any Non-Standard Fuels approved for use at the upgraded Kiln 6 under this consent;
b) any material normally brought to the site for the purpose of cement clinker production (as detailed in the documents listed under condition 1.2 of this consent); and
c) any material normally recycled or reused within the cement works.
d) any material that is subject to a specific waste recovery exemption (RRE) issued by the EPA to exempt that material from the specific clauses of the Protection of the Environment (Waste) Regulation 2005.

Historical Compliance with Condition as per AEMRs 2014-2017

- As described above and prohibited by Condition L4.1 of the EPL, no waste generated outside the Works was received at the site during the reporting period. Receipt of waste derived non-standard fuels permitted to be accepted at the site has not commenced.
- The site has not historically received waste from offsite as truck loads are inspected at the gate in accordance with Condition L4.1 of the EPL and the Waste Management Plan.
- The Waste Management Plan currently prohibits the acceptance of waste from offsite. This and the Operational Environmental Management Plan) will be updated in accordance with Condition 6.7 to incorporate measures for management of nonstandard fuels prior to their use at the site.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ Not applicable

Compliance Audit 2017		
Yes	No	NA
		✓

3.17 AB ***Alternative Raw Material Trial - Granulated Blast Furnace Slag (GBFS)***

Condition

Prior to the receipt of GBFS on-site, the Applicant must obtain a specific waste Resource Recovery Exemption (RRE) for GBFS from the EPA.

Historical Compliance with Condition as per AEMRs 2014-2017

- The site-specific RRE for full-scale Blast Furnace Slag use was issued by EPA on 19 September 2012.
- The DP&E issued a letter approving the full-scale Blast Furnace Slag use in September 2012.

2016 – 2017:

- The use of GBFS since 2012 has not resulted in an increase in stack emissions verified via responses to air quality.
- Current management measures for the use of GBFS are achieving good outcomes

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ The site-specific RRE for full-scale Blast Furnace Slag use was issued by EPA on 19 September 2012. The DPI issued a letter approving the full-scale Blast Furnace Slag use in September 2012.
- ✓ The use of GBFS since 2012 has not resulted in an increase in stack emissions verified via responses to air quality.
- ✓ Current management measures for the use of GBFS are achieving good outcomes.

Compliance Audit 2017		
Yes	No	NA
✓		

3.17 AC ***GBFS Trial Requirements - This Condition was inserted during 2015 – 2016***

Condition

Provided that the specific waste RRE is obtained for GBFS, the Applicant shall trial the use of up to 3,000 tonnes of GBFS as an alternate raw material in Kiln 6. The Applicant shall:

(a) undertake the trial over a continuous 3 day period, unless otherwise agreed in writing by the Secretary;
(b) conduct stack testing of all relevant air emissions and trace elements, to the satisfaction of the EPA; and
(c) Use quality controlled GBFS only.

Historical Compliance with Condition as per AEMRs 2014-2017

- Compliance with this condition was detailed in the AEMR for 2013 – the trial was conducted between 14-16 May 2012 with stack testing on 15 May, the use of quality controlled GBFS and provision of a report on 13 July 2013.
- The use of GBFS since 2012 has not resulted in an increase in stack emissions (see responses to air quality).
- Current management measures for the use of GBFS are achieving good outcomes.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

✓ At the time of this audit, all requirements for Condition 3.17 AC were being met.

Compliance Audit 2017		
Yes	No	NA
✓		

3.17 AD ***GBFS Trial Verification Report - This Condition was inserted during 2015 – 2016***

Condition

Within 1 month of the completion of the GBFS trial, the Applicant shall prepare and submit a Verification Report to the Department to the satisfaction of the Secretary and the EPA. The Verification Report shall include:

(a) stack emissions monitoring data measured for the duration of the trial;
(b) copies of all analytical test reports for all substances sampled and tested;
(c) *comparison of monitoring results from the trial with the relevant EPA standards and requirements, as determined by the EPA.*

Historical Compliance with Condition as per AEMRs 2014-2017

- Compliance with this condition was detailed in the AEMR for 2013 – the verification report was provided on 13 July 2013 which reported that there were no stack contributions from the GBFS, coal use decreased and CO2/CO emissions decreased.
- The use of GBFS since 2012 has not resulted in an increase in stack emissions (see responses to air quality).
- Current management measures for the use of GBFS are achieving good outcomes.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

✓ At the time of this audit, there were no compliance issues with this Condition.

Compliance Audit 2017		
Yes	No	NA
		✓

3.17 AE ***GBFS Trial Verification Report - This Condition was inserted during 2015 – 2016***

Condition

Provided the results of stack testing for the GBFS trial confirm that the air pollutants emitted from the cement Kiln 6 meet the relevant EPA standards and requirements, the Applicant may commence full-scale usage of GBFS as a raw material additive in Kiln 6 at a maximum usage rate that is determined in writing by the Secretary in consultation with the EPA.

Note: the Applicant must not commence full-scale usage of GBFS as a raw material additive in Kiln 6 until it has received written approval from the Secretary. In addition, the maximum usage rate per annum of GBFS in cement Kiln 6 must not exceed 150,000 tonnes per annum.

Historical Compliance with Condition as per AEMRs 2014-2017

- The Department approved GBFS for full use in a letter dated 7/9/2012. Further, it provided the following advice on 25/9/2012: "
- The Department and EPA consider that both granulated and air-cooled blast furnace slag are approved for use subject to it being undertaken in accordance with Boral Cements approval and the EPL".

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015

- A total of 7196 tonnes of granulated and air-cooled slag was utilised in the reporting period.

2016 – 2017:

- Compliance with this condition was detailed in the AEMR for 2013 – the Secretary approved the ongoing use of GBFS in a letter dated 7 September 2012.
- Use of GBFS in subsequent periods has been:
  - 2013: 11,426 t
  - 2014: 6,893 t
  - 2015: 83497
  - 2016: 76255
- Boral has been using less GBFS than the approved rate of 150,000 tonnes per annum.
- Current management measures for the use of GBFS are achieving good outcomes.

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, there were no compliance issues with this Condition.

Compliance Audit 2017		
Yes	No	NA
✓		

3.17 B

Condition

Except as provided by any condition of a licence under the Protection of the Environment Operations Act 1997, only the following 'Group A' waste may be stored at the site:

a)AKF1.

Historical Compliance with Condition as per AEMRs 2014-2017

- No AKF1 or other Group A wastes were stored on site during the 3-reporting period.
- The Operational Environmental Management Plan will be updated in accordance with Condition 6.7 to incorporate measures for management of non-standard fuels prior to their use at the site.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, there were no compliance issues with this Condition

Compliance Audit 2017		
Yes	No	NA
✓		

3.17 C

Condition

Except as provided by the condition of a licence under the Protection of the Environment Operations Act 1997, the Applicant must assess, classify and dispose of all wastes generated as a result of the use of Non-Standard Fuels in a accordance with the EPA's Waste Classification Guidelines.

Historical Compliance with Condition as per AEMRs 2014-2017

- There were no Non-standard Fuels used during the 3-reporting period or waste generated.
- Use of waste derived non-standard fuels at the site has not commenced.
- Wastes generated as a result of the use of nonstandard fuels on site will be classified using the NSW EPA's Waste Classification Guidelines in accordance with EPL Condition L4.2.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ There was no waste generated.
- ✓ Use of waste derived non-standard fuels at the site has not commenced.
- ✓ Wastes generated as a result of the use of nonstandard fuels on site will be classified using the NSW EPA's Waste Classification Guidelines in accordance with EPL Condition L4.2
- ✓ There were no Non-standard Fuels being used at the time of this audit.

Compliance Audit 2017		
Yes	No	NA
✓		

3.18 **Visual Amenity**

Condition

The Applicant shall ensure that all external lighting associated with the cement works upgrade, and including those lights already erected, is mounted, screened, and directed in such a manner so as not to create a nuisance to surrounding properties or roadways. The lighting shall be the minimum level of illumination necessary and shall comply with AS 4282(INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting.

Historical Compliance with Condition as per AEMRs 2014-2017

- The lighting of the site does not impact greatly on the visual amenity of the surrounding properties and roadways. Additional light shrouding has previously been installed to further minimise light spill, other lights have been redirected, and automatic timing devices have been retrofitted to minimise the number of lights on at any one time. However, for health and safety reasons a minimum number of lights is required to be on continuously on the tower during periods of darkness.
- The currently implemented Landscaping Plan has helped to further minimise the light penetration outside the site boundaries.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2016 – 2017:

- Provision of lighting at the Berrima Cement Works complies with AS 4282(INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting.
- No community complaints regarding light spill have been received during the reporting period – the community has not previously complained about light spill from the site.
- Management measures are sufficient to keep light spill from the site within acceptable limits – a minimum amount of lights must be on during night time for safety.

Compliance Audit Findings November 2017:

- ✓ The recently implemented Stage 1 and Stage 2 Landscaping Plan should help to further minimise the light penetration outside the site boundaries.
- ✓ Provision of lighting at the Berrima Cement Works complies with AS 4282(INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting.
- ✓ No community complaints regarding light spill have been received during the reporting periods
- ✓ Management measures are sufficient to keep light spill from the site within acceptable limits.

Compliance Audit 2017		
Yes	No	NA
✓		

3.19

Condition

The second pre-heater tower shall be designed, constructed, operated and maintained in a manner that minimises the visual impact to surrounding properties and roadways.
Note: *The second pre-heater tower shall be built in a manner consistent with that described in the additional information provided (identified in condition 1.2f)). This includes using the building materials identified and minimising the height of the pre-heater tower.*

Historical Compliance with Condition as per AEMRs 2014-2017

- Compliance with this condition has previously been confirmed for all 3 Reporting periods.
- Compliance with the construction requirements of the second Kiln 6 pre-heat tower was demonstrated in previous AEMRs.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2016 – 2017:

- No community complaints regarding visual amenity have been received during the reporting period – the community has not previously complained about the visual impact of the site.
- Planting of trees for visual screening is effectively shielding the tower from sensitive receivers – this screening will become more effective as plantings mature.

Compliance Audit Findings November 2017:

- ✓ Compliance with this condition was validated during the 2017 compliance audit.

Compliance Audit 2017		
Yes	No	NA
✓		

3.19A **MOD 9 CONDITION INTRODUCED DURING 2016-2017**

Condition

Operational stockpiling of RDF in the external bale material storage area (identified on Drawing No.GE-B-2278-01 Revision DP, dated 15 January 2015) is limited to periods of extended kiln downtime for maintenance or repair only. RDF for stockpiling must be delivered in plastic wrapped 1 cubic metre bales. Stockpiles must not exceed a maximum height of five metres.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition was not applicable for the period 2014-2016

2014 – 2015	2015 – 2016	2016 – 2017	
NA	NA	Yes	NA
✓	✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ This condition was not applicable during the 2017 Site Audit.

Compliance Audit 2017		
Yes	No	NA
✓		✓

3.20 **NON-STANDARD FUELS**

Condition

For each Group 1 or Group 2 Non-Standard Fuel approved for use at the development the Applicant shall provide a fuel specification, to be approved by the Secretary and the EPA prior to the use of that Non-Standard Fuel at the development under this consent. The Group 1 or Group 2 Non-Standard Fuel specification shall include, but not be limited to, the minimum calorific value and the maximum quantity of all relevant pollutants, particularly the listed pollutants.

Historical Compliance with Condition as per AEMRs 2014-2017

- The proposed fuel specifications for AFK1, Hi Cal 50 and AFK5 were provided to both DPI and EPA for review and approval.
- DPI delegated authority for approving the specifications to EPA. EPA approved all three fuel specifications on 17/08/2006.
- There were no Non-Standard Fuels used during this reporting period.
- The use of waste derived non-standard fuels has not recommenced and there are no trends to report and no management measures are necessary.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ There were no Non-Standard Fuels used during these 3 reporting periods or during the 2017 compliance audit.

Compliance Audit 2017		
Yes	No	NA
✓		

3.21

Condition

Based on the Non-Standard Fuel specification specified in condition 3.20 the following fuel specification criteria are required to be met:

a) for Hi CAL 50 a mercury specification no greater than 1 mg/kg and a cadmium specification no greater than 10 mg/kg;
b) for AKF1 a mercury specification no greater than 2 mg/kg and a cadmium specification no greater than 5 mg/kg;
c) organohalogen compounds, expressed as chlorine, in any Non-Standard Fuel not to exceed 1% by weight; and
d) the waste materials to be used as Non-Standard Fuels must not be diluted or blended to meet any of the fuel specification requirements.

Historical Compliance with Condition as per AEMRs 2014-2017

- No Non-Standard Fuels were received, stored or used at the Berrima Works during this reporting period.
- The use of waste derived non-standard fuels has not recommenced and there are no trends to report and no management measures are necessary.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ No Non-Standard Fuels were received or used at the Boral Cement Berrima during the 3 reporting periods or during the 2017 compliance audit
- ✓ The use of waste derived non-standard fuels has not recommenced and there are no trends to report and no management measures are necessary.

Compliance Audit 2017		
Yes	No	NA
✓		

3.22

Condition

Prior to the use of Group 1 or Group 2 Non-Standard Fuels at the development in accordance with this consent, the Applicant shall implement a Tracking Program that meets the requirements of the Secretary

. The Tracking Program shall include, but not be limited to, the identification and recording of the following information in accordance with the time periods specified in condition 3.23:

a) batch analyses of Group1 or Group 2 Non-Standard Fuels received at the development as provided by the suppliers, and the results of any check analyses carried out by the Applicant as part of the quality control management procedures required under condition 6.7 and condition 6.8 of this consent;
b) a mass inventory of each listed pollutant entering the process in raw materials, conventional fuels and Group 1 or Group 2 Non-Standard Fuels, with particular attention to, but not limited to chlorine, mercury, cadmium and chromium;
c) emission factors for each listed pollutant calculated from inputs, outputs, and measured air emissions, variance in the emissions factors from period to period and an assessment with regards to the reasons for any such variance; and
d) any adjustments that may be necessary to Group 1 or Group 2 Non-Standard Fuel specifications arising from the Tracking Program analysis.

Historical Compliance with Condition as per AEMRs 2014-2017

- The Non-Standard Fuels pollutant tracking procedure (SP10-01-10 Non-Standard Fuels Pollutant Tracking Procedure) was issued on 1 March 2003 and a copy was provided to DP&E by email on 2 March 2003. The procedure addresses all requirements of Condition 3.22. The procedure has not been recently reviewed as the Site has not yet re-commenced the Non-Standard Fuels programme.
- Non-Standard Fuels were not received or used at the site during the reporting period.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ Non-Standard Fuels were not received or used at the site during the reporting period or during the 2017 compliance audit.

Compliance Audit 2017		
Yes	No	NA
✓		

3.23

Condition

The Applicant shall submit a Report that details and assesses the results of the Tracking Program prescribed in condition 3.22 of this consent to the Secretary. The Report shall be submitted to the Secretary:

a) every three months in the first year of operation using Non-Standard Fuels under this consent, (to be synchronised with stack monitoring); and
b) thereafter every six months, or as otherwise agreed to by the Secretary.

Historical Compliance with Condition as per AEMRs 2014-2017

- Non-Standard Fuels were not used at the site during the 3 reporting periods.
- The use of waste derived non-standard fuels has not recommenced and there are no trends to report and no management measures are necessary.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ Non-Standard Fuels were not used during the 3 reporting periods or during the 2017 compliance audit.

Compliance Audit 2017		
Yes	No	NA
		✓

3.24 ***Requirement DELETED as per MOD 9 5/10/2016***

Condition

To ensure the emissions of air pollutants are minimised, the Applicant shall NOT use Non-Standard Fuels unless:

a) the feed rates for Non-Standard Fuels are maintained at a steady controlled rate to provide for combustion in a proper and efficient manner; and
b) a temperature of above 850°C is maintained in the zone where Non-Standard Fuels are fired at the main-firing end of Kiln 6; and
c) a temperature of above 800°C is maintained in the zone where Non-Standard Fuels are fired at or in the vicinity of the pre-calciner/ de-nox system for Kiln 6; and
d) a temperature of above 300°C is maintained at the outlet of pre-heater strings for Kiln 6; and
e) a temperature of below 200°C is maintained at the inlet to the electrostatic precipitator and fabric filter for Kiln 6;& the continuous measurements required by this consent, show that all maximum allowable discharge concentration limits values prescribed in Table 4 of condition 3.10 are complied with. The Applicant shall cease to use Non-Standard Fuels immediately in Kiln 6 if any maximum allowable discharge concentration limit is exceeded.

Historical Compliance with Condition as per AEMRs 2014-2017

- Non-Standard Fuels were not used during the 3 reporting periods.
- The use of waste derived non-standard fuels has not recommenced and there are no trends to report and no management measures are necessary.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

✓ Non-Standard Fuels were not used during the 3 reporting periods or during the 2017 compliance audit.

Compliance Audit 2017		
Yes	No	NA
✓		

3.24 ***This new Condition replaces the previously deleted S3.24 above, INSERTED as per MOD 9 5/10/2016***

Condition

The Applicant shall cease to burn Non-Standard Fuels in Kiln 6 if:
a) the temperature is below 8500C in the zone where Non-Standard Fuels are fired or in the vicinity of the pre-calciner; or
b) the temperature is below 3000C at the outlet of the preheater strings.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition was not applicable for the reporting period 2014-2016
- Non-standard Fuel were not used during the 2017 compliance audit
- The use of waste derived non-standard fuels has not commenced and there are no trends to report and no management measures are necessary

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

✓ Non-Standard Fuels were not used during the 2017 compliance audit.
✓ The use of waste derived non-standard fuels has not commenced and there are no trends to report and no management measures are necessary

Compliance Audit 2017		
Yes	No	NA
		✓

3.25 ***Requirement DELETED as per MOD 9 5/10/2016***

Condition

Without prejudice to condition 3.24e), Kiln 6 shall under no circumstances continue to use Non-Standard Fuels for a period of more than four hours uninterrupted where emission limits are exceeded; and the cumulative duration of operation under such conditions over one year shall be less than 60 hours.
Note: *This condition refers to abnormal operating conditions associated with technically unavoidable stoppages, disturbances, trips, or failures of the kiln or its pollution control or pollutant measurement equipment, during which the concentrations in the discharges of regulated substances into the air may briefly exceed the prescribed emission limit values.*

Historical Compliance with Condition as per AEMRs 2014-2017

- Non-Standard Fuels were not used during this reporting period.

2014 – 2015		2015 – 2016	
Yes	No	Yes	No
✓		✓	

Compliance Audit Findings November 2017:

✓ Non-Standard Fuels were not used during the 3 reporting periods or during the 2017 compliance audit.

