



Boral Cement Limited

Berrima Works

Operation Environmental Management Plan

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2	7 October 2008	Grant Williams	Update to include requirements of Boral Cement corporate procedure, include NSF requirements.
3	September 2011	Alex Wnorowski	Global revision and formatting change
4	September 2014	Michael Curley	3-yearly review
5	March 2018	Michael Curley	Update to include new requirements from Modification 9 development consent
6	April 2020	Greg Johnson	Update to outcomes of MOD 9 POPT, MOD 11 (Use of HiCal 50), MOD 12 (Isotainer and whole of site noise limit)
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1 INTRODUCTION

1.1 Purpose and objectives

Boral Cement Limited (Boral Cement) operates an integrated clinker and cement manufacturing operation at the Berrima Cement Works (the Works). The objective of this OEMP is to establish a framework for environmental management in accordance with the development consents and to meet the requirements of Boral Cement's Health, Safety, Environment and Quality (HSEQ) management system.

Boral Cement is committed to operating the plant and equipment in a manner consistent with today's environmental and safety standards and in accordance with the conditions specified in:

- Development Approval (DA) for the Upgrade of Kiln 6 (DA No. 401-11-2002-i);
- DA for Cement Mill 7 (DA No. 85-4-2005-i);
- consolidated DA for modifications 1 to 15 to DA No. 401-11-2002-i (Appendix 1);
- Environment Protection Licence (EPL) No. 1698 (Appendix 2); and
- the requirements of the NSW *Protection of the Environment Operations Act 1997* (POEO Act) and NSW *Protection of the Environment Legislation Amendment Act 2011* (POELA Act).

The MOD 15 to DA No. 401-11-2002-i is the most recent approval that relates to the works being granted.

The MOD 9 consent approval applies to the Works and was granted in October 2016. MOD 9 was for use of solid waste derived fuel (SWDF) as an energy source; changes to the air emission limits of particulate matter, nitrous oxides and volatile organic compounds; and construction and operation of a fuel storage and kiln feeding system.

This OEMP was subsequently revised in April 2020 to meet the requirements of conditions relating to the continual use of SWDF after the POPT and consent changes related to MOD 11 (Use of HiCal50) and MOD 12 (Isotainer and Whole of Site Noise Limits).

A further revision has been undertaken in May 2023 with the Approval of Modification 13 (for the construction and operation of a chloride bypass system and the use of woodchips as a standard fuel) and 15 (construction and operation of AKF5 storage and feed infrastructure).

Boral Cement is committed to ensuring that all employees and contractors who perform work on any site for which it is responsible, carry out the work to high standards for health, safety and the environment. To achieve this, Boral Cement will ensure all personnel are aware of the conditions applying to the operations, the responsibilities of all personnel in ensuring compliance, the management plans for ensuring compliance, together with auditing and reporting requirements to verify compliance with the conditions.

1.2 Description of the Works

Boral Cement uses a dry process in the manufacture of clinker which is a continuous process day and night. The cement manufacture process is shown in Figure 1.