Compliance Audit 2017		
Yes	No	NA
		✓

	PROOF OF PERFORMANCE TRIALS (POP TRIALS)
3.25	***POP Trial Plan- This new condition replaces the previously deleted 3.25 above, INSERTED as per MOD 9 5/10/2016***

Condition

The Applicant must undertake PoP trials for the burning of SWDF. The maximum length of the trial will be eight months. At least one month prior to the PoP trials, the Applicant shall submit a detailed plan(s) for the PoP trials, to the satisfaction of the Secretary. The plan(s) must be prepared for the co-incineration of each permitted SWDF and be prepared in consultation with the EPA. The plan(s) must, as a minimum:

a) verify the residence time, the minimum temperature and the oxygen content of the exhaust gas which will be achieved during normal operation and under the most unfavourable operating condition anticipated;

b) establish all criteria for operation, control and management of the abatement equipment to ensure compliance with the emission limit values specified in the EPL;

c) assess the performance of any monitors on the abatement system and establish a maintenance and calibration program for each monitor;

d) establish criteria for the control of all alternative fuel input including the maximum flow and maximum calorific value;

e) confirm that all measurement equipment of devices (including thermocouples) used for the purpose of establishing compliance with this approval have been subjected, in situ, to normal operating temperatures to prove their operation under such conditions;

f) detail procedures for testing the performance of all major process components and emission control systems associated with the processing and burning of SWDF; and

g) address all relevant requirements of the EPL for the project.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition was not applicable for the reporting period 2014-2016
- The use of waste derived non-standard fuels has not commenced and there are no trends to report and no management measures are necessary during 2017 reporting period.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ The use of waste derived non-standard fuels at the site has not commenced.
- ✓ No PoP trial plan required
- ✓ This condition was not applicable during the 2017 Audit
- ✓ The use of waste derived non-standard fuels has not commenced and there are no trends to report and no management measures were necessary during 2017 reporting period.

Compliance Audit 2017		
Yes	No	NA
		✓

3.26	***Conduct of Trials*- MOD 9 CONDITION INTRODUCED DURING 2016-2017**

Condition

The PoP trials shall:

a) be carried out in accordance with a detailed PoP plan(s) approved by the Secretary;

b) be undertaken by a suitably qualified and experienced person(s);

c) test performance of all major process components including emission control systems using no SWDF, and representative fuels containing SWDF designed to cover the range of materials and compositions of SWDF;

d) identify changes to the Kiln 6 emission control system that may be necessary to achieve compliance with the consent and the EPL; and

e) demonstrate compliance with the relevant requirements of the EPL, development consent and relevant environmental and safety criteria.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition was not applicable for the reporting period 2014-2016
- The use of waste derived non-standard fuels has not commenced and there are no trends to report and no management measures are necessary during 2017 reporting period.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ The use of waste derived non-standard fuels at the site has not commenced. No PoP trial required
- ✓ This condition was not applicable during the 2017 Audit
- ✓ The use of waste derived non-standard fuels has not commenced and there are no trends to report and no management measures were necessary during 2017 reporting period.

Compliance Audit 2017		
Yes	No	NA
		✓

3.27	***POP Trial Report* - MOD 9 CONDITION INTRODUCED DURING 2016-2017**

Condition

The Applicant is to report on each PoP trial to the Secretary and EPA. The reports shall be submitted at:

a) monthly intervals during the PoP trial. The information to be contained in these reports is to be determined in consultation with the EPA as part of the PoP Trial Plan required under condition 3.25; and

b) six months after the commencement of the PoP trial. The six-month report shall contain but not be limited to the following information:
i. the total quantity of SWDF used during the previous six months;
ii. the dates and times when the trial commenced and will conclude;
iii. the results of stack emissions testing for the analytes and properties specified in any relevant trial plan and baseline emissions for comparison, where applicable;
iv. all monitoring data collected for the project during the previous six months;
v. identification of any non-compliance with the conditions of this consent and the EPL;
vi. details of additional measures to be implemented to address any non-compliance; and
vii. an assessment of the suitability of the SWDF for ongoing use.
Copies of the POP Trial Reports shall be made available to the public upon request.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition was not applicable for the reporting period 2014-2016
- The use of waste derived non-standard fuels has not commenced and there are no trends to report and no management measures are necessary during 2017 reporting period.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ The use of waste derived non-standard fuels at the site has not commenced. No PoP trial report required at this stage.
- ✓ This condition was not applicable during the 2017 Audit
- ✓ The use of waste derived non-standard fuels has not commenced and there are no trends to report and no management measures were necessary during 2017 reporting period.

Compliance Audit 2017		
Yes	No	NA
		✓

3.28 MOD 9 CONDITION INTRODUCED DURING 2016-2017

Condition

Use of SWDF is not permitted (outside of the approved PoP trials) until such time as the Secretary has indicated in writing that it is satisfied with the results of the six-month PoP trial report specified under condition 3.27 b) for an individual SWDF.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition was not applicable for the reporting period 2014-2016
- The use of waste derived non-standard fuels has not commenced and there are no trends to report and no management measures are necessary during 2017 reporting period.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ There were no non-standard fuels including SWDF were used in the 2017 reporting period.

Compliance Audit 2017		
Yes	No	NA
		✓

4. ENVIRONMENTAL MONITORING & AUDITING

4.1 Air Quality: Requirement *DELETED from MOD 9 5/10/2016*

Condition

During operation of the upgraded Kiln 6, the Applicant shall determine the pollutant concentrations and emission parameters specified in Table 6 (Standard Fuels Only) and Table 7 (Non-Standard Fuels) below, at the discharge points indicated and employing the sampling and analysis method specified. All pollutant concentrations and emission parameters for each discharge point shall be determined concurrently and at the frequency indicated in the table, unless otherwise agreed with the EPA.

Refer to *Table 6 on the Condition of Consent – Discharge Point & Parameter Monitoring (Air) when Kiln 6 is using only Standard Fuels.*
Refer to Table 7 on the Condition of Consent – Discharge Point and Parameter Monitoring (Air) when Kiln 6 is using Non-Standard Fuels.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014-2015:

- Stack emission monitoring, when Kiln 6 was using only standard fuels, was conducted by ECS Stack Pty Ltd in June 2014 for the parameters specified in Table 6 in accordance with the sampling methods and frequencies specified in Table 6.
- Continuous monitoring of particulate matter was undertaken with calibrated in-stack equipment, logging into the Central Control Room of the Cement Plant operating system.
- No Non-Standard Fuels were used during this reporting period and therefore Non-Standard Fuels stack testing as detailed in Table 7 was not required.

2015-2016:

- Stack emission monitoring, when Kiln 6 was using only standard fuels, was conducted by Ektimo Pty Ltd in July and August 2016 for the parameters specified in Table 6 in accordance with the sampling methods and frequencies specified in Table 6.
- Continuous monitoring of particulate matter was undertaken with calibrated in-stack equipment, logging into the Central Control Room of the Cement Plant operating system.
- No Non-Standard Fuels were used during this reporting period and therefore Non-Standard Fuels stack testing as detailed in Table 7 was not required.

2016-2017:

- For the EPL year 1 April 2016 to the 30 May 2017, stack emission monitoring data for Kiln 6 also shows that the Works maintained emissions well under the EPA limit for the whole year.
- Long term continuous stack emission monitoring of particle emission for Kiln 6 showed particulates have been continuously within EPA Standards since a single exceedance in June 2013.
- Stack emission monitoring for Kiln 6 for standard fuels was conducted by Ektimo in July and August 2016 in accordance with the sampling methods specified under EPL 1698. The report demonstrated compliance with the emission limits for standard fuels for all monitoring parameters.
- No non-standard fuels were used during this reporting period so no non-standard fuels stack testing was required.
- Copies of the annual stack testing reports for 2017 were assessed.
- A summary of continuous particulate monitoring data for Kiln 6 from May 2016 to April 2017 was presented in Table 5.4 of AEMR. The Works was in compliance with the licence limit for continuous monitoring of solid particles (for standard fuels) in the whole reporting period. The kiln operated for a total of 7,681.8 hours during this reporting period.

Compliance Audit Findings November 2017:

- ✓ Stack emission monitoring data for Kiln 6 also shows that the Works maintained emissions well under the EPA limit for the whole year.
- ✓ Long term continuous stack emission monitoring of particle emission for Kiln 6 showed particulates have been continuously within EPA Standards since a single exceedance in June 2013.
- ✓ Stack emission monitoring for Kiln 6 for standard fuels was conducted by Ektimo in July and August 2016 in accordance with the sampling methods specified under EPL 1698. The report demonstrated compliance with the emission limits for standard fuels for all monitoring parameters.
- ✓ No non-standard fuels were used during this reporting period so no non-standard fuels stack testing was required.

Compliance Audit 2017		
Yes	No	NA
✓		

4.1A

Condition

Continuous monitoring equipment for emissions, temperature and fuel feed rate, as required to meet the conditions of this consent and as agreed to by EPA must be installed prior to receipt at the site of and use of Non-Standard Fuels in the upgraded Kiln 6.

Historical Compliance with Condition as per AEMRs 2014-2017

- Compliance with this Condition has previously been demonstrated.
- No Non-Standard Fuels were used during the 3 reporting periods.
- Continuous monitoring of gaseous stack emissions is undertaken on a voluntary basis.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ No Non-Standard Fuels were used during the 3 reporting periods or during the 2017 compliance audit.

Compliance Audit 2017		
Yes	No	NA
✓		

4.1B ***Requirement DELETED from MOD 9 5/10/2016***

Condition

Prior to the commencement of the use of Non-Standard Fuels in accordance with this consent, the Applicant shall establish an Ambient Air Quality Monitoring Program in consultation with, and to meet the requirements of, the Secretary, the EPA, and the NSW Department of Health. The monitoring program shall be consistent with the EPA's Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales and shall be designed to generate sufficient information to meet the requirements of this consent with regards to the First-Year Monitoring and Modelling Assessment Report. The ambient monitoring program shall include:

a) an ambient air quality monitoring station which shall:

i) be placed at a location near New Berrima, but away from its immediate influence in terms of air pollution;

ii) monitor TSP, PM_{10} and listed pollutants with sampling to be undertaken over an appropriate period (to be agreed with the EPA) every six days; and

iii) continue to sample for at least one year from the commencement of the use of Non-Standard Fuels, its continuation thereafter to be reviewed after analysis of First-Year Monitoring and Modelling Assessment Report.

c) generation of suitable continuously sampled meteorological data including wind speed, wind direction, temperature, and variability of wind direction (sigma theta) in general accordance with the Australian Standard AS2923 – 1987.

Historical Compliance with Condition as per AEMRs 2014-2017

- Non-Standard Fuels were not used during this reporting period.
- Continuous monitoring of TSP and PM_{10} in ambient air is being undertaken on a voluntary basis.
- All requirements of this condition have been met during the 3 reporting periods.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ Non-Standard Fuels were not used during the 3 reporting periods nor during the 2017 compliance audit.

Compliance Audit 2017		
Yes	No	NA
✓		

4.1B ***This new condition replaces the previously deleted 4.1B above, INSERTED as per MOD 9 5/10/2016***

Condition

Prior to the commencement of the use of Non-Standard Fuels in accordance with this consent, the Applicant shall develop and implement an Ambient Air Quality Monitoring Program in consultation with, and to meet the requirements of, the Secretary and the EPA. The monitoring program shall be consistent with the EPA's Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales, shall monitor fugitive emission form site works, and be designed to generate sufficient information to meet the requirements of this consent. The ambient monitoring program shall include:

a) appropriately located ambient air quality monitoring station/s designed to obtain representative air quality data;

b) monitoring of TSP, PM10 and PM2.5 and other listed pollutants;

c) sampling at a continuous or other appropriately justified frequency (to be agreed with the EPA);

d) sampling over an appropriate period (to be agreed with the EPA); and

e) generation of suitable continuously sampled meteorological data including wind speed, wind direction, temperature, and variability of wind direction (sigma theta) in general accordance with the current Australian Standard/s.

The Applicant must ensure the ambient air monitoring program is underway prior to the PoP Trials starting. The continuation of ambient monitoring may be reviewed after analysis of at least one year's ambient monitoring data.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition was not applicable for the reporting period 2014-2016
- The use of waste derived non-standard fuels has not commenced and there are no trends to report and no management measures are necessary during 2017 reporting period.

2014 – 2015	2015 – 2016	2016 – 2017
NA ✓	NA ✓	NA ✓

Compliance Audit Findings November 2017:

- ✓ The use of waste derived non-standard fuels at the site has not commenced.
- ✓ No Ambient Air Quality Monitoring Program required
- ✓ This condition was not applicable for the 2017 Site Audit

Compliance Audit 2017		
Yes	No	NA
		✓

4.1C

Condition

From the time of commencement of the use of Non-Standard Fuels the Applicant shall continuously monitor the following process parameters:

a) gas temperature (or some agreed equivalent indication of the temperature):

i) in or near the firing zone at the main-firing end of the kiln where Non-Standard Fuels are being fired;

ii) in the kiln at the feed end;

iii) in the combustion zone or zones where Non-Standard Fuels are being fired in or adjacent to the pre-calciner/de-nox system;

iv) at the outlet of the suspension pre-heater strings; and

v) at the inlet to the electrostatic precipitator and the fabric filter.

b) *carbon monoxide and volatile organic compounds (or total organic carbon or equivalents as agreed with the EPA) in the exhaust gases after all combustion is complete; and*

c) *rates of feed for Non-Standard Fuels AKF1 and AKF5 and the derived rate of feed for Hi CAL 50 in the coal feed.*

d) *rate of feed for SWDF; and*

e) *nitrogen oxides, hydrogen chloride, sulphur dioxide, carbon monoxide, solid particles (total and volatile organic compounds.*

Historical Compliance with Condition as per AEMRs 2014-2017

- No Non-Standard Fuels were used during this reporting period.
- Several parameters of this Condition are being monitored on a voluntary basis.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ No Non-Standard Fuels were used during the 3 reporting periods nor during the 2017 compliance audit.
- ✓ Several parameters of this Condition are being monitored on a voluntary basis

Compliance Audit 2017		
Yes	No	NA
✓		

4.2

Condition

If the results of the monitoring required under conditions 4.1A, 4.1B and 4.1C and EPL No. 1698 indicate that the operation of any component of the cement works upgrade, when operating under design loads and normal operating conditions, exceeds the limits imposed under condition conditions 4.1A, 4.1B and 4.1C and EPL No. 1698, the Applicant shall provide details of remedial measures to be implemented to reduce air quality limits to the levels required.

Details of the remedial measures and a timetable for implementation shall be submitted to the Secretary for Approval within such period as the Secretary may require, and be accompanied by evidence that the EPA is satisfied that the remedial measures are acceptable.

Historical Compliance with Condition as per AEMRs 2014-2017

- No exceedances were recorded in the reporting period under condition 0 and EPL No. 1698

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

✓ No exceedances of emission limits for Standard Fuels were observed during the Compliance Audit.

Compliance Audit 2017		
Yes	No	NA
✓		

4.3 **Water Quality Monitoring – Requirement *DELETED from MOD 9 5/10/2016***

Condition

During operation of the cement works upgrade, the Applicant shall determine the pollutant concentrations and discharge parameters specified in Table 8 below, at the discharge point indicated and employing the sampling and analysis method specified. All pollutant concentrations and discharge parameters for the discharge point shall be determined concurrently at the frequency indicated in the table.

Refer to Table 8 in the Condition of Consent - Discharge Point Pollutant and Parameter Monitoring (Water)

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015:

- During the current reporting period 9 overflow events occurred from the licensed overflow point (in Lake Quality). Samples were collected on 18/8/14, 15/9/14, 16/10/14, 2/12/14, 26/12/14, 5/01/15, 2/2/15, 27/2/15, 21/4/15.
- The results of the monitoring are graphed for all overflow event results, from 2010 to 2015, in Attachment No 6.

2015 – 2016

- During the current reporting period 4 overflow events occurred from the licensed overflow point (in Lake Quality). Samples were collected on 19/06/2015, 20/07/2015, 25/08/2015 and 4/02/2016.
- The results of the monitoring are graphed for all overflow event results, from 2010 to 2016, in Attachment No 6.

2016 – 2017:

- Boral manages water on site in accordance with the Water Management Plan, which describes the monitoring points, frequency and parameters. Storm water and residual process water from all areas of the Works (including Kiln 6 and Mill 7) is harvested and used on site with water quality in the storages (Lake Quality and Lake Breed) tested monthly, and water quality in the receiving waterway (Wingecarribee River) tested every three months. Water is only discharged from site during very heavy rainfall, with eight overflows during the reporting period.
- No water volume and quality discharge limits are specified in EPL 1698 and water was not regarded as a project risk (SLR 2015).
- Boral monitors overflows from Lake Quality, which receives stormwater from the site, for the parameters in figures 10 to 13. The water is reused in site processes and the lake only overflows during heavy rainfall. There were eight overflows during the reporting period and figures 10 to 13 demonstrate that water quality was in line with and in some instances better than historical results.
- Lake Quality's overflow generally meets the typical NSW discharge criteria. Occasionally, an exceedance of pH may occur in the overflow due to alkaline nature of raw materials and products handled on site.
- The results of the monitoring are graphed for all overflow event results, from 2010 to 2017, in Figure 5.10, 5.11, 5.12, 5.13 of AEMR.

Compliance Audit Findings November 2017:

✓ At the time of 2017 Compliance Audit, all requirements of Conditions 4.3 were being met.

Compliance Audit 2017		
Yes	No	NA
		✓

4.3A ***Requirement DELETED from MOD 9 5/10/2016***

Condition

The Applicant shall ensure that all surface water discharges from the site comply with the:

a) discharge limits (both volume and quality) set for the development in any EPL; or

b) relevant provisions of the POEO Act.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015:

- The site has no water discharge limits (volume or quality) set by the EPL, but the water discharges from the licensed overflow point (in Lake Quality) are monitored as per requirements of the EPL. The discharge is within the relevant provisions of the POEO Act.

2015 – 2016:

The site has no water discharge limits (volume or quality) set by the EPL, but the water discharges from the licensed overflow point (in Lake Quality) are monitored as per requirements of the EPL. The discharge is within the relevant provisions of the POEO Act.

In August 2015 the overflow event analysis returned a result for TSS of 197mg/L.
In response, the event was reviewed and:
Rainfall data revealed the site received over 208mm of rainfall within 48hrs, equating to a 1/10 years event,

- the operational inspections did not find any anomalies in the site operation that would impact the water quality,
- the sample was taken during the first flush of the storm event,
- the flow rate in the Wingecarribee River was elevated; and
- the sample was considered to be an outlier in the data, results following remained within range.

This outlier result was disclosed in the Annual Return submitted to the EPA.

2016 – 2017:

- No water volume and quality discharge limits are specified in EPL 1698 and water was not regarded as a project risk (SLR 2015).
- Boral monitors overflows from Lake Quality, which receives storm water from the site, for the parameters in figures 10 to 13. The water is reused in site processes and the lake only overflows during heavy rainfall. There were eight overflows during the reporting period and figures 10 to 13. Demonstrate that water quality was in line with and in some instances better than historical results.
- Lake Quality's overflow generally meets the typical NSW discharge criteria. Occasionally, an exceedance of pH may occur in the overflow due to alkaline nature of raw materials and products handled on site.
- A Water Management Plan is implemented at the Works, which includes the Kiln 6 area and is reviewed every three years or after an incident and is revised/improved as deficiencies become apparent.

Compliance Audit Findings November 2017:

Compliance Audit 2017		
Yes	No	NA
		✓

- ✓ A Water Management Plan is implemented at the Works, which includes the Kiln 6 area and is reviewed every three years or after an incident and is revised/improved as deficiencies become apparent.
- ✓ Compliance with this condition was validated during the 2017 compliance audit.

4.4 ***Requirement DELETED as per MOD 9 5/10/2016***

Condition

The Applicant may seek the approval of the Secretary to alter the frequency of and/or requirement to monitor any pollutant concentration or parameter required under condition 4.3 of this consent. Any request for approval shall only be made provided:

a) concentration/ parameter determination has been undertaken for a period of no less than 12 months (measured from the commencement of operation of the cement works upgrade);

b) there has been no exceedance of any limit placed on the subject concentration/ parameter by any statutory guidelines within that 12-month period;

c) there has been no reasonable complaint received from the public in relation to the subject concentration/ parameter within the preceding 12-month period (refer to condition 5.3 of this consent);

d) the request is accompanied by written agreement of the EPA with the proposed alteration to the frequency and/ or requirement to monitor of pollutant concentration or parameter determination.

Note: Condition 4.4 recognises that on-going monitoring may demonstrate that the concentration of pollutants and/ or parameters discharged from the site consistently meets relevant statutory guidelines, and the need for rigorous and frequent monitoring may be relaxed.

Historical Compliance with Condition as per AEMRs 2014-2017

- Boral Cement did not seek to alter the requirements of Condition 4.3, during the reporting periods.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ Boral Cement did not seek to alter the requirements of condition 4.3 during the 2017 compliance audit.

Compliance Audit 2017		
Yes	No	NA
		✓

4.5 Auditing

Condition

Within three years of the commencement of operation of the cement works upgrade, and every three years thereafter or as otherwise required by the Secretary, the Applicant shall commission an independent person or team to undertake an Environmental Audit of the cement works upgrade. The independent person or team shall be approved by the Secretary, prior to the commencement of the Audit. An Environmental Audit Report shall be submitted for comment to the Secretary, the EPA and Council, within one month of the completion of the Audit. The Audit shall:

a) be carried out in accordance with ISO 14010 - Guidelines and General Principles for Environmental Auditing and ISO 14011 - Procedures for Environmental Auditing;
b) assess compliance with the requirements of this consent, and other licences and approvals that apply to the cement works upgrade;
c) assess the cement works upgrade operations against the predictions made and conclusions drawn in the SEE and other documents listed under conditions 1.2 a) to1.2 h), inclusive; and
d) review the effectiveness of the environmental management of the cement works upgrade, including any environmental impact mitigation works.

The Secretary may, having considered any submission made by the EPA and/or Council in response to the Environmental Audit Report, require the Applicant to undertake works to address the findings or recommendations presented in the Report. Any such works shall be completed within such time as the Secretary may agree.

Historical Compliance with Condition as per AEMRs 2014-2017

- A 3-yearly audit was conducted by an independent auditor (Somerset Risk Management) in November 2014.
- The report was submitted to DP&E and subsequently approved by the Department.
- The next audit is due in the Licence Year 2017-18.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ A Compliance Audit of Cement Mill 7 and Kiln 6, was completed in October 2014, by Senior Lead Environmental Auditor Ms Olga Lihou (Exemplar Global Certification 15061), with approval given by the DP&E (formerly DPI).
- ✓ All requirements defined in sections a, b, c and d of this Condition, were compliant.

Compliance Audit 2017		
Yes	No	NA
✓		

4.6

Condition

Within 12 months of the receipt of the first load of Group 1 or Group 2 Non-Standard Fuels under this consent, the Applicant shall arrange for and bear the full cost of an independent and comprehensive audit of the use of Non-Standard Fuels at the development. Further Audits are to be conducted every 12 months, or as otherwise directed by the Secretary. The Audits are to be carried out by a duly qualified and independent person or team to be approved by the Secretary, and submitted directly to the Secretary, the EPA and NSW Health unless otherwise directed by those agencies. The Audits shall be carried out in accordance with ISO 19011:2002 - Guidelines for Quality and/ or Environmental Management Systems Auditing and shall cover all aspects of the use of Non-Standard Fuels at the development, including, but not limited to:

a) an assessment of compliance with the requirements of this consent, and other licences and approvals that apply to the use of Non-Standard Fuels at the development;
b) a review of management practices and operating procedures regarding the proper and efficient operation of Kiln 6 whilst using Non-Standard Fuels, especially with regards to the minimisation of dioxins emissions;
c) assessment of quality control and quality assurance measures implemented by the Non-Standard Fuel suppliers, especially with regards to the sampling and analysis undertaken to ensure that Non-Standard Fuels comply with the relevant fuel specification;
d) a review of the fuel quality control management procedures implemented by the Applicant including assessment of the Applicant's handling, processing, verification and analysis of information generated by the Applicant and received from the Non-Standard Fuel suppliers;
e) suggestion of any recommendations with respect to any of the matters listed above; and
f) a review of compliance with the process parameters specified in Condition 3.24 of this consent, including a report of the number of events and total number of hours required to cease the feed of any Group 2 Non-Standard Fuels.

Note: There is nothing that prevents the Applicant from combining the annual auditing requirements provided in conditions 4.5 and 4.6.

Historical Compliance with Condition as per AEMRs 2014-2017

- On 31 January 2008 DPI suspended this condition in light of the suspension of the Non-Standard Fuels program in August 2007, part way through the first year of the program.
- No Non-Standard Fuels were used during this reporting period.
- Boral Cement Berrima has no fixed timetable in relation to recommencing the Non-Standard Fuels program. Once it is reactivated, a revised reporting deadline will be agreed with DPI.
- Boral Cement Berrima intends to recommence the Non-Standard Fuels program in the near future. Once it is reactivated, a revised reporting deadline will be agreed with DP&E.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ No Group 1 or Group 2 Non-Standard Fuels were used during this reporting period.
- ✓ Boral Cement Berrima has no fixed timetable in relation to recommencing the Non-Standard Fuels program. Once it is reactivated, a revised reporting deadline will be agreed with DPI However, Boral Cement Berrima intends to recommence the Non-Standard Fuels program in the near future. Once it is reactivated, a revised reporting deadline will be agreed with DP&E.

Compliance Audit 2017		
Yes	No	NA
		✓

4.6A **MOD 9 CONDITION INTRODUCED DURING 2016-2017**

Condition

The audit reports required by Conditions 4.5 and 4.6 of this consent must be submitted within three months of commissioning the audit, or as otherwise agreed by the Secretary.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition is not applicable in 2014-2016 reporting periods

2014 – 2015	2015 – 2016	2016 – 2017	
NA	NA	Yes	No
✓	✓	✓	

2016 – 2017

- A Compliance Audit of Cement Mill 7 and Kiln 6, was completed in October 2014, by Senior Lead Environmental Auditor Ms Olga Lihou (Exemplar Global Certification 15061), with approval given by the DP&E (formerly DPI).
- There were no non-standard fuels including SWDF were used in the 2017 reporting period.
- Boral Cement Berrima intends to recommence the Non-Standard Fuels program in the near future. Once it is reactivated, Boral Cement commit to submit the audit report for the use of Non-Standard Fuels within the specified time frame or as otherwise agreed by the Secretary

Compliance Audit Findings November 2017:

- ✓ A Compliance Audit of Cement Mill 7 and Kiln 6, was completed in October 2014, by Senior Lead Environmental Auditor Ms Olga Lihou (Exemplar Global Certification 15061), with approval given by the DP&E (formerly DPI).
- ✓ Boral Cement Berrima engaged Senior Lead Environmental Auditor Ms Olga Lihou (Exemplar Global Certification 15061) to carry out A Compliance Audit of Cement Mill 7 and Kiln 6 in November 2017 and commit to submit the audit report within the specified time frame or as otherwise agreed by the Secretary.
- ✓ There were no non-standard fuels including SWDF were used in the 2017 reporting period.
- ✓ Boral Cement Berrima intends to recommence the Non-Standard Fuels program in the near future. Once it is reactivated, Boral Cement commit to submit the audit report for the use of Non-Standard Fuels within the specified time frame or as otherwise agreed by the Secretary

Compliance Audit 2017		
Yes	No	NA
✓		

5. **Community Information and Involvement**

5.1

Condition

Subject to confidentiality, the Applicant shall make all documents required under this consent available for public inspection upon request. This shall include provision of all documents at the site for inspection by visitors, and in an appropriate electronic format on the Applicant's internet site, should one exist.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014-2015 and 2015-2016

- Documentation required under this consent is available for inspection at the site upon request.
- Where appropriate, information is made available in a suitable electronic format on the Boral Cement Berrima's website, **http://www.boral.com.au/article/berrima_cement_poela_data.asp**.
- Due to an administrative error, website uploads of the Environmental Management Plans updated in September 2014 and of the Noise Monitoring Report 2014 were delayed. This constituted a minor administrative noncompliance.
- This has been rectified quickly after its detection and Boral Cement Berrima has remained in compliance since.

2016 – 2017:

- Sixteen community complaints were received during the reporting period, each of which related to dust generation and deposition. Two community meetings were held during the reporting period, one on 2 June 2016 and the other on 10 November 2016.
- Development Consent No. 401-11-2002-i, Development Consent No. 85-4-2005i and EPL 1698 are available for inspection on request at the Berrima Cement Works. Current environmental monitoring data under the EPL is available at http://www.boral.com.au/article/nsw_poela_environmental_reporting.asp The site's environmental management plans and some previous AEMRs are available at http://www.boral.com.au/article/berrima_cement_environment.asp
- Boral historically and continues to make information available on request at the site and on the site's website.

Compliance Audit Findings November 2017:

- ✓ At the time of this Audit, documents were accessible electronically via the Boral Cement website and upon Request.
- ✓ Non-confidential documentation in hard copy format was also readily available for inspection.

Compliance Audit 2017		
Yes	No	NA
✓		

5.2

Condition

Prior to the commencement of construction for the cement works upgrade, the Applicant shall ensure that the following are available for community complaints for the life of the cement works upgrade (including construction and operation):

a) a telephone number on which complaints about operations on the site may be registered;
b) a postal address to which written complaints may be sent; and
c) an email address to which electronic complaints may be transmitted, should the Applicant have email. service

The telephone number, the postal address and the email address shall be displayed on a sign near the entrance to the site, in a position that is clearly visible to the public. These details shall also be provided on the Applicant's internet site, should one exist.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

- The site complaints procedure is well established. Contact details for Boral Cement Berrima are included on all site entrance signage, and include a telephone number, postal address and email address

2016 – 2017:

- Berrima Cement Plant's complaints procedures are documented in the operational environmental management plan and subordinate plans. Contact details for Boral Cement Berrima are included on all site entrance signage, and include a telephone number, postal address and email address. Additionally, contact details are provided on the website http://www.boral.com.au/article/berrima_cement_contacts.asp
- Boral historically and continues to provide contact information on signs and on the site's website.
- Boral will continue to make contact information available on signs and on the site's website.

Compliance Audit Findings November 2017:

Compliance Audit 2017		
Yes	No	NA
✓		

- ✓ The site complaints procedure appeared effective in capturing issues and providing evidence on the type to address the deficiencies.
- ✓ Contact details were signposted at each site entrance and included a contact phone number, postal address, email address & Boral internet site.
- ✓ These details were also made available at each community meeting and were included in the meeting minutes.

5.3

Condition

The Applicant shall record details of all complaints received through the means listed under condition 5.2 of this consent in an up-to-date Complaints Register. The Register shall record, but not necessarily be limited to:

a) the date and time, where relevant, of the complaint;
b) the means by which the complaint was made (telephone, mail or email);
c) any personal details of the complainant that were provided, or if no details were provided, a note to that effect;
d) the nature of the complaint;
e) any action(s) taken by the Applicant in relation to the complaint, including any follow-up contact with the complainant; and
f) if no action was taken by the Applicant in relation to the complaint, the reason(s) why no action was taken.

The Complaints Register shall be made available for inspection by the EPA or the Secretary upon request.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

BCB has an established complaint procedure. A summary of all complaints (by type) received during each reporting period is provided below:

2014 – 2015:

- Dust complaints – 31, Noise complaints – 4
- A copy of the complaints register including the details required under Condition 5.3 were validated in Attachment No 7 to the AERM 2014-2015.

2015 – 2016:

- Dust complaints – 12, Noise complaints – 2, Other complaints (Vehicle issues) – 1
- A copy of the complaints register including the details required under Condition 5.3 were validated in Attachment No 7 to the AERM 2015-2016.

2016 – 2017:

- Berrima Cement Plant's complaints procedures are documented in the Operation Environmental Management Plan and subordinate plans. A summary of all complaints (by type) received during this reporting period of May 2016 – April 2017 were provided in Appendix D. There were 16 complaints, each of which related to dust.
- Historical data regarding complaints (total; air quality; noise) was shown in Figures 6.1-6.3. 2016-17 total numbers 16 were exactly the average of 16/year in the 2008-09 - 2016-17 period.

Compliance Audit Findings November 2017:

- ✓ The site Complaint Register appears well maintained. Reports provided details of complaint date and time; the means by which the complaint was made; incident details; action taken; and the complainants name and address.
- ✓ Noise and dust complaints are forwarded to EPA in the Annual Returns and the DPE in the Annual Environmental Management Reports.
- ✓ BCB continues to investigate strategies to actively reduce its dust and noise impacts on the local community.

Compliance Audit 2017		
Yes	No	NA
✓		

5.4

Condition

Prior to the use of Non-Standard Fuels at the development the Applicant shall establish a Community Liaison Group that has access to all environmental management plans and monitoring data, environmental reporting and tracking and audit reports required by this consent. The Group shall:

a. Be comprised of the following, whose appointment has been approved by the Secretary:

i) 1 or 2 representatives from the Applicant, including the person responsible for environmental management at the development;

ii) 1 representative from Council; and

iii) 3 or 4 representatives from the local community.

b. Be chaired by a representative agreed to by the Group and approved by the Secretary;

c. Meet a minimum of once in every 6-month period; and

Review and provide advice on the environmental performance of the development, including providing comment where necessary on any environmental management plans, monitoring results, audit reports, or complaints.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

The CLC was established in April 2004 and has been operating in accordance with Condition 5.4 during the current reporting period. Since 2010, including the current reporting period, the CLC was converted to public meetings, including invitations to the CLC members, as the CLC format proved unsuccessful in communicating meeting contents and outcomes to the broader community. Although Boral Cement Berrima has not operated the Non-Standard Fuels Program during this reporting period it is committed to continuing its liaison with the community and the CLC process.

2014 – 2015

- Three community meetings were held during this reporting period, on 11 September 2014, 19 November 2014 and 5 March 2015.
- Notes of meetings and copies of presentations made at the community meetings are sent to all meeting participants and are displayed in the community section of the Berrima website, http://www.boral.com.au/article/berrima_cement_our_community.asp.

2015 – 2016

- Three community meetings were held during this reporting period, in July 2015 and June 2016.
- Notes of meetings and copies of presentations made at the community meetings are sent to all meeting participants and are displayed in the community section of the Berrima website; http://www.boral.com.au/article/berrima_cement_our_community.asp.
- The Berrima Cement Management Team is represented by the Site Operations Manager and the HSE Advisor, together with Boral's Stakeholder Relations Manager - Southern Region (NSW/VIC/TAS/SA), and a representative from Boral Cement's Group Engineering Team and Delta Mining on behalf of the colliery.

2016 – 2017

- The community liaison committee (CLC) was established in April 2004. Since 2010, including the current reporting period, the CLC was converted to public meetings, including invitations to the CLC members, as the CLC format proved unsuccessful in communicating meeting contents and outcomes to the broader community.
- Although Boral Cement has not operated the non-standard fuels program during this reporting period it is committed to continuing its liaison with the community and the CLC process.
- Two community meetings were held during this reporting period, on 2 June 2016 and 10 November 2016.
- Notes of meetings and copies of presentations made at the community meetings are sent to all meeting participants and are displayed in the community section of the Berrima website: http://www.boral.com.au/article/berrima_cement_our_community.asp
- The CLC has historically, and will continue to, meet up to twice per year in a public meeting format.
- The CLC will continue to meet up to twice per year in a public meeting format.

Compliance Audit Findings November 2017:

- ✓ Notes of meetings and/or copies of presentations for the CLC meetings were evaluated and found to meet all the requirements of this Condition.
- ✓ Verification of the Boral Berrima Cement Solid Waste Derived Fuels Implementation Project Stakeholder Engagement & Consultation Plan; Internal Version, August 2017.

Compliance Audit 2017		
Yes	No	NA
✓		

5.5

Condition

The Applicant shall at its own expense:

a) Ensure that 1 or 2 of its representatives attend the Group's meetings;
b) Provide the Group with regular information on the environmental management and performance of the development;
c) provide access to independent scientific/technical support to assist member in understanding and interpreting information provided, if requested;
d) provide meeting facilities for the Group, where necessary;
e) arrange site inspections for the Group, if requested;
f) take minutes of the Group's meetings and make these minutes available to the public for inspection within 14 days of the Group meeting, or as agreed to by the Group;
g) respond to any advice or recommendations the Group may have in relation to the environmental management or performance of the development; and
h) maintain a record and a copy of the minutes of each Group meeting, and any responses to the Group's recommendations, to be provided to the Secretary
i) upon request.

Historical Compliance with Condition as per AEMRs 2014-2017

- Community meetings were organised in accordance with Condition 5.5 during the three reporting periods.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2016 – 2017:

- The Berrima Cement Management Team is represented by the Site Operations Manager and the HSE Advisor, together with Boral's Stakeholder Relations Manager - Southern Region (NSW/VIC/TAS/SA), and a representative from Boral Cement's Group Engineering Team and Delta Mining on behalf of the Berrima Colliery.
- No CLC members requested the presence of technical specialists at meetings or site inspections during the reporting period. Minutes from the June 2016 meeting have been posted on the website and no recommendations were received from CLC members during the reporting period.
- Boral has historically, and will continue to, respond to requests from CLC members and post the meeting minutes on the website.
- Boral will continue to respond to requests from CLC members and post the meeting minutes on the website.

Compliance Audit Findings November 2017:

- ✓ During all 3 reporting periods, the CLC operated in accordance with Condition 5.5.
- ✓ Reviews from Community Meeting records validated compliance with meeting this Condition.
- ✓ Verification of the Boral Berrima Cement Solid Waste Derived Fuels Implementation Project Stakeholder Engagement & Consultation Plan; Internal Version, August 2017.

Compliance Audit 2017		
Yes	No	NA
✓		

6. Environmental Management

6.1 CEMP- Requirement *DELETED as per MOD 9 5/10/2016*

Condition

*The Applicant shall prepare and implement a **Construction Environmental Management Plan (CEMP)** to outline environmental management practices and procedures to be followed during the construction of the cement works upgrade. The Plan shall include, but not necessarily be limited to:*

a) a description of all activities to be undertaken on the site during construction, including an indication of stages of construction, where relevant;
b) statutory and other obligations that the Applicant is required to fulfil during construction, including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;
c) specific consideration of measures to address any requirements of the Department and the EPA during construction;
d) details of how the environmental performance of the construction works will be monitored, and what actions will be taken to address identified adverse environmental impacts;
e) a description of the roles and responsibilities for all relevant employees involved in construction; and
f) the Management Plans listed under condition 6.2 of this consent.

The CEMP shall be submitted for the approval of the Secretary prior to the commencement of construction of the cement works upgrade. Notwithstanding, where construction work is to be undertaken in stages, the Applicant may, subject to the agreement of the Secretary, stage the submission of the CEMP consistent with the staging of activities relating to that work. Construction of each stage shall not commence until written approval has been received from the Secretary. Upon receipt of the Secretary's approval, the Applicant shall supply a copy of the CEMP to the EPA as soon as practicable.