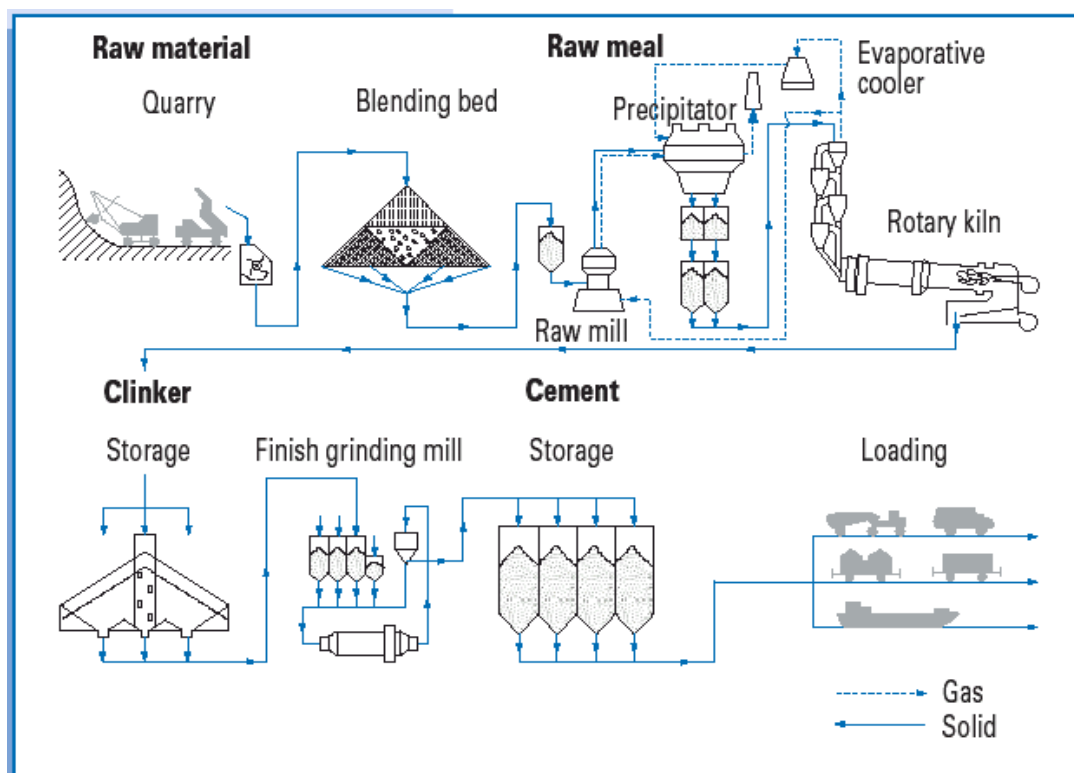


Figure 1 Manufacturing process diagram

The sequence of operations at the Works is described in Table 1, including the air emission potential and water consumption.

Table 1 Sequence of operations at the Works

Operation	Description	Potential for Emissions	Water consumption
Unloading of limestone	Limestone/limestone-yellow shale mixture from Marulan Limestone Mine is transported to the Works by rail. The limestone is unloaded and taken by conveyor belt to the preblend heaps. The conveying system is enclosed and the transfer points are fitted with dust collection systems.	Minor fugitive dust emissions	Water is not used in this operation
Quarrying	Blue shale is excavated using a bulldozer.	Minor fugitive dust	Water is used for the suppression

BERRIMA WORKS
OPERATION ENVIRONMENTAL MANAGEMENT PLAN



		emissions	of fugitive dust emissions
Additive raw material delivery, storage and transfer	The additive materials such as blue shale, yellow shale, iron source materials, slags, reclaimed cement fibreboard and gypsum for cement production are delivered to the works by road. They are stockpiled on site in open stockpiles and/or on the Shale Pad. The various materials are transferred to the Shale Pad or Shale Crusher by road transport and/or front-end loaders. The Shale Pad area is bunded and covered. The area is swept to remove spilt material.	Significant fugitive dust emissions	Water is used for the suppression of fugitive dust emissions
Coal and HiCal 50 delivery and storage	Raw coal is delivered by road and unloaded through a hopper for transfer to the raw coal blending system. When coal shed is full, excess coal is stored in an open stockpile. The raw coal is wet and the transfer system and coal blending is enclosed. HiCal 50 is stored on the shale pad, bunded and tarped.	Very minor fugitive dust emissions	Water is used for the suppression of fugitive dust emissions
Additive raw material crushing	The additive materials, blue shale, yellow shale, iron source materials are crushed in the Shale Crusher and transferred to the Proportioning Bins. The crusher is fitted with a dust collection system and conveying system is enclosed and the transfer points are fitted with dust collection systems.	Minor fugitive dust emissions	Water is not used in this operation
Preblending	The limestone from rail deliveries is laid down in a series of windrows on the preblend heap. These windrows form layers that help to reduce the effect of any variations in the limestone quality. One heap is being built while the other is being reclaimed. The operation is contained in a building.	None	Water is not used in this operation
Reclaiming	The preblend heaps are reclaimed	None	Water is not



	by the reclaimer. The reclaimer scrapes limestone from the face of the heap across all the layers laid down during the build of the heap. This further reduces any effects of variation in limestone quality. The operation is contained in a building.		used in this operation
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The SWDF subject to MOD 9 and Mod 13 is received at a storage shed where it is blended prior to use. The blended material will be transferred and weighed via a conveyor to control the fuel dosage to the calciner. Another conveyor will move the material to the pre-heater tower to be discharged via a chute into the twin shaft screw conveyor.