Historical Compliance with Condition as per AEMRs 2014-2017

- Compliance had been demonstrated in the previous AEMR with earlier Construction works.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ Previous construction activities had been completed prior to this reporting period.
- ✓ DP&E sent Boral Property Group approval for the revised Final Draft version of the Construction Environmental Management Plan Berrima Solid Waste Derived Fuels Project, Kiln 6 Upgrade MOD 9; DA 401-11-2002, dated 18th September 2017 Final Revision.

Compliance Audit 2017		
Yes	No	NA
		✓

6.2 ***Requirement DELETED as per MOD 9 5/10/2016***

Condition

As part of the CEMP for the cement works upgrade, required under condition 6.1 of this consent, the Applicant shall prepare and implement the following Management Plans:

*a) a **Fire Safety Study** for the cement works upgrade, covering all relevant aspects detailed in the Department's publication Hazardous Industry Planning Advisory Paper No. 2 - Fire Safety Guidelines and the New South Wales Government's Best Practice Guidelines for Contaminated Water Retention and Treatment Systems. The Study shall be submitted for the approval of the Commissioner of the Fire and Rescue NSW prior to inclusion in the CEMP.*

*b) a **Hazard and Operability Study** of the cement works upgrade chaired by an independent, qualified person or team approved by the Secretary. The Study shall be carried out in accordance with the Department's publication Hazardous Industry Planning Advisory Paper No. 8 - HAZOP Guidelines.*

*c) a **Construction Safety Study** for the cement works upgrade, prepared in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 7 - Construction Safety Study Guidelines.*

*d) an **Erosion and Sedimentation Management Protocol** to detail measures to minimise erosion during construction of the cement works upgrade. The Plan shall address the requirements of the EPA and shall include, but not necessarily be limited to:*

e) details of erosion, sediment and surface water pollution control measures and practices to be implemented during construction of the cement works upgrade; and

demonstration that erosion and sediment control measures will conform with, or exceed, the relevant requirements and guidelines provided in the DLWC's publication Urban Erosion and Sedimentation Handbook, the EPA's publication Pollution Control Manual for Urban Stormwater, and the Department of Housing's publications Soil and Water Management for Urban Development and Managing Urban Storm water – Soils and Construction.

Historical Compliance with Condition as per AEMRs 2014-2017

- Not applicable to this reporting period.
- Compliance has been demonstrated in the previous AEMRs.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ Not applicable to this reporting period.
- ✓ Correspondence was verified in relation to BCM's approval of the revised. All construction activities were completed prior to this reporting period.
- ✓ Compliance has been demonstrated in the previous AEMRs.

Compliance Audit 2017		
Yes	No	NA
		✓

6.1 ***This new condition replaces the previously deleted 6.1above, INSERTED as per MOD 9 5/10/2016***

Condition

The Applicant shall update the Construction Environmental Management Plan (CEMP) to the satisfaction of the Secretary. The updated CEMP shall:

a) be approved by the Secretary prior to the commencement of construction;

b) identify the statutory approvals that apply to the development;

c) outline all environmental management practices and procedures to be followed during construction works associated with the development;

d) describe all activities to be undertaken on the site during construction of the development, including a clear indication of construction stages;

e) detail how the environmental performance of the construction works will be monitored, and what actions will be taken to address identified adverse environmental impacts

f) describe the roles and responsibilities for all relevant employees involved in construction works associated with the development; and

g) include the management plans required under condition 6.1A and 6.2 of this consent

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition is not applicable in 2014-2016 reporting periods

2014 – 2015	2015-2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ Boral Cement Berrima submitted and requested approval of the Final Draft Version of the Construction Environment Plan (CEMP) dated 14 Aug 2017 for Berrima Solid Waste Derived Fuels Project Kiln 6 Upgrade MOD 9 (DA401-11-2002).
- ✓ Final revision of the Construction Environment Plan (CEMP) for Berrima Solid Waste Derived Fuels Project Kiln 6 Upgrade MOD 9 (DA401-11-2002 following comments by DP&E, EPA and council was approved and authorized by Rod Wallace- P&D Manager of PD&E on 18/09/2017
- ✓ Authorized final revision of the Construction Environment Plan (CEMP) for Berrima Solid Waste Derived Fuels Project Kiln 6 Upgrade MOD 9 (DA401-11-2002 satisfied all sub-conditions in 6.1

Compliance Audit 2017		
Yes	No	NA
✓		

6.1A — **MOD 9 CONDITION INTRODUCED DURING 2016-2017**

Conditions:

As part of the CEMP required under condition 6.1 of this consent, the Applicant shall include the following:
a) Construction Traffic Management Plan;
b) Erosion and Sediment Plan;
c) Construction Noise Management Plan;
d) Construction and Demolition Waste Management Plan;
e) a protocol to manage groundwater and contaminated soil;
f) a Community Consultation and Engagement Plan, including complaints management.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition is not applicable in 2014-2016 reporting periods

2014 – 2015	2015 – 2016	2016-2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

✓ Final revision of the Construction Environment Plan (CEMP) for Berrima Solid Waste Derived Fuels Project Kiln 6 Upgrade MOD 9 (DA401-11-2002 authorized by Rod Wallace- P&D Manager of PD&E on 18/09/2017 includes
- a) Construction Traffic Management Plan (7.1.4)
- b) Erosion and Sediment Plan (7.2.5)
- c) Construction Noise Management Plan (7.2.3)
- d) Construction and Demolition Waste Management Plan (7.2.1)
- e) a protocol to manage groundwater and contaminated soil (7.2.2)
- f) a Community Consultation and Engagement Plan, including complaints management (6.4.1)

Compliance Audit 2017		
Yes	No	NA
✓		

6.1B — **MOD 9 CONDITION INTRODUCED DURING 2016-2017**

Condition

The Applicant shall carry out the construction of the development in accordance with the CEMP approved by the Secretary (and as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition is not applicable in 2014-2016 reporting periods
- Construction has not yet commenced at the time of SRM's audit Nov 2017

2014 – 2015	2015 – 2016	2016-2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

✓ Construction has not yet commenced at the time of SRM's audit Nov 2017

Compliance Audit 2017		
Yes	No	NA
		✓

6.3 — **OEMP**

Condition

*The Applicant shall prepare and implement an **Operation Environmental Management Plan (OEMP**) to detail an environmental management framework, practices and procedures to be followed during the operation of the cement works upgrade. The plan shall include, but not necessarily be limited to:*
- *a) identification of all statutory and other obligations that the Applicant is required to fulfil in relation to operation of the cement works upgrade, including all consents, licences, approvals and consultations;*
- *b) a description of the roles and responsibilities for all relevant employees involved in the operation of the cement works upgrade;*
- *c) overall environmental policies and principles to be applied to the operation of the cement works upgrade;*
- *d) standards and performance measures to be applied to the cement works upgrade, and a means by which environmental performance can be periodically reviewed and improved;*
- *e) management policies to ensure that environmental performance goals are met and to comply with the conditions of this consent; and*
- *f) the Management Plans listed under condition 6.4 of this consent;*

The OEMP shall be submitted for the approval of the Secretary no later than one month prior to the commencement of operation of the cement works upgrade, or within such period otherwise agreed by the Secretary. Operation shall not commence until written approval has been received from the Secretary. Upon receipt of the Secretary's approval, the Applicant shall supply a copy of the OEMP to the EPA and Council as soon as practicable.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

- The original compliance with the submission and approval of the OEMP was detailed in the 2007/2008 AEMR.
- During the reporting period, the OEMP was reviewed and updated as of September 2014, revision 4, to reflect the extent of current operations and environmental management needs associated with these operations.
- ✗ Section 6.3 of the 2015/2016 AEMR incorrectly states the OEMP was reviewed in September 2015. However, according to the OEMP document review and revision status - the last review of the OEMP was undertaken was in September 2014 and no further reviews undertaken.
- ✓ The OEMP requires a formal review by the end of a 3-year cycle or earlier if site operations significantly change. At the time this audit was conducted, the OEMP has exceeded the review date of September 2017, and is now overdue. However, Boral Cement were undertaking a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. The Project requires an Operational Environmental Management Plan before it 'goes live'. Therefore, Boral Cement engaged a consultant to create this on their behalf. Whilst the current documents are overdue for review the process remains valid.

Compliance Audit Findings November 2017:

Yes	No	NA
✓		

- ✓ At the time of this audit, the *Operation Environmental Management Plan* OEMP CMT-ENV-002, had been reviewed and updated in September 2014 Version 4, to more accurately reflect the extent of current operations and environmental management needs associated with these operations.
- ✓ The OEMP requires a formal review by the end of a 3-year cycle or earlier if site operations significantly change. At the time this audit was conducted, the OEMP has exceeded the review date of September 2017, and is now overdue. However, Boral Cement was undertaking a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. The Project requires an Operational Environmental Management Plan before it 'goes live'. Therefore, Boral Cement engaged a consultant to create the OEMP on their behalf. Whilst the current documents are overdue for review the process remains valid.

6.3A **MOD 9 CONDITION INTRODUCED DURING 2016-2017**

Condition

Prior to the receipt of any Non-Standard Fuels, the Applicant shall update the OEMP required by condition 6.3 of this consent to include the following:

a. details of how the development will comply with the requirements of the EPL and development consent throughout operation;
b. an update of the Community Consultation and Engagement Plan required by Condition 6.1A that outlines how the community will be kept informed about the results of the PoP trials and the ongoing use of SWDF;
c. the environmental monitoring requirements outlined in the EPL and under conditions 4.1A, 4.1B and 4.1C of this consent; and
d. an updated Air Quality Management Plan, as required by condition 6.4A of this consent.

Following completion of the PoP trials, the Applicant shall amend the Operation Environmental Management Plan, to the satisfaction of the Secretary, to describe any proposed changes to limits contained in the EPL and development consent including detailed justification for the changes and relevant results of the PoP trials.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015	2015 – 2016	2016-2017
NA	NA	NA
✓	✓	✓

- This condition is not applicable in 2014-2016 reporting periods
- There were no Non-Standard Fuels used during the 2017 reporting period.

Compliance Audit Findings November 2017:

Compliance Audit 2017		
Yes	No	NA
		✓

- ✓ There were no Non-Standard Fuels used during the 2017 reporting period. Updating OEMP to include all sub conditions in 6.3A were not applicable

6.4 **(Noise)**

Condition

As part of the OEMP for the cement works upgrade, required under condition 6.3 of this consent, the Applicant shall prepare and implement the following Management Plans:

*a) a **Noise Management Plan** to outline measures to minimise the impacts from the operation of the cement works upgrade on local noise levels. The Plan shall address the requirements of the EPA and shall include, but not necessarily be limited to:*
b) identification of all major sources of noise that may be emitted as a result of the operation of the cement works upgrade;
c) specification of the noise criteria as it applies to the particular activity;
d) procedures for the monitoring of noise emissions from the cement works upgrade, in accordance with any requirements of the EPA;
e) protocols for the minimisation of noise emissions;
***f)** measures to consider and manage the cumulative impact of operating both kilns simultaneously; and description of procedures to be undertaken if any non-compliance is detected.*

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015: Noise monitoring was conducted in August 2014, by Hatch.

- The Berrima Works Noise Management Plan was reviewed and updated in September 2014, revision 7 and is part of Berrima's Environmental Management Plans. The Plan will be formally reviewed by the end of the next 3-year cycle or earlier if site operations significantly change.
- The latest round of noise monitoring was conducted and reported in August 2014. The plant remains in compliance with its noise limits.

2015 – 2016: Noise monitoring was conducted in July/August 2015, by Hatch.

- S6.4 Noise of the 2015/2016 AEMR incorrectly states the Noise Management Plan had been updated in September 2015 as part of Berrima's Environmental Management Plan reviews.

2016 – 2017: Noise monitoring was conducted by external contractors Recognition Research during September/October 2017. A Draft Report was issued on 30 November 2017.

- The Berrima Works Noise Management Plan was updated in September 2014, revision 7, and available for review during the Tri-Annual Environmental Audit conducted by Somerset Risk Management.
- Boral Cement were undertaking a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. The Project required an Operational Environmental Management Plan before it 'went live'. Therefore, Boral Cement engaged a consultant to create this on their behalf. Whilst the current documents are overdue for review the process remains valid. The Noise Management Plan, forms part of Berrima's Environmental Management Plans.
- The plant remained in compliance with its noise limits.

Compliance Audit Findings November 2017:

Compliance Audit 2017		
Yes	No	NA
✓		

- ✓ The previous Berrima Noise Management Plan (NMP); CMT-ENV-004 underwent a 3-yearly review. NMP CMT-ENV-004 version 7 was released in September 2014 and readily available during the triennial review.
- ✓ External noise monitoring was undertaken by Hatch for the reporting periods 2014/2015 and 2015/2017 and Recognition Research for reporting period 2016/2017. The reports adequately demonstrates Boral has continued a noise monitoring program to identify the sources of site noise that contribute to off-site noise complaints and has implemented a number of improvement plans since the last audit, to address these concerns.
- ✓ Boral Cement were undertaking a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. The Project required an Operational Environmental Management Plan before it 'went live'. Therefore, Boral Cement engaged a consultant to create this on their behalf. Whilst the current documents are overdue for review the process remains valid. The Noise Management Plan, forms part of Berrima's Environmental Management Plans.
- ✓ The plant remained in compliance with its noise limits.

6.4 **(Air)**

Condition

*an **Air Quality Management Plan** to outline measures to minimise and manage any impacts from the operation of the cement works upgrade on local air quality. The Plan shall address the requirements of the EPA, should there be any. The Plan shall include, but not necessarily be limited to:*

a) identification of all major sources of particulate and gaseous air pollutants that may be emitted as result of the operation of the cement works upgrade, including identification of the major components and quantities of these emissions;
b) monitoring of particulate and gaseous emissions from the cement works upgrade, in accordance with any requirements of the EPA;
c) procedures for the minimisation of particulate and gaseous emissions from the cement works upgrade, and the reduction of these emissions over time, where appropriate;
d) protocols for regular maintenance of process equipment to minimise the potential for dust emissions;
e) *measures to consider and manage the cumulative impact of operating both kilns simultaneously; and*
f) *description of procedures to be undertaken if any non-compliance is detected.*

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015:

- The Air Quality Management Plan was last updated in September 2014, revision 4, and is part of Berrima's Environmental Management Plans. The Plan will be formally reviewed by the end of the next 3-year cycle or earlier if site operations significantly change.
- Annual stack testing was conducted in June 2014. All monitoring results were within their respective emission limits.

2015 - 2016:

- The Auditor observed an error was made in Section 6.4; of the 2015/2016 AEMR Annual Report for Air. It would appear the Report incorrectly states the Air Quality Management Plan was last

updated in September 2015 as part of Berrima's Environmental Management Plans Reviews. According to the document review and revision status - the last review of AQMP occurred in September 2014 and no further reviews had been undertaken.

- Annual stack testing was conducted in July and August 2015. All monitoring results were within their respective emission limits.

2016 – 2017:

- The AQMP required a formal review at the end of the 3-year cycle or earlier if site operations had significantly changed.
- Boral Cement was undertaking a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. The Project requires an Operational Environmental Management Plan before it 'goes live'. Therefore, Boral Cement engaged a consultant to create this on their behalf. Whilst the current documents are overdue for review the process remains valid. The AQMP, forms part of Berrima's Environmental Management Plans.
- Annual stack testing was conducted by Ektimo Pty Ltd in July and August 2016 (Ref: R003079-1, dated 4.10.16). All monitoring results were within their respective emission limits.

Compliance Audit Findings November 2017:

- ✓ The Air Quality Management Plan CMT-ENV-003; Version 4, was reviewed and amended in September 2014.
- ✓ Annual Stack Testing Results for the 3 Reporting periods were validated for each Annual Returns.
- ➢ Boral Cement undertook a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. The Project requires an Operational Environmental Management Plan before it 'goes live'. Therefore, Boral Cement engaged a consultant to create this on their behalf. Whilst the current documents are overdue for review the process remains valid. The AQMP, forms part of Berrima's Environmental Management Plans.

Compliance Audit 2017		
Yes	No	NA
✓		

6.4 (Emergency)

Condition

*an **Emergency Plan** for the cement works upgrade. The Plan shall be prepared in accordance with the Department's publication Hazardous Industry Planning Advisory Paper No. 1 - Industry Emergency Planning Guidelines. Should an Emergency Plan for the cement works already be in existence, this condition may be satisfied by updating the Plan to reflect changes to the site as a result of the cement works upgrade.*

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015:

- The Emergency Plan was thoroughly revised and updated in 2014. The Pollution Incident Response Management Plan is included in the Emergency Plan to reflect the changes introduced by the NSW's POELA Act 2011. The PIRMP was last updated in September 2014.
- An immediate notification procedure was implemented in September 2012, as per NSW requirements. It is reviewed annually.

2015 – 2016:

- The Emergency Plan was thoroughly revised and updated in 2015. The Pollution Incident Response Management Plan is included in the Emergency Plan to reflect the changes introduced by the NSW's POELA Act 2011. The PIRMP was last updated in September 2015.
- An immediate notification procedure was implemented in September 2012, as per NSW requirements. It is reviewed annually.

2016 – 2017:

- ➢ Boral Cement undertook a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. Boral Cement engaged a consultant to create these Plans on their behalf. Whilst the current were overdue for review the process remained valid. The Emergency/Pollution Incident Response Management Plan, forms part of Berrima's Environmental Management Plans.

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, the Emergency Plan was undergoing another review, to ensure both WHS and Environmental risks were being considered.
- ✓ All requirements defined in this Condition, were assessed and found to meet all requirements of this Condition.
- ✓ The PIRMP was under review in readiness for the November2014 upgrade.

Compliance Audit 2017		
Yes	No	NA
✓		

6.4 (Safety)

Condition

*a **Safety Management System**, covering all operations at the cement works upgrade and associated transport activities involving any hazardous materials. The System shall clearly specify all safety-related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to safety procedures. The System shall be developed in accordance with the Department's publication Hazardous Industry Planning Advisory Paper No. 9 - Safety Management. Should a Safety Management System for the cement works already be in existence, this condition may be satisfied by updating the System to reflect changes to the site as a result of the cement works upgrade.*

Historical Compliance with Condition as per AEMRs 2014-2017

2014 - 2015:

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

- Boral Cement Berrima adopted a single OHS Management System (called 1Boral) that was developed in 2011 for all Boral companies, replacing previous separate OHS management practices in individual Boral Divisions.
- The 1Boral OHS Management System incorporates standards which describe minimum requirements for core health and safety functions including Risk Management, Health and Safety Management System Assurance and Evaluation, Health and Safety Reporting, Accident and Incident Investigation, Safety Information Management System and Chain of Responsibility functions.
- This new OH&S Management System was rolled out in the previous reporting period. Training continued throughout the reporting period in all Boral Companies including Berrima.