The operation process for AKF5 subject to Mod 15 (AKF-5 tyre chips), differs to that for Mod 9 and 13 SWDF and is as follows. ..

- AKF-5 tyre chips will be delivered directly from licensed producers typically using tippers with or without walking floor conveyors to unload directly into a set of external ground bins or the unloading docking station;
- initially and when the AKF-5 tyre chips are required to be stored, this will occur in two (2) rows of three (3) external bunkers, six (6) in total. The rows of bunkers are spaced 18m apart. The bunkers will be 4m x 5m wide and up to 3.7m high, each spaced 2m apart as per Fire and Rescue NSW (FRNSW) Guidelines.
- The bunkers will be constructed using concrete blocks. Each bunker will be limited to the storage of 12.5t, with external site storage capacity of 75t to ensure acceptable compliance with the FRNSW Guidelines and distances to buildings, boundaries and combustible materials.
- A Front End Loader (FEL) will be used to push up material to ensure the AKF-5 tyre chips are stored, where reasonably practicable, within the toe of the storage bunkers.
- The FEL will feed the AKF-5 tyre chips into the hopper / docking station
- Once the dual docking station is operational, AKF-5 tyre chips will be primarily delivered in walking floor trucks and discharged directly into the unloading docking station, where the AKF-5 tyre chips will primarily remain on the delivery truck and be unloaded as required.
- The walking floor trucks would stay several hours while material is slowly fed into the docking station hopper for direct usage in the plant at up to 4.5t per hour. Should there be an unscheduled plant stoppage and the docking station hoppers are full, the tyre chips will be temporarily stored in the external ground bunkers.
- The AKF-5 tyre chips will be fed from the docking station, by an open conveyor onto the existing SWDF conveyor CO75.

The operations subject to MOD 13 and 15 are permitted to operate 24 hours per day, seven days a week.

1.2.1 Non-Standard Fuels



Boral is currently approved to use Group 1 non-standard fuels; AKF5 (used and unwanted tyres), HiCal 50 (spend aluminium electrode) and AKF1 (liquid oily residues comprising of recovered oil from the treatment of wash waters, oils, dewatered sludges and grease trap emulsions) and Group 2 non-standard fuels SWDF (Solid waste derived fuel including wood waste and refuse derived fuel).

The consent, as modified, only permits the use of the standard and non-standard fuels outlined in Condition 1.4A Table 1. The consent does not approve the establishment of a protocol for general use of Non-standard Fuels other than those permitted.

Table 1 – Permitted Fuels for use in upgraded Kiln 6

Fuel	Category	Tonnes per annum	
Natural Gas, Fuel Oil, Diesel	Standard Fuel	No limits	
Coal	Standard Fuel	No Limit	
Coke Fines	Standard Fuel	No Limit	
Hi Cal 50	Non-Standard Fuel	10,000	
AKF1	Non-Standard Fuel	20,000	
AKF5	Non-Standard Fuel	30,000	≤100,000 combined
Wood Waste	Non-Standard Fuel	50,000	
RDF	Non-Standard Fuel	80,000	
Woodchips	Standard Fuel	50,000	

The use of AKF-5 requires a detailed specification and quality control / assurance protocol. This has been developed and approved by both the EPA and DPE. The specification is included as Appendix 13. Auditing of the requirements of the specification and the suppliers is outlined in the Speciation as well as section 7.2.3.

Along with annual tonnage limits per annum, there are also restriction on use during Kiln start-up and feed rates. These consent and licence restrictions are outlined in Appendix 4 CMT-ENV-003 Berrima Air Quality Management Plan.