2015 - 2016:

- Boral Cement Berrima adopted a single Health, Safety, Environment and Quality Management System (called HSEQ System) that was developed in 2015 for all Boral companies, replacing previous separate OHS management practices in individual Boral Divisions.
- The System incorporates standards which describe minimum requirements for core health, safety, environment and quality functions including Risk Management, HSEQ Management System Assurance and Evaluation, Reporting, Accident and Incident Investigation, HSEQ Information Management Systems and Chain of Responsibility functions.
- This new HSEQ System was rolled out in the previous reporting period. Training continued throughout the reporting period in all Boral Companies including Berrima.

2016 - 2017:

- Unable to locate within the 2016/2017 AEMR Report, any documented records or information relating to the Safety Management System / Health, Safety, Environment and Quality Management System (called the HSEQ System) that was undergoing a review.

Compliance Audit Findings November 2017:

Compliance Audit 2017		
Yes	No	NA
✓		

- ✓ The 1Boral OHS Management System was the most current Safety System in use at the time of the audit.

6.4 (Water)

Condition

*a **Water Supply Strategy** with an aim to investigate and pursue options for the use of alternative sources of water, such as stormwater reuse or treated effluent from sewage treatment plants, in order to reduce the dependency on extracting water from the Wingecarribee River.*

Note: Options for the use of alternative water sources considered as part of the Water Supply Strategy may be the subject of a separate approvals process.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

- A Water Supply Strategy has previously been provided. It was broadened into the Water Management Plan which was last reviewed and updated in September 2014 and is part of Berrima's Environmental Management Plans. The Plan will be formally reviewed by the end of the next 3-year cycle or earlier if site operations change.
- Boral Cement Berrima continues to actively manage and increase the harvesting, storage and use of rainwater falling on the site (within the allowable limits).
- Boral Cement undertook a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. Boral Cement engaged a consultant to create these Plans on their behalf. Whilst the current were overdue for review the process remained valid. The Water Management Plan, forms part of Berrima's Environmental Management Plans.

Management Actions

- *Boral Cement Berrima will continue to investigate additional ways to increase on-site harvesting and storage of stormwater.*

Compliance Audit Findings November 2017:

Compliance Audit 2017		
Yes	No	NA
✓		

- ✓ Boral Cement Berrima continues to actively manage and increase the harvesting, storage and use of rainwater falling on the site (within the allowable limits by reworking the quarry so that it has the capacity to operate as a water storage pond.
- ✓ Improved water management procedures to minimise water discharged from the site by drawing-down Lake Quality and Lake Breed and storing their water elsewhere on site, thereby providing greater volume for capture during rainfall events (minimising overflow losses); and
- ✓ Investigations into improving the ways by which water can be moved around the site to facilitate improved storage options.
- ✓ The capacity for storing harvested water on site while maintaining full operations is currently approximately 150 ML. Current operations require up to 0.8 ML of water use per day.
- ✓ Boral manages water on site in accordance with the Water Management Plan, which describes the monitoring points, frequency and parameters. Storm water and residual process water from all areas of the Works (including Kiln 6 and Mill 7) is harvested and used on site with water quality in the storages (Lake Quality and Lake Breed) tested monthly, and water quality in the receiving waterway (Wingecarribee River) tested every three months. Water is only discharged from site during very heavy rainfall, with eight overflows during the reporting period.

- ✓ The overall water management performance of the site is good and that water quality results were in line with and in some instances better than historical results.
- ✓ The water management performance at Kiln 6 is also good and that the conditions have been complied with during the reporting period.
- ✓ The last revision of the Water Management Plan CMT-ENV-005 V3 was undertaken in September 2014 as part of Boral's 3 yearly Management Plan reviews.
- ✓ Boral Cement undertook a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. Boral Cement engaged a consultant to create these Plans on their behalf. Whilst the current Plans were overdue for review the process remained valid. The Water Management Plan, forms part of Berrima's Environmental Management Plans

6.4 (Transport)

Condition

The Applicant shall prepare and implement a ***Transport Code of Conduct*** *to outline management of traffic conflicts associated with the construction and operation of the cement works upgrade. The Code shall meet the requirements of Council, NSW Police and the RTA, should there be any. The Code shall include, but not necessarily be limited to:*

a) details of any restriction to traffic routes;
b) minimum requirements for vehicle maintenance to address noise and exhaust emissions;
c) speed limits to be observed along routes to and from the sites and within the site; and
d) behaviour requirements for vehicle drivers to and from the site and within the site.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

- A Transport Code of Conduct (including Driver Code of Conduct) was prepared by BCSC prior to the Kiln 6 construction works (July 2003). The Transport Code of Conduct addressed the management of traffic during the operation of Kiln 6, and specifically the requirements of the Development Consent conditions. It addressed both heavy and passenger vehicles. All employees and contractors were made aware that responsible driving is a condition of employment at the Berrima site.
- The Driver Code of Conduct for Passenger Vehicles and Utility Operators and Driver Code of Conduct for Truck and Heavy Vehicle Operators were last updated in September 2014 and are part of Berrima's Traffic Management Plan (TMP).
- The TMP will be formally reviewed by the end of the next 3-year cycle or earlier if site operations change.
- Driver codes outline the driving behavior expected of all employees and contractors. Driver Code of Conduct is included in induction training. Refresher training is provided and regular audits are conducted.
- Drivers are continually evaluated for compliance against these codes during workplace observations.
- In case truck drivers associated with Boral Cement Berrima are found to be in breach of their Code of Conduct, incident reports would be prepared.
- Two of the conditions relate to parking provision and truck queuing. Sufficient car parking has historically, and continues to be, provided to accommodate employee and visitor vehicles on Site without the need to park on surrounding public roads. Deliveries of fuel and ingredient materials for Kiln 6, have not historically, and continue to not, require queuing of trucks along Taylor Avenue. Therefore, operations at Kiln 6 complied with the traffic and transport consent conditions during the reporting period.
- The TMP was reviewed and updated in the reporting period September 2014, revision 3. It continues to reflect the extent of current operations and environmental management needs associated with these operations.
- Boral Cement undertook a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. Boral Cement engaged a consultant to create these Plans on their behalf. Whilst the current Plans were overdue for review the process remained valid. The TMP, forms part of Berrima's Environmental Management Plans.

Compliance Audit Findings November 2017:

Compliance Audit 2017		
Yes	No	NA
✓		

- ✓ Driver codes outline the driving behaviour expected of all Workers (employees and contractors). Driver Code of Conduct is included in induction training. Refresher training is provided and regular audits are conducted.
- ✓ Drivers are continually evaluated for compliance against these codes during workplace observations. In case truck drivers associated with Boral Cement Berrima are found to be in breach of their Code of Conduct, incident reports would be prepared.
- ✓ The *Driver Code of Conduct for Passenger Vehicles and Utility Operators* and *Driver Code of Conduct for Truck and Heavy Vehicle Operators* were last updated in September 2014 and are part of Berrima's Environmental Management Plans. The Plan will be formally reviewed by the end of a 3-year cycle or earlier if site operations change.
- ✓ Sufficient car parking continues to accommodate employee and visitor vehicles on site without the need to park on surrounding public roads.
- ✓ Operations at Kiln 6 complied with the traffic and transport consent conditions during the reporting periods.
- ✓ Boral Cement undertook a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. Boral Cement engaged a consultant to create these Plans on their behalf. Whilst the current Plans were overdue for review the process remained valid. The TMP, forms part of Berrima's Environmental Management Plans.

6.4A — **MOD 9 CONDITION INTRODUCED DURING 2016-2017**

Condition

As part of the updated OEMP required under condition 6.3A of this consent, the Applicant shall provide an updated Air Quality Management Plan prepared in consultation with the EPA. The updated plan shall be prepared by a suitably qualified and experienced person and shall:

a) verify whether the development is complying with the air quality criteria specified in the EPL, and identify the additional measures to be implemented to ensure compliance should any non-compliance be detected;
b) validate that the performance of the project reflects the assumptions, estimates and conclusions made in the Human Health Risk Assessment and Air Quality Impact Assessment submitted with MOD 9;
c) provide details of any complaints received relating to air quality generated by the development, and action taken to respond to those complaints;
d) include ambient monitoring of emissions from the development, including PM2.5 and PM10;
e) include stack emissions monitoring at Kiln 6, including for each pollutant considered and assessed as a part of the Human Health Risk Assessment and Air Quality Impact Assessment submitted with MOD 9. The pollutants shall include but not be restricted to individual VOCs, heavy metals, dioxins and PAHs;
f) include an ambient air monitoring program; and
g) include details of all proposed emission control measures.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition is not applicable in 2014-2016 reporting periods
- There were no Non-Standard Fuels used during the 2016-2017 reporting period. Updating Air Quality Management Plan to include all sub conditions in 6.4A was not required.

2014 – 2015	2015 – 2016	2016-2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ There were no Non-Standard Fuels used during the 2017 reporting period. Updating Air Quality Management Plan to include all sub-conditions in 6.4A were not applicable

Compliance Audit 2017		
Yes	No	NA
		✓

6.5

Condition

Within three years of the commencement of operation of the cement works upgrade, and at least every three years thereafter, the Applicant shall undertake a formal review of the Operation Environmental Management Plan (OEMP) required under condition 6.3 of this consent. The review shall ensure that the OEMP is up-to-date and all changes to procedures and practices since the previous review have been fully incorporated into the OEMP. The Applicant shall notify the Secretary, Council and the EPA of the completion of each review, and shall supply a copy of the updated OEMP to those parties on request. The Applicant shall also make any revised OEMP available for public inspection on request.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015

- Boral Cement Berrima completed a full review of the site Operational EMP and the associated specific EMPs (Water, Air, Noise, Waste, Dust and Traffic Management Plans) in September 2014. The Plans will be formally reviewed by the end of the next 3-year cycle or earlier if site operations significantly change.
- The documents are available for public inspection on request and are also uploaded on the Berrima internet page.
- However, due to an administrative error notification of DP&E, EPA and Council about the Environmental Management Plans update was delayed. This constituted a minor administrative noncompliance.
- This has been rectified immediately after its detection and Boral Cement Berrima has remained in compliance since.

2015 – 2016

- Boral Cement Berrima completed a full review of the site Operational EMP and the associated specific EMPs (Water, Air, Noise, Waste, Dust and Traffic Management Plans) in September 2015. The Plans will be formally reviewed by the end of the next 3-year cycle or earlier if site operations significantly change.
- The documents are available for public inspection on request and are also uploaded on the Berrima internet page.

2016 – 2017

- ➢ Boral Cement undertook a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. Boral Cement engaged a consultant to create these Plans on their behalf. Whilst the current Plans were overdue for review the process remained valid. The OEMP, forms part of Berrima's Environmental Management Plans

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, Boral Cement had undertaken a full review of their site OEMP and the associated specific EMPs (Water, Air, Noise, Waste, Dust and Traffic Management Plans.
- ✓ Newly revised Plans were issued in September 2014, within the expected 3 year cycle.
- ✓ Boral Cement undertook a full review of their Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. Boral Cement engaged a consultant to create these Plans on their behalf. Whilst the current Plans were overdue for review the process remained valid. The OEMP, forms part of Berrima's Environmental Management Plans

Compliance Audit 2017		
Yes	No	NA
✓		

6.6

Condition

Prior to the use of any Group 1 or Group 2 Non-Standard Fuels under this consent, the Applicant shall update the Operation Environmental Management Plan required under conditions 6.3 and 6.4 of this consent to reflect any modifications required at the development in light of the use of Non-Standard Fuels. Where the Applicant considers that the Operation Environmental Management Plan does not require any amendment then a clear justification of this must be provided. The Applicant shall not receive or use Non-Standard Fuels at the development until the Secretary has approved the amended Operation Environmental Management Plan. Updating of the Plan shall include, but not necessarily be limited to providing additional detailed measures to the Air Quality Management Plan to minimise the emissions of air pollutants (including toxic pollutants and dioxins) to ensure compliance with the process parameters specified in condition 3.24 of this consent and the air emissions limits specified in condition 3.10 of this consent.

Historical Compliance with Condition as per AEMRs 2014-2017

- An Alternative Fuels Management Plan to document all requirements of the Consent and License relating to the quality control, receipt and use of alternative fuels was developed in 2008 and provided to both the EPA and DPI in the same year. It has not been revised since, as the Non-Standard Fuels program was not implemented.
- There were no Non-Standard Fuels used during this reporting period.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ There were no Non-Standard Fuels used during the last 3 reporting periods.
- ✓ There were no Non-Standard Fuels used at the time of this audit.

Compliance Audit 2017		
Yes	No	NA
✓		

6.7

Condition

Prior to the receipt of any Group 1 Non-Standard Fuels at the development in accordance with this consent, the Applicant shall establish and implement quality control management procedures to ensure Group 1 Non-Standard Fuels delivered to the development comply with the fuel specifications. The procedures shall be prepared in consultation with the EPA and, be approved by the Secretary and shall, at the request of the Secretary, be updated to reflect the recommendations of the annual Non-Standard Fuels audit required under condition 4.6 of this consent. The procedures shall include:

a) assessment of the sampling and laboratory processes used by the Non-Standard Fuel suppliers with a view to ensure these processes are sufficient for the Applicant to meet the requirements of this consent;

b) carrying out of periodic, random parallel sampling of Non-Standard Fuels with analysis of substances to which limits have been applied in the fuel specifications; and

measures to ensure handling, processing and analysis of information provided by Non-Standard Fuel suppliers and that generated by the activities under b) is appropriately stored and managed.

Historical Compliance with Condition as per AEMRs 2014-2017

- There were no Non-Standard Fuels used or received during the 3 reporting periods.
- An Alternative Fuels Management Plan to document all requirements of the Consent and License relating to the quality control, receipt and use of alternative fuels was developed in 2008.
- Stringent quality control procedures for the supply and use of AKF1 were developed and detailed information on these improvements was provided to DPI in April 2008. However, the Non-Standard Fuels program had not re-commenced.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ There were no Non-Standard Fuels used during the last 3 reporting periods.
- ✓ There were no Non-Standard Fuels used at the time of this audit.
- ✓ Stringent quality control procedures for the supply and use of AKF1 were developed and detailed information on these improvements was provided to DPI in April 2008 – but the Non-Standard Fuels program has not re-commenced to date.

Compliance Audit 2017		
Yes	No	NA
✓		

6.8 **MOD 9 CONDITION INTRODUCED DURING 2016-2017**

Condition

Prior to the receipt of any Group 2 Non-Standard Fuels at the development in accordance with this consent, the Applicant shall adopt and implement the approved Quality Assurance and Control Procedure for Receipt and Use of Solid Waste Derived Fuels, dated 11 July 2016, prepared by the Applicant (Appendix 1 of this consent), to ensure Group 2 Non-Standard Fuels delivered to the development comply with the fuel specifications. The procedures shall, at the request of the Secretary, be updated to reflect the recommendations of the annual Non-Standard Fuels audit required under condition 4.6 of this consent and the First-Year Monitoring and Modelling Assessment Report required by condition 7.6 of this consent.

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition was not applicable in 2014-2016 reporting periods
- There were no Group 2 Non-Standard Fuels used during reporting period. Condition 6.8 was not applicable

2014 – 2015	2015 – 2016	2016-2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ There were no Group 2 Non-Standard Fuels used during the 2017 reporting period. Condition 6.8 was not applicable.

Compliance Audit 2017		
Yes	No	NA
		✓

7.	ENVIRONMENTAL REPORTING
7.1	**Incident Reporting- Requirement *DELETED as per MOD 9 5/10/2016***

Condition

The Applicant shall notify the EPA and the Director-General of any incident with actual or potential significant off-site impacts on people or the biophysical environment as soon as practicable after the occurrence of the incident. The Applicant shall provide written details of the incident to the EPA and the Director-General within seven days of the date on which the incident occurred.
Note: *Under condition 7.1 the Applicant must notify the EPA and the Director-General of the details of all technically unavoidable stoppages, disturbances, trips, or failures of the kiln or its pollution control or pollutant measurement equipment, during which the concentrations in the discharges of regulated substances into the air may have exceeded the prescribed emission limits.*

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 - 2015:

- During this reporting period there were no incidents with actual or potential significant off-site impacts on people or the biophysical environment.
- Pollution Incident Response Management Plan (PIRMP) was developed for the site in response to the requirements of the NSW's POELA Act 2011. The PIRMP was last updated in September 2014. An immediate notification procedure was implemented in September 2012. It is updated annually (last review August 2014).

2015 - 2016:

- During this reporting period there were no incidents with actual or potential significant off-site impacts on people or the biophysical environment.
- Pollution Incident Response Management Plan (PIRMP) was developed for the site in response to the requirements of the NSW's POELA Act 2011. The PIRMP was last updated in September 2015. An immediate notification procedure was implemented in September 2012. It is updated annually (last review August 2015).

2016 - 2017:

- Pollution Incident Notification (PIN) Standard Operating Procedure (SOP) was developed for the site in response to the requirements of the NSW's POELA Act 2011. The PIN SOP was last updated in March 2017 and is annually reviewed/updated.

Management Actions

- *Boral Cement will immediately notify by phone five compulsory government authorities, (EPA, NSW Fire & Rescue, Local Council, Public Health Unit, Workcover) of any future incidents causing or threatening material harm immediately upon becoming aware of the pollution incident, followed by written notification within 7 days.*
- *DP&E will be notified as soon as practicable, followed by written notification within 7 days.*

Compliance Audit Findings November 2017:

Compliance Audit 2017		
Yes	No	NA
		✓

- ✓ All Incidents continue to be captured in an online Incident Report Register called "SiteSafe".
- ✓ If an Incident has occurred, then a summary of incidents will be sent to the EPA, within the required timeframes for reporting.
- ✓ If an Incident has occurred, a Monthly summary of incidents would be forwarded to the DPE, the EPA as well as the Department of Health.
- ✓ If and when air quality levels exceed the required limits, Boral Cement have implemented protocols to ensure the Department of Health, EPA and CoPE are informed as soon as practicable
- ✓ At the time of this audit, there had not been any environmental incidents associated with Kiln 6.
- ✓ PIRMP and Immediate Notification SOP were reviewed as per annual schedule (September 2014).
- ✓ The PIN SOP was last updated in March 2017.

7.1	***This new condition replaces the previously deleted 7.1 above, INSERTED as per MOD 9 5/10/2016***

Condition

The Applicant shall notify the Secretary and any other relevant agencies of any incident or potential incident with actual or potential significant off-site impacts on people or the biophysical environment associated with the facility immediately after the Applicant becomes aware of the incident.

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015	2015 – 2016	2016 – 2017	
NA	NA	Yes	No
✓	✓	✓	

- This condition was not applicable in 2014-2016 reporting periods
- In 2016 – 2017, Pollution Incident Notification (PIN) Standard Operating Procedure (SOP) was developed for the site in response to the requirements of the NSW's POELA Act 2011. The PIN SOP was last updated in March 2017 and is annually reviewed & updated.

Management Actions

- *Boral Cement will immediately notify by phone five compulsory government authorities, (EPA, NSW Fire & Rescue, Local Council, Public Health Unit, WorkCover) of any future incidents causing or threatening material harm immediately upon becoming aware of the pollution incident, followed by written notification within 7 days.*
- *DP&E will be notified as soon as practicable, followed by written notification within 7 days.*

Compliance Audit Findings November 2017:

- ✓ All Incidents continue to be captured in an online Incident Report Register called "SiteSafe".
- ✓ If an Incident has occurred, then a summary of incidents will be sent to the EPA, within the required timeframes for reporting.
- ✓ If an Incident has occurred, a Monthly summary of incidents would be forwarded to the DPE, the EPA as well as the Department of Health.
- ✓ If and when air quality levels exceed the required limits, Boral Cement have implemented protocols to ensure the Department of Health, EPA and CoPE are informed as soon as practicable
- ✓ At the time of this audit, there had not been any environmental incidents associated with Kiln 6.
- ✓ PIRMP and Immediate Notification SOP were reviewed as per annual schedule (September 2014).
- ✓ The PIN SOP was last updated in March 2017.