1.3 Location and surrounding landuse

The facility is located south of New Berrima in the Southern Highlands of NSW in the Wingecarribee LGA (**Figure 1**). Access is via Taylor Avenue, which connects the facility with the Hume Highway, approximately 2.5km to the west.

The facility is located on Boral owned land, which comprises approximately 135 ha. The area to the south east of the Cement Works between New Berrima and Moss Vale is part of the Moss Vale Enterprise Corridor (MVEC) set aside for employment generating development under the *Wingecarribee Local Environmental Plan 2010* (Wingecarribee LEP).

The closest residential zone to the works site is located in New Berrima, approximately 650m north of the No 6 kiln stack at the closest points. Residential zones are also located in New Berrima, approximately 2,150m

north of the No. 6 kiln stack. New Berrima residential area is flanked to the south and east by “Private Recreation” areas.

The site is situated within the Wingecarribe LGA and is zoned Heavy Industrial (IN3). The land to the immediate east and south is zoned General Industrial (IN1).

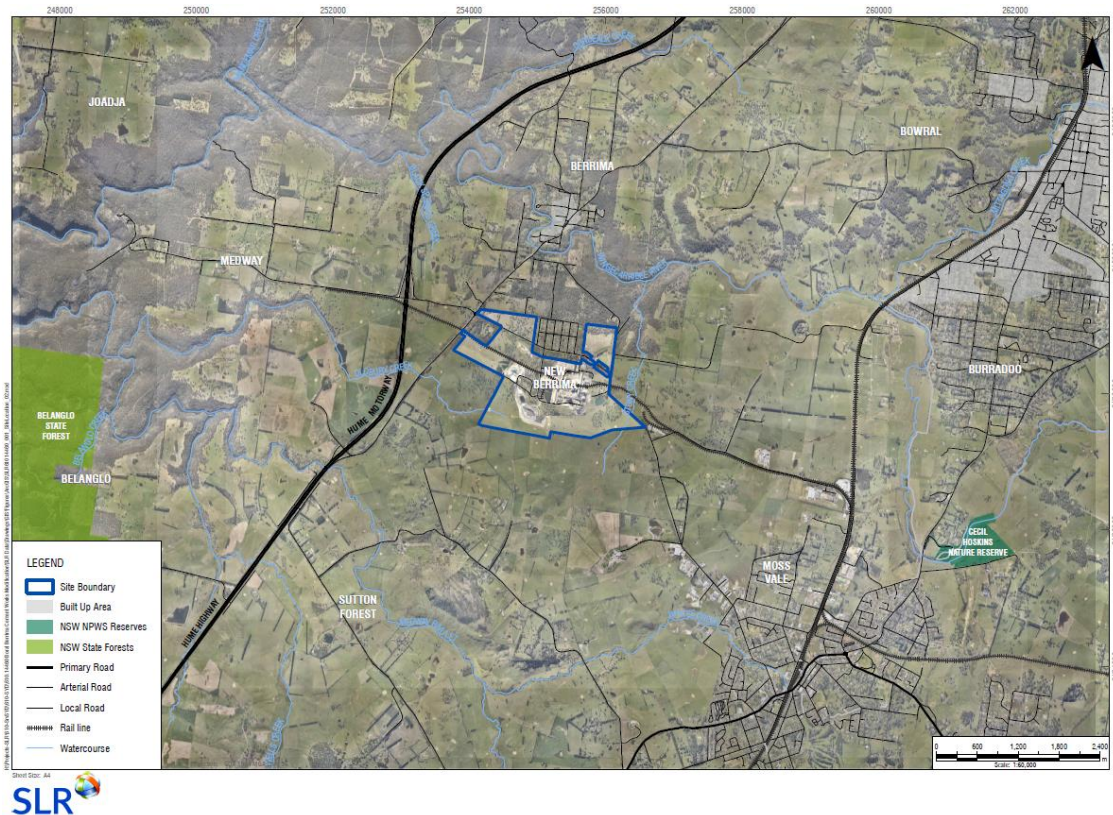


Figure 1: Site Location Regional Context

1.4 Availability of OEMP

The Site Operations Manager is responsible for distribution of the OEMP to relevant personnel. Copies of the OEMP are issued on version finalisation to the personnel in Table 2. A copy of the OEMP is available in the site office and on the Boral Berrima Cement website (<https://www.boral.com.au/locations/boral-cement-works-berrima>).

Table 2 Availability of OEMP

Position	Issue date
Site Operations Manager	As per footer
Production Manager	As per footer
Technical Manager	As per footer



Maintenance Manager	As per footer
Environmental Sustainability Manager/ Environmental Business Partner	As per footer
Team leaders / Front Line Supervisors	As per footer

1.5 Definitions

Terms used in this OEMP are described in Table 3.

Table 3 Definitions

DA	Development Approval - a consent issued by the Department of Planning and Environment, detailing site-specific construction and operational conditions that Boral Cement must comply with
DPE	NSW Department of Planning, and Environment
EMS	Environmental Management System
EPL	The site-specific Environment Protection Licence (No 1698) issued and managed by the NSW Environment Protection Authority
EPA	NSW Environment Protection Authority
OEMP	Operation Environmental Management Plan



2 REGULATORY REQUIREMENTS

2.1 Development consent

The requirements for the OEMP are stated under conditions 6.3, 6.3A, 6.3B, 6.4 (noise management plan, air quality management plan, emergency plan, safety management system, water supply strategy, and transport code of conduct), 6.4A (air quality management plan), 6.4B, 6.4C, 6.5 and 6.6 of the MOD 15 consent.

Information required for inclusion in the OEMP is listed in Table 4.

Table 4 OEMP requirements

Condition	Detail	Section
6 Environmental management		
Operational environmental management plan		
6.3	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:	This Plan
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;	2.1, 2.2, 2.3
b	a description of the roles and responsibilities for all relevant employees involved in the operation of the cement works upgrade;	4
c	overall environmental policies and principles to be applied to the operation of the cement works upgrade;	3
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;	Air quality management plan, dust management plan, water management plan, waste management plan, noise management plan, Section 7
e	management policies to ensure that environmental performance goals are met and to comply with the conditions of this consent; and	3
f	the Management Plans listed under condition 6.4 of this consent.	Appendices to this Plan
6.3A	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;	Appendix 4
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;	Appendix 3
c	the environmental monitoring requirements outlined in the EPL and under conditions 4.1A, 4.1B and 4.1C of this consent; and	Appendices 4 and 11
d	an updated Air Quality Management Plan, as required by condition 6.4A of this consent.	Appendix 4
	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.	Section 1.2.1 & Appendix 4
6.3B	Prior to the use of isotainers on the site, the applicant must update the OEMP required by condition 6.3 of this consent and include:	
a	A Code of Practice for operators of the isotainer reach stacker to reduce L _{Amax} noise events	Within Appendix 6
b	Noise monitoring and management requirements specified in conditions 3.3 to 3.6 of the consent.	Appendix 6
6.4	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.	Appendix 6
b	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.	Appendix 4
c	An Emergency Plan for the cement works upgrade.	Appendix 7
d	A Safety Management System, covering all operations at the cement works upgrade and associated transport activities involving any hazardous materials.	Intranet
e	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.	Appendix 11
f	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.	Appendix 9
6.4A	As part of the updated OEMP required under condition	Appendix 4



	6.3A of this consent, the Applicant shall provide an updated Air Quality Management Plan prepared in consultation with the EPA.	
6.4B	Prior to the commencement of operation of the permanent AKF5 storage and feed infrastructure approved under MOD 15 to this consent, the Applicant must review and update the OEMP to the satisfaction of the Planning Secretary. The must include a review and update of the following sub-plans:	
a	Water Management Plan;	Appendix 11
b	Emergency Plan; and	Appendix 7
c	Pollution Incident Response Management Plan.	Appendix 8
6.4C	The updated OEMP required by condition 6.4B must include:	
a	all operational requirements for the receipt, storage and handling of AKF5;	1.2
b	details of the water management measures in the AKF5 storage area, including a description of how this area will be drained and connected to the existing stormwater management system;	Appendix 11 section 8
c	details of how the fire water catchment bund adjacent to the AKF5 storage area will be managed during a storm event and following a fire incident;	Appendix 11 Section 8
d	the quality assurance / quality control measures for AKF5, including the approved AKF5 fuel specification and details of how non-conforming waste will be managed; and	Appendix 13
e	an Emergency Services Information Package prepared in accordance with the Fire and Rescue NSW Fire Safety Guideline - Emergency services information package and tactical fire plans.	Appendix 12
6.5	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.	7.3
6.6	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	This Plan