Compliance Audit 2017		
Yes	No	NA
✓		

7.2 ***Requirement DELETED from MOD 9 5/10/2016***

Condition

The Applicant shall meet the requirements of the Secretary to address the cause or impact of any incident, as it relates to this consent, reported in accordance with condition 7.1, within such period as the Secretary may agree.

Note: *Condition 7.1 of this consent does not limit or preclude the EPA from requiring any action to address the cause or impact of any incident, in the context of the EPA's statutory role in relation to the cement works upgrade.*

Historical Compliance with Condition as per AEMRs 2014-2017

- During this reporting period there were no incidents with actual or potential significant off-site impacts on people or the biophysical environment.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- At the time of the 2017 Compliance Audit, there had been no incidents with actual or potential significant off-site impacts on people or the biophysical environment.

Compliance Audit 2017		
Yes	No	NA
✓		

7.1 ***This new condition replaces the previously deleted 7.2 above, INSERTED as per MOD 9 5/10/2016***

Condition

Within seven days of the date of this incident, the Proponent shall provide the Secretary and any relevant agencies with a detailed report on the incident

Historical Compliance with Condition as per AEMRs 2014-2017

- This condition was not applicable in 2014-2016 reporting periods
- In 2016 – 2017, Pollution Incident Notification (PIN) Standard Operating Procedure (SOP) was developed for the site in response to the requirements of the NSW's POELA Act 2011. The PIN SOP was last updated in March 2017 and is annually reviewed & updated.

2014 – 2015	2015 – 2016	2016 – 2017	
NA	NA	Yes	No
✓	✓	✓	

Management Actions

- *Boral Cement will immediately notify by phone five compulsory government authorities, (EPA, NSW Fire & Rescue, Local Council, Public Health Unit, WorkCover) of any future incidents causing or threatening material harm immediately upon becoming aware of the pollution incident, followed by written notification within 7 days.*
- *DP&E will be notified as soon as practicable, followed by written notification within 7 days.*

Compliance Audit Findings November 2017:

- ✓ All Incidents continue to be captured in an online Incident Report Register called "SiteSafe".
- ✓ If an Incident has occurred, then a summary of incidents will be sent to the EPA, within the required timeframes for reporting.
- ✓ If an Incident has occurred, a Monthly summary of incidents would be forwarded to the DPE, the EPA as well as the Department of Health.
- ✓ If and when air quality levels exceed the required limits, Boral Cement have implemented protocols to ensure the Department of Health, EPA and CoPE are informed as soon as practicable
- ✓ At the time of this audit, there had not been any environmental incidents associated with Kiln 6.
- ✓ PIRMP and Immediate Notification SOP were reviewed as per annual schedule (September 2014).

Compliance Audit 2017		
Yes	No	NA
✓		

7.2A

Condition

Prior to the commencement of the use of Non-Standard Fuels under this consent, the Applicant shall establish an agreed arrangement with the Sydney South West Public Health Unit to ensure that NSW Health is advised in a timely manner of the details of any incident with actual or potential significant off-site impacts on human health or amenity.

Historical Compliance with Condition as per AEMRs 2014-2017

- Conditions and procedures for reporting Non-Standard Fuel incidents were agreed with NSW Health and implemented in December 2006 prior to the commencement of the NSF program.
- As Non-Standard Fuels have not been used during this reporting period, notification of incidents to NSW Health in accordance with this protocol has not been required.
- This condition is now comprehensively covered by the NSW's POELA Act 2011 which requires immediate notification of all material environmental incidents to several Government Authorities including the local Public Health Unit.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, Conditions and procedures for reporting Non-Standard Fuel incidents were agreed with NSW Health and implemented in December 2006 prior to the commencement of the NSF program and remain unchanged. Non-Standard Fuels had not been used during this reporting period.
- ✓ It is understood that Notification of incidents to NSW Health in accordance with this protocol will not be required unless the Non-Standard Fuels program recommences.

Compliance Audit 2017		
Yes	No	NA
✓		

7.3 Annual Performance Reporting

Condition

The Applicant shall, throughout the life of the cement works upgrade, prepare and submit for the approval of the Secretary, an Annual Environmental Management Report (AEMR). The AEMR shall review the performance of the cement works upgrade against the Operation Environmental Management Plan (refer to condition 6.3 of this consent), the conditions of this consent and other licences and approvals relating to the cement works upgrade. The AEMR shall include, but not necessarily be limited to:

a) details of compliance with the conditions of this consent;
b) a copy of the Complaints Register (refer to condition 5.3 of this consent) for the preceding twelve month period (exclusive of personal details), and details of how these complaints were addressed and resolved;
c) a comparison of the environmental impacts and performance of the cement works upgrade against the environmental impacts and performance predicted in the SEE and the additional information listed under condition 1.2;
d) results of all environmental monitoring required under this consent and other approvals, including interpretations and discussion by a suitably qualified person;
e) a list of all occasions in the preceding twelve-month period when environmental performance goals for the cement works upgrade have not been achieved, indicating the reason for failure to meet the goals and the action taken to prevent recurrence of that type of incident;
f) identification of trends in monitoring data over the life of the cement works upgrade to date;
g) *a list of variations obtained to approvals applicable to the cement works upgrade and to the site during the preceding twelve-month period;*
h) *Environmental management targets and strategies for the following twelve-month period, taking into account identified trends in monitoring results.*

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

2014 – 2015:

a) Addressed throughout this AEMR.
b) Evidence verified in Attachment No 7.
c) Evidence verified in Attachment No 8.
d) Evidence verified in Attachments No 2, 3a-3b, 4, 5 and 6a-6d.
e) No exceedances were recorded.
f) Trend graph for dust deposition data was verified in Attachment No. 2. Trend graph of stack test data on NOx and Solid Particles was verified in Attachment No. 3a. Trend graph of stack test data on Cadmium, Mercury and Hazardous Substances verified in Attachment No. 3b. The full stack testing report for the reporting period was verified in Attachment No. 4. The continuous particulate emission trend graph noted in Attachment 5. Water quality data was presented in Attachments No. 6a, 6b,6c and 6d.

During reviews of the above data, the following conclusions were drawn from data analysis:

- There were no exceedances of the 12-month rolling average guideline value in the reporting period (see Attachment 2). Dust deposition trends since the beginning of 2011 indicate general compliance with the guideline. In the earlier years, an exceedance was observed at gauge 7 and at gauge 4. Both gauges were positioned inside the plant area and too close to the current operational activities. There were not reflecting the conditions at the site boundary or beyond it. Therefore Gauge 4 was discontinued and gauge 7 relocated to the boundary (see Attachment 1) with the EPA approval.
- Annual stack test monitoring demonstrates that NOx and TSP emissions continue to be below the emission limit since the Kiln 6 Upgrade was completed in 2004 (Attachment 3a).
- Annual stack test monitoring data also demonstrates that emissions of Cadmium, Mercury and Hazardous Substances continue to be well below the specified emission limits (Attachment 3b).
- Continuous particulate monitoring graph indicates that emissions trend well below the emission limit for Standard Fuels (Attachment 5).
- Water quality data confirm that water discharged from site has an alkaline pH and carries low levels of total suspended solids and metals. Oil & Grease and BOD remain below their respective detection levels, and salt levels are low (Attachment 6). These data are consistent with those used in the SEE to conclude that impacts on the Wingecarribee River would be negligible.

g) The site did not receive any modifications to its Planning Consents in the reporting period.
h) The primary environmental management targets & /strategies for the following reporting period were:

- Continue to work towards maintaining full compliance with the Consent;
- Further minimise the fugitive dust emissions generated from raw material and clinker stockpiles, unsealed areas and process leaks/upsets;
- Further reduce noise emissions by implementing noise attenuators and other measures where technically and economically feasible.
- Continue implementing processes and procedures to track operational and environmental trends.

2015 – 2016:

a) Addressed throughout this AEMR.
b) Verified in Attachment No 7.
c) Verified in Attachment No 8.
d) Verified in Attachments No 2, 3a-3b, 4, 5 and 6a-6d.
e) No exceedances were recorded.
f) Trend graph for dust deposition data is provided in Attachment No. 2. Trend graph of stack test data on NOx and Solid Particles verified in Attachment No. 3a. Trend graph of stack test data on Cadmium, Mercury and Hazardous Substances noted in Attachment No. 3b. The full stack testing report for the reporting period was included in Attachment No. 4. The continuous particulate emission trend graph was presented in Attachment 5. Water quality data was presented in Attachments No. 6a, 6b,6c and 6d.

The following conclusions were drawn from data analysis:

- There were no exceedances of the 12-month rolling average guideline value in the reporting period (see Attachment 2). Dust deposition trends since the beginning of 2011 indicate general compliance with the guideline. In the earlier years, an exceedance was observed at gauge 7 and at gauge 4. Both gauges were positioned inside the plant area and too close to the current operational activities. There were not reflecting the conditions at the site boundary or beyond it. Therefore Gauge 4 was discontinued and gauge 7 relocated to the boundary (see Attachment 1) with the EPA approval.
- Annual stack test monitoring demonstrates that NOx and TSP emissions continue to be below the emission limit since the Kiln 6 Upgrade was completed in 2004 (Attachment 3a).
- Annual stack test monitoring data also demonstrates that emissions of Cadmium, Mercury and Hazardous Substances continue to be well below the specified emission limits (Attachment 3b).
- Continuous particulate monitoring graph indicates that emissions trend well below the emission limit for Standard Fuels (Attachment 5).
- Water quality data confirm that water discharged from site has an alkaline pH and carries low levels of total suspended solids and metals. Oil & Grease and BOD remain below their respective detection levels, and salt levels are low (Attachment 6). These data are consistent with those used in the SEE to conclude that impacts on the Wingecarribee River would be negligible.

g) The site did not receive any modifications to its Planning Consents in the reporting period.
h) The primary environmental management targets & /strategies for the following reporting period are:

- To continue to work towards maintaining full compliance with the Consent;
- To further minimise the fugitive dust emissions generated from raw material and clinker stockpiles, unsealed areas and process leaks/upsets;
- To further reduce noise emissions by implementing noise attenuators and other measures where technically and economically feasible.
- To continue implementing processes and procedures to track operational and environmental trends.

2016 - 2017:

a) Addressed throughout this AEMR.
b) Verified in Attachment No E.
c) Verified in Attachment No 8.
d) Verified in Attachments No A, B, C, D
e) No exceedances were recorded.
f) Trends analysis is defined with the tables and response to conditions of AEMR.
g) The site received 1 modification to its Planning Consents in the reporting period eg. MOD 9 The use of up to 100,000 tpa of SWDF as a non-standard fuel for Kiln 6, including the construction of a fuel storage and kiln feeding system, and the deletion of conditions relating to MOD 6. Date approved: 5 October 2016.
h) The primary environmental management targets & /strategies for the following reporting period are:

- To continue to work towards maintaining full compliance with the Consent;
- To further minimise the fugitive dust emissions generated from raw material and clinker stockpiles, unsealed areas and process leaks/upsets;
- To further reduce noise emissions by implementing noise attenuators and other measures where technically and economically feasible.
- To continue implementing processes and procedures to track operational and environmental trends

Management Actions

– *Boral Cement Berrima will strive to implement the environmental management objectives and strategies detailed above.*

Compliance Audit Findings November 2017:

✓ The AEMR's for the last 3 reporting periods had included documented evidence to validate requirements 7.3 a-h were being met
✓ Boral Cement demonstrated their commitment to implement the environmental management targets and strategies detailed above, via their Lean Strategy Deployment Matrix.

Compliance Audit 2017		
Yes	No	NA
✓		

7.3A

Condition

In each Annual Environmental Management Report submitted after the First Year Monitoring and Modelling Assessment Report required in accordance with condition 7.6 has been submitted, the Applicant shall include the details of the use of all Non-Standard Fuels at the development, including, but not necessarily limited to:

a) the nature, quantity and quality of Non-Standard Fuels used at the development;
b) details of any fuels that did not meet the Fuel Specification, including the source of the fuels and how the rejected fuels were managed or disposed of;
c) *a review of the results of the Non-Standard Fuels Tracking Program and the Non-Standard Fuels Quality Control Management procedures; and*
d) *the results of all monitoring undertaken in accordance the requirements of this consent and an assessment of these monitoring results, including comparison of stack emissions against the concentration limits set in condition 3.10.*

Historical Compliance with Condition as per AEMRs 2014-2017

- As the Non-Standard Fuels program had not yet been properly implemented, the First Year Monitoring and Modelling Assessment Report had not been submitted and consequently this condition has not yet been triggered.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

✓ As the Non-Standard Fuels program had not yet been properly implemented, the First Year Monitoring and Modelling Assessment Report had not been submitted and consequently this condition was not yet in force at the time of this compliance audit.

Compliance Audit 2017		
Yes	No	NA
		✓

7.4

Condition

The Applicant shall submit a copy of the AEMR to the Secretary, the EPA and Council every year, with

a) *the first AEMR to be submitted within twelve months of commencement of operation of the cement works upgrade; and*
b) *the second and subsequent AEMRs to be submitted concurrently with the EPA's Annual Return.*

Historical Compliance with Condition as per AEMRs 2014-2017

2014 – 2015:

- The Annual Return for the EPL 1698 for the period of 1 May 2014 to 30 April 2015 was due by 30 June 2015 and was submitted to EPA before the due date.
- This AEMR relates to the annual reporting period from 1 May 2014 to 30 April 2015 and is being submitted before its 30 June 2015 deadline, concurrently with the EPA Return.

2015 – 2016:

2014 – 2015:

- The Annual Return for the EPL 1698 for the period of 1 May 2015 to 30 April 2016 was due by 30 June 2015 and was submitted to EPA before the due date.
- This AEMR relates to the annual reporting period from 1 May 2014 to 30 April 2015 and is being submitted before its 30 June 2015 deadline, concurrently with the EPA Return.

2016 – 2017:

- The updated the AEMRs for the development consents for Kiln 6 and Mill 7 were submitted on 30 August 2016 (Updated AEMR report included: incorporates the noise monitoring results, key monitoring points and omitted personal details from complaints register).
- The last three yearly independent audit was conducted by an independent auditor (Somerset Risk Management) in November 2014. The report was submitted to DP&E.
- Annual Return was submitted.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

✓ Boral Cement Ltd have submitted 3 annual AEMR's to the Director General, with a copy to the EPA and Wingecarribee Council, for the following reporting periods; 1/05/14 – 30/04/15, 1/05/15 – 30/04/16, 1/05/16 – 30/04/17.

✓ All Boral's external reporting obligations have been met on time or approved extended time, including the Annual Return to EPA and the AEMR to DPE.

Compliance Audit 2017		
Yes	No	NA
✓		

7.5

Condition

The Secretary may require the Applicant to address certain matters in relation to the environmental performance of the cement works upgrade, in response to review of the Annual Environmental Report and any comments received from the EPA and/or Council. Any action required to be undertaken shall be completed within such period as the Secretary may agree.

***Note**: The AEMR does not aim to satisfy any requirement of the EPA with regard to any Annual Return required under any licence issued for the cement works upgrade under the Protection of the Environment Operations Act 1997.*

Historical Compliance with Condition as per AEMRs 2014-2017

- Boral Cement Berrima will address any actions required by the Director General after review of the AEMR.
- There were no requests during this reporting period in relation to earlier submissions.

2014 – 2015		2015 – 2016		2016 – 2017	
Yes	No	Yes	No	Yes	No
✓		✓		✓	

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, there were no other requests submitted to Boral in relation to this Condition for Kiln 6.
- ✓

Compliance Audit 2017		
Yes	No	NA
✓		

7.6 Non-Standard Fuels First-Year Assessment Report

Condition

One year after the commencement of the use of Non-Standard Fuels in accordance with this consent, the Applicant shall prepare a First-Year Monitoring and Modelling Assessment Report. The Report shall be submitted to the Secretary, the NSW Department of Health and the EPA not more than 15 months after the commencement of the use of Non-Standard Fuels in accordance with this consent, and shall:

a) detail the nature, quantity and quality of Non-Standard Fuels used at the development;

b) assess the results of the Continuous Emissions Monitoring, the Ambient Air Quality Monitoring Program and the Process Monitoring requirements under conditions 4.1, 4.1B and 4.1C of this consent against the relevant emission limits and process parameters prescribed by this consent and within the context of the predictions made in the documents listed under condition 1.2 i) of this consent;

c) assess the results of the Non-Standard Fuels Tracking Program including detailed description and assessment of any trends identified through the Program;

d) assess the adequacy of the Non-Standard Fuels Quality Control Management Procedures required under condition 6.7; and

based on this assessment, review the necessity for continuing or modifying any of the emissions monitoring, reporting or pollutant tracking requirements of this consent.

Historical Compliance with Condition as per AEMRs 2014-2017

- On 31 January 2008 DPI suspended this Condition until such time as the Non-Standard Fuels program is reinstated. The program has not yet been reinstated.
- Boral Cement Berrima has not used Non-Standard Fuels during this licensing period.
- Boral Cement Berrima will prepare a First Year Monitoring and Modelling Assessment Report within 15 months of recommencement of the use of Non-Standard Fuels, in accordance with this condition.

2014 – 2015	2015 – 2016	2016 – 2017
NA	NA	NA
✓	✓	✓

Compliance Audit Findings November 2017:

- ✓ At the time of this audit, Boral Cement Berrima was not using non-standard fuels.
- ✓ Boral Cement Berrima will prepare a First Year Monitoring and Modelling Assessment Report within 15 months of recommencement of the use of Non-Standard Fuels, in accordance with this condition

Compliance Audit 2017		
Yes	No	NA
		✓

Part 2 A- Statement of Environmental Effects (SEE)
Cement Mill 7 & Kiln 6

(Pages 91 – 95)

Part 2 A - Statement of Environmental Effects (SEE)
Cement Mill 7 & Kiln 6

Part 2A of this audit report provides a summary of the Significant Environmental Effects and the operational controls implemented by Boral Cement Ltd to address the Director Generals' requirements. Commitments and predictions arising from the Kiln 6 and Cement Mill 7 Project's – "Statement of Environmental Effects", were prepared by Olsen Consulting Group in November 2002 and April 2005 respectively.

During the 3 Reporting periods an assessment of predicted environmental impacts versus actual environmental impacts for the Kiln 6 upgrade was collated and submitted as an Attachment within the AEMR for 14/15, *15/16 and 16/17.

In most instances the predicted environmental impacts were close to the actual or better. *Examples verified include;*

- ✓ *In 2003 (pre-upgrade) 206,138 tonnes of coal and coal fines was used to produce 1,147,988 tonnes of clinker– equating to 0.18kg of coal per kg of clinker produced (rather than 0.16 as claimed in the SEE). In 2014/2015 licence year 214,956 tonnes of coal was used to produce 1,380,919 tonnes of clinker – equating to 0.156 kg of coal per kg of clinker produced. This is a 13.3% reduction of specific coal consumption – from 0.18kg – better than the percentage predicted in the SEE.*

- ✓ *The current coal used has a higher calorific value that the coal sourced from Medway Mine. As a result, the coal used per tonne of clinker has reduced from 0.18 tonnes to 0.15 tonnes.*

However, the following summary lists examples where the Predictions were exceeded in each License Year.

Actual Events that exceeded the Predictions During 2014-2015

- ✘ 9 overflow events (total of 65 days), *Average – 3.4 events per year (6.1 days per event).* The actual impact is marginally higher than the predicted impact due to the weather cycle changing to wet in the recent years. The reporting year was particularly wet for the region.

- ✘ Based on 2003 production figures, the 2014/2015 coal use data are nearly 9,000 tonnes higher than the pre-upgrade consumption but with the clinker output over 200,000 tonnes higher.

- ✘ Kiln-related electricity consumption was 87.7M kWh so the electrical efficiency was 63.1 kWh/tonne of clinker. Based on a production of 1.375 Mt of clinker (as for the base case), Kiln 6 would have consumed approximately 87.3 million kWh (reduction of 5M kWh). The upgrade therefore did not result in a reduction of electricity consumption at the scale predicted in the SEE. Kiln 6 continues to perform at a lower electrical efficiency than predicted in the SEE (unless the base efficiency calculated for Kiln 6 prior to the upgrade was erroneous).

Actual Events that exceeded the Predictions During *2015-2016

- ✘ 4 overflow events (total 28 days), *Average – 3.4 events per year (6.2 days per event),* The actual impact is marginally higher than the predicted impact due to the weather cycle changing to wet in the recent years. The reporting year was particularly wet for the region.

*It is important to note the Actual figures reported in the SEE for 2015-2016 AEMR related to 2014-2015 License Year and could not be reported accurately in this Report.

Actual Events that exceeded the Predictions During *2015-2016

- ✘ 8 overflow events (total 69 days), *Average – 5.6 events per year (4.9 days per event),* The actual impact is marginally higher than the predicted impact due to the weather cycle changing to wet in the recent years. The reporting year was particularly wet for the region.

Compliance	Yes	No
1. Air emissions: regarding changes to the emissions of air pollutants, particularly particulates.	✓	
2. Noise impacts: including that from the proposed mill and that generated by heavy vehicle movements.	✓	
3. Transport impacts and traffic generation: especially a description of increases in heavy vehicle and rail movements, and any modification to truck routes.	✓	
4. Potential hazards and risks associated with the Project. .	✓	
5. Water cycle management: including water supply and disposal, and storm water management.	✓	
6. Waste management issues.	✓	
7. Soil and groundwater impacts: in particular consideration of the potential for the subject land to be contaminated.	✓	
8. Visual impacts with respect to potential impacts on private residences and publicly accessible places.	✓	
9. Socio-economic impacts on the locality and region.	✓	
10. The SEE must describe the proposed development and its environmental impacts in the context of the existing development.	✓	
11. The SEE must indicate how the environmental performance of the proposal would be monitored and managed during construction and operation.	✓	
12. The applicant must consult with the Wingecarribee Shire Council, the EPA (DEC) and any other relevant local, State and Commonwealth government authorities, service providers and community groups, and take into account any comments these agencies may have in the preparation of the SEE.	✓	
13. If the proposal contains any actions that may have significant impact on matters of National Environmental Significance, then it may require additional approvals under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.	✓	
14. The SEE must assess the proposal against the provisions of any relevant environmental planning instruments, particularly the following statutory instruments: State Environmental Planning Policy No.33 Hazardous and Offensive Development. State Environmental Planning Policy No. 55 Remediation of Land. Wingecarribee Local Environmental Plan 1989.	✓	
15. The SEE must assess the proposal against provisions of any development control plans or draft development control plans that have been prepared by Wingecarribee Shire Council.	✓	
16. The SEE must outline the strategic planning objectives applicable to the proposed development. As part of this consideration, the SEE should provide an indication of the process at the existing development and how the proposed development forms part of any strategic direction.	✓	
17. Details of any new or modified utilities required by the proposal must be outlined, including the results of any consultations with relevant utility providers in relation to the provision of these utilities.	✓	
18. The SEE must discuss the proposed development in the context of the existing development, detailing clearly where environmental impacts are substantially the same as the impacts from the existing development, and where there are increased or new impacts due to the proposed development.	✓	
19. Impacts of construction activities on air quality, particularly dust emissions, should be detailed with appropriate mitigation measures identified.	✓	
20. A full air quality impact assessment must be included in the SEE, including dispersion modelling where appropriate, to meet the requirements of the EPA (detailed in Approved Methods and Guidance for the modelling and Assessment of Air Pollutants in New South Wales).	✓	
21. The SEE must include a full assessment of the impact of greenhouse gases emitted from the proposed development, and include measures to minimise the quantity of these gases associated with the development.	✓	
22. Measures such as building design and ventilation systems should be detailed in the context of minimisation of fugitive emissions from the proposed development.	✓	
23. 24. Details of air pollution control equipment must be provided, including how the equipment operates, how it will be managed and maintained and expected pollution control efficiencies of the proposed equipment.	✓	
24. An outline of air quality monitoring for the proposed development, including pollutants and parameters that should be monitored, monitoring locations, methods and frequencies.	✓	
25. The SEE must clearly evaluate traffic noise impacts associated with the proposed development, with reference to existing traffic noise levels and the likely increase in those noise levels as a result of construction and operation traffic. Assessment of traffic noise must make specific reference to the guidance provided in Environmental Criteria for Road Traffic Noise (EPA 1999).	✓	
26. An assessment of the noise impacts from the proposed development must be undertaken in accordance with the EPA's Industrial Noise Policy with details of noise emissions from equipment and noise attenuation devises.	✓	

Compliance	Yes	No
27. Consideration of cumulative noise impacts of the proposed development combined with those associated with the existing development must be provided in the SEE .	✓	
28. A traffic study must be included as part of the SEE, including details of expected traffic movements to and from the proposed development site, with specific consideration regarding cumulative impacts of the total development with reference to: Traffic generation (road and rail) during construction and operation of the development, especially compared to the existing traffic movements, site access points, hours of traffic movement and proposed traffic routes (particularly measures to avoid residential areas and sensitive land uses where relevant). The types of road transport to be employed, with comment on the use of B-Doubles and rail movements. Proposed routes for any dangerous goods transport (a Route Evaluation Study may be required as detailed in the Department's publications Applying SEPP 33 and draft Route Selection. The capability of proposed routes (including road and intersection capacity) to handle predicted traffic movements associated with the proposal. Any road upgrades that may be required should be noted with a summary of consultations with RTA and Council (where relevant) in relation to those upgrades.	✓	
29. Comment must be made in relation to shift times for the proposed development with a consideration of cumulative employee traffic impacts that may generate significant employee vehicle movements.	✓	
30. Consideration of sensitive road users (school buses, cyclists etc.) should be provided, where relevant. Where routes are to be shared between these sensitive users and traffic associated with the proposal, details of measures to minimise road use conflicts must be included in the SEE.	✓	
31. A preliminary risk screening must be completed in accordance with Applying SEPP 33 with a clear indication of class, quantity and location of all dangerous goods to be located on the proposed development site, with special emphasis to determine how the proposed development will modify the risk landscape at the site.	✓	
32. Should preliminary screening indicate that the proposed development is "potentially hazardous" a Preliminary Hazard Analysis (PHA) must be prepared for inclusion in the SEE as required under SEPP 33. The PHA should be prepared in accordance with the Department's publications Hazardous Industry Planning Advisory Paper No 6 Guidelines for Hazard Analysis (DUAP 1997) and Multi-Level Risk Assessment (DUAP 1997).	✓	
33. Risk impacts associated with the transport of dangerous goods and hazardous materials should be documented with reference to the Department's draft Route Selection guidelines.	✓	
34. The SEE must describe the existing use of water at the Cement Works and any requirement for the use of water at the proposed development. This should include details of the supply of that water, and any access rights of licenses that are held by the Applicant and that may be required.	✓	
35. The SEE must describe any modifications required to the stormwater management systems with a demonstration that those modifications can accommodate likely storm events (justification should be provided for the design capacity of those systems).	✓	
36. The SEE must describe the modifications to the site's water cycle and its management, including water supply, measures to re-use water within the process and any proposal to apply water to land or discharge water to natural waterways. The SEE must clearly demonstrate a design process aimed at minimising water discharges from the site.	✓	
37. Should additional release of water from the site be required, the SEE must provide a clear assessment of the potential volumes and qualities of these waters, including full details of any on-site treatment required before discharge.	✓	
38. Construction waste must be considered, including quantities, qualities and treatment/disposal.	✓	
39. The increase in annual rates of production of all waste streams from the proposed development must be provided. Proposed methods of treatment and/or disposal of these waste streams must be clearly indicated.	✓	
40. Wastes not to be reused or recycled must be classified in accordance with the EPA's Environmental Guidelines Assessment Classification & Management of Liquid/Non-Liquid Wastes.	✓	
41. Details of waste management at the proposed development should clearly reflect the waste hierarchy of "waste avoidance – resource recovery – waste disposal".	✓	
42. The SEE must identify the potential for the proposed site to be contaminated as a result of past industrial activities, in accordance with State Environmental Planning Policy No 55 – Remediation of Land. Should contamination be detected above relevant thresholds, then the SEE must describe how that contamination would be managed and remediated.	✓	
43. The SEE must clearly demonstrate the visual impact of all components of the proposal, from sensitive receiver locations, particularly existing and future private residences and transport routes including any proposed management measures to be adopted to limit visual effect.	✓	
44. The SEE must describe social and economic impacts from the proposed development, including direct local impacts and regional impacts. Identification of relevant community groups and details of measures employed to ensure these groups were consulted during the preparation of the SEE.	✓	
45. Identification of relevant community groups and details of measures employed to ensure these groups were consulted during the preparation of the SEE.	✓	

Compliance	Yes	No
46. The SEE must detail the results of consultations with Wingecarribee Shire Council to establish the impacts of the proposed development on public infrastructure and services.	✓	
47. The Applicant shall consult with the community that is likely to be affected by the proposal. A report on who was consulted must be submitted with the DA, describing: How the affected community was identified. Consultation methods utilised. Key issues raised by the community How these issues have been addressed during the preparation of the SEE.	✓	
48. The SEE must include the framework for a Construction Environmental Management Plan (CEMP) to be implemented on the site during site preparation and construction works. The CEMP must provide environmental policies and management measures to be applied during preparation and construction. The CEMP must focus on soil erosion and sedimentation, construction noise, construction traffic and construction waste management where relevant.	✓	
49. The SEE must include the framework for an Operational Environmental Management Plan (OEMP) to be implemented on the site during operation. The OEMP must provide environmental policies and management measures to be applied during operation. The OEMP must focus on air quality, noise emissions, waste management and on-going monitoring programs in these areas where relevant.	✓	
50. As part of the preparation of the SEE you must provide, in a single, clear comprehensive list or table, all commitments made in relation to environmental impact mitigation, management and monitoring. The clear statement must include: What measures will be implemented/applied. The scope of these measures. The timing of implementation/application of these measures.	✓	
51. As part of the preparation of the SEE, the Applicant must provide, in a single, clear and comprehensive list or table, the location within the SEE (page Number/s) where each of the Director General's requirements is discussed and addressed.	✓	
52. Should the Applicant decide not to address any of these requirements within the SEE, then a comprehensive discussion must be provided to justify not addressing that requirement.	✓	
53. The Applicant shall nominate a contact person (and telephone number) who will be made available to answer public enquiries about the proposal.	✓	
54. The Applicant shall provide a disk containing an electronic copy of the Executive Summary to the SEE in an appropriate format as well as providing electronic copies of the SEE on CD in an appropriate format.	✓	

Part 2B- Environmental Protection License 1698
Cement Mill 7 & Kiln 6
Summary

(Pages 97 – 100)

Part 2B- Environmental Protection License 1698
Cement Mill 7 & Kiln 6
Summary

Part 2B of this audit report provides a summary of the Environmental Protection License Requirements 1698, and the operational controls implemented by Boral Cement Ltd to address the Protection of the Environment Operations Act 1997.
Boral Cement were required to apply for a licensing schedule to conduct their Cement Mill 7 and Kiln 6 activities, to maintain compliance with the Protection of the Environment Operations Act 1997 (POEO). This licensing schedule is based upon the potential for environmental impact.

At the time of this audit, all mandatory licenses, permits and approvals for the Berrima Cement Works, were current.
The Environment Protection License (EPL) No.1698 Revision 23/12/2016 was in place for the site with reporting through to the Environment Protection Authority (EPA).

Boral took on-going actions to improve environmental management and compliance at the Berrima Works, including:

- Working to improve dust and noise management on site;
- Continuing community engagement; and
- Liaising with NSW Environmental Protection Authority (EPA) and Department of Planning and Infrastructure (DPI) to proactively identify and address upcoming issues, monitor compliance, and work cooperatively to ensure that EPA and DPI requirements are understood and delivered.
- During the reporting period, there were no known non-compliances raised against Kiln 6.
- The Tri-Annual Environmental Audit was conducted in November 2017 by Somerset Risk Management. The auditor noted in her report Part 3, that *"Boral Cement continues to maintain environmental compliance, demonstrating their commitment to continually improve their EMS at the Berrima site. Six Improvement Requests were identified in this Report that require attention.*

On the 20th September 2012, the Boral Cement blast furnace slag alternative raw material exemption 2012 commenced and was valid up until 20th September 2016, unless revoked or amended by the EPA in writing at an earlier date.

The site's Complaint Register for the 2014-2017 Reporting periods, continued to be well maintained. Reports provided details of complaint date and time; the means by which the complaint was made; incident details; action taken, status of actions and the complainants name and address.

- ✓ Noise and dust complaints are forwarded to EPA in the Annual Returns and the Department of Planning and Environment (DP&E) in the Annual Environmental Management Reports.
- ✓ Boral Cement continues to investigate strategies to actively reduce its dust and noise impacts on the local community.
- ✓ Reductions in dust complaints may be influenced by the following strategies:
  - Reduce the number of Kiln ESP trips,
  - Improve fugitive dust reduction procedures and
  - Learn from previous deficiencies.
- ✓ Dust complaints may also arise as a result of short-lived elevated dust emissions from the kiln stack during an electrostatic precipitator trip or by fugitive dust from general plant operations such as loading/unloading operations, material handling, and blockage cleaning which, if combined with a southerly wind would blow the dust towards New Berrima. These observations were again validated during the 2017 compliance audit.

Since the 2008 Kiln 6 Compliance Audit, Boral Cement Ltd have submitted a further 6 annual AEMR's to the Director General, with a copy to the EPA and Wingecarribee Council, for the following reporting periods; 1/5/14 – 30/4/15, 1/5/15 – 30/4/16 and 1/5/16- 30/4/17.

All Boral's external reporting obligations have been met on time or approved extended time, including the annual report to EPA and the AEMR to DP&E.

Since the 2014 CM7 Compliance Audit, Boral Cement Ltd has not received any requests from the DP&E to send additional information for the AEMR. No other requests had been submitted to Boral for Kiln 6.

Boral Cement continues to maintain regular communications with EPA and DP&E to preempt and address potential issues, monitor compliance, and work cooperatively to ensure that EPA and DP&E requirements are understood and delivered in an efficient and timely manner.

Cement Mill 7 & Kiln 6 Compliance Summary			
		Yes	No
1 License Details		✓	
2 Discharges to air and water and applications to land		✓	
3 Limit Conditions			
L1	Pollution of waters	✓	
L2	Load limits	✓	
L3	Concentration limits	✓	
L4	Volume and Mass Limits	✓	
L5	Waste	✓	
L6	Noise Limits	✓	
4 Operating Conditions			
O1	Activities must be carried out in a competent manner	✓	
O2	Maintenance of plant and equipment	✓	
O3	Dust	✓	
O4	Waste Management	✓	
O5	Other Operating Conditions – O5.1 reinstatement of non-standard fuel use.	✓	
5 Monitoring and Recording Conditions			
M1	Monitoring and recording conditions	✓	
M2	Requirement to monitor concentration of pollutants discharged	✓	
M3	Testing methods - concentration limits	✓	
M4	Testing methods - load limits	✓	
M5	Recording of pollution complaints	✓	
M6	Telephone complaints line	✓	
M7	Other monitoring & recording Conditions	✓	
6 Reporting Conditions			
R1	Annual return documents	✓	

Cement Mill 7 & Kiln 6 Compliance Summary			
		Yes	No
R2	Notification of environmental harm	✓	
R3	Written report	✓	
7 General Conditions			
G1	Copy of licence kept at the premises or plant	✓	
G1	Other general conditions	✓	
8 Pollution Studies and Reduction Programs			
PRP 4	Analysis of CEMS Data	✓	
PRP 5	NOx Reduction Investigation	✓	
PRP 7	Project Specific Noise Limits	✓	
PRP 9	Landscape & Rehabilitation Works; Stages 1, 2 and Stage 3	✓	
9 Special Conditions			
E1	Resource Recovery Investigation – BOS Secondary Fines in Kiln No 6	✓	
E2	Ambient Quality Monitoring Program	✓	
E3	Coal Washery Reject Air Emissions Assessment Reporting (RRE 28/6/2012)	✓	

Part 3
EMS Compliance Reporting against Boral's Internal EMS & the ISO 14001:2004 Standard

(Pages 102 – 108)

EMS Compliance Reporting against Boral's internal EMS & the ISO 14001:2004 Standard

MANAGEMENT COMMITMENT

Boral's HSE Leadership Team continue to demonstrate their commitment to their Environment and Safety Management systems through active participation in independent internal compliance auditing, provision of required resources such as engagement of new Environmental Manager, communication and reporting their system's performance as well as ensuring all outcomes are communicated to their Staff, Contractors and Regulators such as the DPE and EPA.

Compliance Audit 2017	
Yes	No
✓	

ENVIRONMENTAL POLICY

Boral's EMS Policy endorsed by their CEO & MD in November 2016, remains committed to:

Compliance Audit 2017	
Yes	No
✓	

- ✓ Complying with environmental legislation, regulations, standards and codes of practice relevant to the particular business as the absolute minimum requirement in each of the communities in which we operate.
- ✓ Reducing greenhouse gas emissions from our processes, operations and facilities, including appropriate use of alternative fuels and/or carbon offsets.
- ✓ Eliminating waste in all its forms, by
  - efficient use of energy
  - conservation of water
  - minimisation and recycling of waste production materials and energy
  - prevention of pollution and effective use of virgin and recovered resources and supplemental materials.

PROCEDURES REQUIRED BY THE STANDARD

Boral Cement provided the Auditor with the following documented evidence;

Compliance Audit 2017	
Yes	No
✓	

- ✓ Environmental Policy
- ✓ Construction EMP; Berrima Solid Waste Derived Fuels Project K6 Upgrade MOD 9 (DA 401-11-2002) September 2017
- ✓ Environmental Aspects and Impacts Register dated October 2017, with annual revision due in Oct 2018.
- ✓ Legal & Other Requirements Register,
- ✓ Objectives, Targets and Plans; Environmental Permit Planner 2017-2018
- ✓ Management Review records verified for 2014-2015 and 2016-2017 (2015-2016 no Minutes available)
- ✓ Training & Competency requirements
- ✓ Nonconformity, Corrective & Preventive Actions
- ✓ EMS Documents and Records & evidence of Records Management
- ✓ Internal Audit Schedule; Environmental Permit Planner Berrima Cement Works - Licence Year 2017 – 2018.
- ✓ Communication and Reporting
- ✓ Document & Data Control
- ✓ Emergency Preparedness & Response

ESTABLISHMENT & MONITORING OF ENVIRONMENTAL OBJECTIVES & TARGETS

The following Environmental Objectives and Targets have been well defined within the **Boral Cement Environmental Strategy that includes meaningful metrics, accountabilities and mechanisms on how to monitor attainment of goals.**

Compliance Audit 2017	
Yes	No
✓	

Objective
Achieve best class in environmental performance.
Targets: Less than 2 community complaints to EPA pa
Stack particulate emissions <30mg/m3
Performance. Zero complaints to the EPA from the public in the LY

The following Actions were assigned during the Annual 2016-2017 Management Review discussions

- ➢ Management continue to focus on dust management.
- ➢ Alternate fuels project construction due to start in 2018.
- ➢ Maintain CEMP compliance

EMS Compliance Reporting against Boral's internal EMS & the ISO 14001:2004 Standard

DOCUMENTATION & CONTROL OF DOCUMENTS & RECORDS MANAGEMENT

Compliance Audit 2017	
Yes	No
✓	

- ✓ Senior Management remains committed to reviewing and updating their EMS documentation every 3 years to ensure their methodology accurately reflects Boral Cement's operational activities. However, Senior Management updated their site-wide Operation Environmental Management Plan; CMT-ENV-002 V4; Sept 2014, to ensure the previous 2011 version underwent a review for the end of 3-year cycle.
- ✓ At the time of this Audit, Boral Cement was undertaking a full review of the following Environmental Management Plans for Berrima Cement Works in the context of the Alternate Fuels Project. The Project needed an Operational Environmental Management Plan before it 'went live'. Boral Cement engaged a consultant to create this on their behalf. Whilst the current documents were overdue for November 2017 review, the process remained valid for the 2016-2017 AEMR.
  - 1708 BERR Cement E&C Plan SWDF Implementation Project DRAFT (EXTERNAL) v1.0
  - CMT-ENV-001 Berrima Dust Management Plan Rev 1.
  - CMT-ENV-002 Berrima Operation Environmental Management Plan_Rev4,
  - CMT-ENV-003 Berrima Air Quality Management Plan_Rev4
  - CMT-ENV-004 Berrima Noise Management Plan_Rev7
  - CMT-ENV-005 Berrima Water Management Plan_Rev3
  - CMT-ENV-006 Berrima Waste Management Plan_Rev4
  - 2017 0807 - Berrima Cement Works Traffic Management Plan Version 1.0 (New Revised at the time of the 2017 Audit.

COMPETENCE, AWARENESS & TRAINING

Compliance Audit 2017	
Yes	No
✓	

Environmental compliance training for site employees, where the conditions of this Consent and other regulatory documents for the Site are communicated, is on-going

- Environmental issues and environmental compliance are reviewed at daily Site Lean/Management Meetings, weekly/monthly Health & Safety Meetings, and Monthly Management Meetings
- Management conducts Lean/5S/HSE site inspections to identify any issues regarding resource efficiency, environment and safety concerns
- Due to a major company restructure, both induction and compliance packages were revised/updated in FY 2014 - 15 and Refresher Training undertaken.
- The site induction includes Environmental Awareness Training whereby all Operators and Contractors undergo a Site Induction before commencement of work and undergo additional Refresher Training every 2 years. Records of Environmental Training were verified for the following Operators:
  - K Turner on 1/2/2016 (1896_001)
  - I Thorpe on 24/10/2014 (1897_001)
  - M Todd on 30/10/2014 (1898_001)
  - B Dickson on 6/11/2014 (1899_001)
  - S Loiterton on 21/12/2016 (1900_001)
  - D Shanahan on 2/5/2016 (1901_001)
  - J Cergovski on 3/1/2017 (1902_001)
- The Transport Code of Conduct addressed the management of traffic during the site operations, and specifically the requirements of the Development Consent conditions. It addressed both heavy and passenger vehicles. All employees and contractors were made aware that responsible driving is a condition of employment at the Berrima site.
- Driver codes outline the driving behavior expected of all Workers (employees and contractors). Driver Code of Conduct is included in Induction Training. Refresher Training is provided, and regular audits are conducted.
- Drivers are continually evaluated for compliance against these codes during workplace observations

EMS Compliance Reporting against Boral's internal EMS & the ISO 14001:2004 Standard

NONCONFORMITY – CORRECTIVE & PREVENTATIVE. ACTIONS

Compliance Audit 2017	
Yes	No
✓	

Reporting Environmental Incidents and near-misses were verified on site during the 2016-2017 Reporting periods.

Incident List Report - Berrima Cement Works 1/5/2016 - 30/4/2017

Incident No.	Incident Date	Person Type	Incident Type
16 29343	08 07 2016	Public	Environment
16 29355	09 07 2016	Public	Environment
16 29363	16 07 2016	Public	Environment
16 29371	20 07 2016	Public	Environment
16 32236	03 08 2016	Public	Hazard, Environment
16 32247	05 08 2016	Public	Hazard, Environment
16 40749	17 09 2016	Public	Environment
16 43554	09 10 2016	Public	Environment
16 54003	30 11 2016	Public	Environment
17 5968	11 02 2017	Public	Environment
17 9147	19 02 2017	Public	Environment
17 9129	26 02 2017	Public	Environment
17 12097	07 03 2017	Public	Environment
17 16453	07 03 2017	Public	Environment
17 17797	07 03 2017	Public	Environment
17 21345	16 04 2017	Public	Environment

Incident Report 15-24305 dated 21/7/2015 identified K6 experienced a meal flush, having the potential to release dust from the process, wind conditions were light from the north, nor easterly direction at a speed between 6-10km/hr. Immediate actions were taken by shutting down K6 whilst undertaking root causal analysis and implementing suitable corrective actions in accordance with investigation repair strategies. However, it would appear the Incident was closed out on 14/9/2015 before the Action assigned to the HSE Adviser for the Cement Berrima Office had been completed.

Improvement Request 1

- × Ensure Incident Reports remain open until all key stakeholders have completed their corrective actions and ongoing monitoring is undertaken to verify that all corrective/preventative actions were effective to prevent further re-occurrences.

LEGAL & OTHER REQUIREMENTS

The Compliance Audit of Cement Mill 7 and Kiln 6, was completed in November 2017, by Senior Lead Environmental Auditor Ms Olga Lihou (Exemplar Global Certification No 15061), with former approval given by Ms Felicity Greenway from the Department of Planning in 2006. All requirements and operational controls, defined in the Conditions of Consent CM7 and of Kiln 6, were audited.

The following strategies assist Workers to keep up to date with any changes to Environmental and WHS Legislation.

Compliance Audit 2017	
Yes	No
✓	

- ✓ Boral Cement subscribes to the web-based legislation updates via Safework NSW as well as Workplace Safety Australia's website https://www.worksafe.com.au
- ✓ Weekly Safety Alerts and Environmental Alerts are emailed periodically to nominated recipients and further disseminated to relevant personnel.
- ✓ The Workplace Safety Australia subscription provides all Workers with access to a broad range of environmental law information via the NSW Safework website http://www.safework.nsw.gov.au
- ✓ Workers have access to Australian Standards via the Intranet as well as direct access to Acts, Regulations and Guidelines via:
  - The Australasian Legal Information Institute at https://www.austlii.edu.au
  - Office of Environment & Heritage at http://www.environment.nsw.gov.au/
  - Environment Protection Authority NSW at https://www.service.nsw.gov.au/nswgovdirectory/environment-protection-authority-epa-nsw
- ✓ Boral Cement makes available to the public all their monitoring results undertaken under their license.

Improvement Request 2

- × Ensure Register is revised when changes occur and communicated to all Workforce and key Stakeholders. (The Auditor observed the Legal Register had not been updated with recent changes to the Environment)

EMS Compliance Reporting against Boral's internal EMS & the ISO 14001:2004 Standard

ENVIRONMENTAL ASPECTS

The Aspects and Impacts Register CMT-ENV-002 defined each significant aspect of the facility operations, ensuring the most Significant Aspects for the site were directly linked with the current legislation. Any changes to the work activities that could impact on the Environment, requires the SOP CEM-ENV-003 Environmental Aspects and Impacts be updated. Last review of Aspects Register undertaken 10 April 2016.

Compliance Audit 2017	
Yes	No
✓	

ENVIRONMENTAL COMMUNICATION & REPORTING

Compliance Audit 2017	
Yes	No
✓	

- ✓ Each reporting period commences the 1st May each year up until the 30th April the following year.
- ✓ The Auditor assessed and validated 6 completed AEMR reports - 3 for Cement Mill 7 and 3 for Kiln 6.
- ✓ Stakeholder Identification & Engagement Channel Schedule Aug 2017- June 2018 for the Solid Waste Derived Fuels (SWDF) Implementation Project.
- ✓ The Environmental License - Annual Return for Reporting period was determined to be current.
- ✓ Internal communication strategies remain well developed and include; Audit Reports, emails, safety/environmental alerts and monthly environmental reports.
- ✓ Senior Management is committed to attending regular Boral Berrima Community Meetings as an effective tool for consulting on stakeholder issues, Minutes were verified for Meetings conducted on the 11/9/14, 29/7/15, 10/11/2016 and 27th July 2017.

OPERATIONAL CONTROLS

A site Tour of CM7 and Kiln 6 was undertaken on 22nd November, 2017. End to end processes were assessed that included evaluating the following activities:

Compliance Audit 2017	
Yes	No
✓	

Environmental monitoring programs, Environmental KPI Performance Reporting, Noise Reduction strategies including installation of doors and windows on openings in the noisy buildings, change of noisy bearings, installing noise silencers on blasters and selected fans. Progress of site environmental improvement activities such as dust minimisation, spillage reduction: quarry road sealed, wheel wash installed as well as the Re-vegetation PRP in the Licence have finalised the planting of additional seedlings since the last Triennial Audit conducted in 2014.

Generally good level of compliance with Operational Controls in the following areas:

- ✓ Environmental Inductions of various Workforces were appropriate to the site conditions.
- ✓ Staff demonstrated excellent understanding of their Environmental system processes during audit interviews.
- ✓ Spill kits and other Emergency equipment were fully stocked and ready for use in the event of accidental spillage.
- ✓ Emergency Contact Information was available and Emergency Drill had been tested during April 2017

Improvement Request 3

The following Deficiencies require Attention;

- × Potential for Worker's exposure to silica quartz in CM7 Building
- × L7 – Concrete mound/hump – potential for Workers to trip
- × Clinker Gallery on top of A Frame – door left open allowing continual dust to escape, especially when SE or southerly wind impacts onto village.
- × S7U Silos – small amounts of dust leakage from Building.
- × High points are a problem –dust escaping from the cooling air vents.
- × Clinker Mole door left open instead of closed
- × Build-up of product on floors requires cleaning to prevent dust escaping.

EMERGENCY PREPAREDNESS & RESPONSE – ENVIRONMENT.

Compliance Audit 2017	
Yes	No
✓	

- ✓ The Berrima Pollution Incident Response Management Plan_Rev3 (CMT-ENV-015), forms a part of the overall Boral Emergency Response Plan that describes evacuation procedures and arrangements for the safe evacuation of personnel in the event of the following emergencies such as cement spills, dust or hot material discharge, LPG incidents, gas explosion, fire and smoke, traffic incidents, liquid spills, and bomb threat. The PIRIMP is tested and implemented in accordance with the Act and the POEO (G) Regulation and was last reviewed in September 2014.
- ✓ Management conducted their Emergency Response Drill in April 2017 to ensure they maintain compliance with Section 4.4.7. of the ISO 14001:2004 Standard.
- ✓ Wormald recently completed their Annual Assessment Report No 3863772 for the Essential Fire Safety Measures at Taylor Avenue New Berrima on 7th August, 2017. Numerous Priority 1 & 2 Findings were raised that required immediate action.

Improvement Request 4

- × Ensure all Issues identified as Priority 1 and Priority 2 in Section 3 of the Essential Fire Safety Measure Assessment Report No 3863772, are actioned immediately to avoid Council &/or Fire and Rescue NSW finding the signatory guilty of an offence under the Regulations by not taking action.

EMS Compliance Reporting against Boral's internal EMS & the ISO 14001:2004 Standard

MONITORING AND MEASUREMENT

Management have implemented suitable strategies for monitoring and measuring their significant environmental impacts, to demonstrate the effectiveness of their operational controls.

Compliance Audit 2017	
Yes	No
✓	

Monitoring Programs for Dust, Stack Emissions and Noise

- ✓ Dust monitoring programs are clearly defined via the site's Air Quality Management Plan and Dust Management Plan.
- ✓ Management engage the Services of ALS Laboratories who are NATA Registered for sample collection and gauge servicing in coarse dust monitoring. Coarse dust monitoring results were sighted for the past 3 years. All Test Reports sighted had been approved and authorised by a registered NATA-Signatory. The majority of results indicate compliance with the guideline limits.
- ✓ Boral Cement Berrima maintains a Dust Deposition Monitoring Program, currently consisting of seven dust deposition gauges located around the perimeter of the site. The current number and location of gauges were approved by the EPA in December 2012. Samples are collected from each gauge on a monthly basis to assess compliance against the dust deposition guidelines detailed in the Approved Methods and Guidance for Analysis for the Modelling and Assessment of Air Pollutants in NSW (DEC, 2005). As there is no emission limit specified in the Licence, the EPA dust deposition guideline of 4g/m2 /month (expressed as a 12-month rolling average) has been adopted for the Site.
- ✓ Continuous monitoring of TSP and PM10 in ambient air is being undertaken on a voluntary basis.
- ✓ Environmental Consultancy Services (ECS Stack Pty Ltd), undertook annual stack testing during 2015 and 2016 using calibrated testing equipment and all reports sighted, confirmed analytical testing reports had been approved by a NATA-registered Signatory.
- ✓ Stack emission monitoring for Kiln 6 & CM 7 for standard fuels was conducted by Ektimo during July and August 2016-2017 in accordance with the sampling methods specified under EPL 1698. The report demonstrated compliance with the emission limits for standard fuels for all monitoring parameters.
- ✓ The Noise Management Plan was last reviewed and updated in September 2014. Management have taken significant steps to minimise the noise from the plant. Several measures were introduced including installation of doors and windows on openings in the noisy buildings, change of noisy bearings, etc. Further engineering measures included the replacement of kiln cooler fans with quieter types.
- ✓ The noise sources at Kiln 6 produced more noise in 2016 than they did in 2005 but overall remain below the objective sound pressure levels. Measures are recommended to further reduce noise, such as closing inspection hatches when not in use. Sound power levels near Mill 7 varied compared to those from previous years with a number of exceedances attributed to noise contributions from adjacent plant and noise levels from Mill 7 and were below contribution criteria.
- ✓ Noise Monitoring programs were undertaken by Hatch Engineering during the 3-year period commencing May 2015, 2016 and ending April 2017. Operations at Kiln 6 and Mill 7 complied with the noise contribution consent conditions during the reporting period.
- ✓ Annual Noise monitoring was undertaken by a new external provider Recognition Research Pty Ltd during September – October 2017. A DRAFT copy of their Annual Environmental Noise Assessment Report for September - October 2017 was released on 30th November, 2017.

EVALUATION OF COMPLIANCE

Management demonstrated their various strategies for evaluating compliance with Legal and Other Requirements via their annual AEMR Reports sighted for each License Year for 2015, 2016 and 2017.

Compliance Audit 2017	
Yes	No
✓	

EMS Compliance Reporting against Boral's internal EMS & the ISO 14001:2004 Standard

INTERNAL AUDITING

Management have designed a comprehensive Audit Tool/Schedule; Environmental Permit Planner Berrima Cement Works - Licence Year 2017 - 2018 as part of their business-wide audit program which outlines all aspects of Environmental inspection, internal / external auditing, frequency of audits based on Risk and identity of Auditor

Compliance Audit 2017	
Yes	No
✓	

	Inspections and Audits																													
General	Internal Environmental Audit/Self Assessment	Annually	HSE Advisor							■																				Aug-2016
General	External Audit of Planning Consents	Every three years	Cement Environmenal Manager																											Sep-2018
General	Monthly Site Inspection	Monthly	As per Lean/5S/HSE Inspection Plan					■		■		■		■		■		■		■		■		■		■		■		Monthly
Land, Water	Spill kit inspections	Quarterly	HSE Advisor	■						■						■						■								Quarterly
General	Arrange for PIRMP Test	Annually	HSE Advisor																			■								Annually
General	Conduct Emergency Drills and PIRMP Testing	Annually	HSE Advisor																					■						Mar-2017

Internal Procedure SOP No. CEM-LSE-8 explains how the Environmental Audits are to be undertaken and is readily available via the Boral intranet website.

However, the independent Assessor from SRM observed the following deficiencies within the Internal Audit processes;

- × Annual Environmental Internal Audit/Self-Assessment undertaken by the Boral Senior HSE Team failed to audit each element of the ISO 14001:2004 Standard in accordance with S4.5.5.
- × A Workplace Safety, Lean & Environmental Site inspection of the Kiln Firing Floor, was conducted on 27/10/16 that had identified numerous corrective actions relating to lack of instructions relating to Energy Saving, locked cupboards restricting access, problems with emergency alarm systems, missing tools on shadow board. However, these particular deficiencies were not actioned on Worksheet CEM-24-A03.

Improvement Request 5

- × Ensure all Follow-up Actions raised during HSE Inspections are effectively actioned.
- × Ensure each element of the ISO 14001:2004 Standard is to be audited by Senior HSE Auditors during 3 year planned intervals.

MANAGEMENT REVIEW

Management Reviews were being conducted at annual intervals in accordance with Internal Procedures. Records of Environmental Management reviews were sighted for 14th April 2015 and 26th April 2017.

Compliance Audit 2017	
Yes	No
✓	

However, the Management Review planned for April 2016 had not been undertaken as scheduled. **Refer IR 6**

The following **Input/Output** Items had been discussed during 2 of the 3 Reporting periods

- ✓ Environmental Policy;
- ✓ Performance against defined SHE Objectives, Targets
- ✓ Performance against Environmental Monitoring,
- ✓ Review of legal obligations, risks, external reporting scopes and timelines
- ✓ Incidents, Hazard & Risk
- ✓ Audit Findings
- ✓ Compliance results of legal compliance audits, hygiene tests, regulator inspections, licence conditions, customer requirements
- ✓ Process & Product Process performance and product conformity (e.g. OEE, error rates, test results)
- ✓ Action Management Status and of corrective and preventative actions
- ✓ Anticipated Changes Any changes that may affect the system (e.g. legislative change, licensing, customer demand
- ✓ Improvement Any recommendations for improvement from interested parties such as Training and Induction improvement by combining environmental training with the 2 yearly induction requirements

Improvement Request 6

- × Ensure Management Reviews are conducted in accordance with annual planned intervals to avoid non-conformances being raised.