	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 EPL.	
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2.2 Environment protection license

The Works are scheduled premises under the POEO Act and are licensed for cement or lime works, energy recovery, extractive industries, resource recovery and waste storage under EPL 1698. This document is amended if necessary after modifications to the development consents and the most recent version can be found on the EPA's public register at <http://www.epa.nsw.gov.au/prpoeoapp/>. A hard copy of the EPL is kept in the site office.

The EPL provides environmental management, monitoring and reporting criteria, including specific controls for air quality, water, waste and noise.

2.3 Relevant legislation

For the current list of Federal and State regulations relevant to this OEMP refer to Boral Group HSEQ Standard GRP-HSEQ-1-04 Legal and Other Requirements.

3 STRATEGIC FRAMEWORK FOR ENVIRONMENTAL MANAGEMENT

3.1 Statutory requirements

The Work's environmental performance criteria are defined in the consolidated consent and EPL 1698. All environmental monitoring and management will be carried out in accordance with the requirements of the consent and the EPL.

3.2 Boral HSEQ management system

Boral has adopted a standardised approach to documenting its Health and Safety, Environment and Quality Management System (HSEQ MS) to ensure best practice in its core operating activities is in place and measured.

Boral has a HSEQ MS to:

- assist company employees and contractors to identify and understand their responsibilities in meeting their HSEQ obligations;
- provide the primary requirements for implementation of a common HSEQ MS;
- establish the implementation guidelines that sit between relevant legislative, regulatory and Industry standard requirements, and the businesses functional and/or line of business operating procedures; and
- provide a single point of reference for company compliance to Australian standards, and to various accreditation bodies.

A full description of the Boral HSEQ can be found in GRP-HSEQ-1-01 Management System Framework and Operational Control. Boral is committed to the protection and minimisation of impact upon the environment and the communities in which it operates. In order to achieve this, Boral's activities will be guided according to its Environmental Policy. The procedure; GRP-HSEQ-1-02 HSEQ Policy discusses in detail the development and review of HSEQ Policies.

Boral Group level objective requirements can be found in GRP-HSEQ-1-05 Objective Targets and Improvement Plans procedure. Environmental objectives are communicated to persons working under Boral control who have the ability to influence the achievement of environmental compliance on site.

The environment elements within the HSEQ define the minimum standard required for environment management and provide operational controls required to manage environmental risk. The elements are discussed in the following HSEQ documents:

- GRP-HSEQ-8-02 Water Management;
- GRP-HSEQ-8-03 Land Management;
- GRP-HSEQ-8-04 Waste Management;
- GRP-HSEQ-8-05 Noise Management; and
- GRP-HSEQ-8-06 Air Management.

3.3 Hazards and risks

3.3.1 Hazard identification and risk management

The Boral HSEQ MS procedure GRP-HSEQ-1-03, Hazard Identification and Risk Management outlines the risk management protocol and framework for management of risk within Boral. The risk assessment process for the environment for a site is captured within the site specific 'Aspects and Impacts Register'.

3.3.2 Environmental aspects and impacts

Risk management applies to every decision that could affect the environmental objectives and outcomes of the site, from the construction method selected to the treatment of issues.

An aspects and impacts register (CMT-ENV-010 Berrima Cement Works Aspects and Impacts Register) has been developed for the site in accordance with Boral's GRP-HSEQ-8-01 Environmental Aspects and Impacts Procedure and using risk management procedures outlined within HSEQ-1-03 Hazard and Risk Identification and Risk Management.

4 ROLES AND RESPONSIBILITIES

4.1 Organisational structure

The management structure at the Works is shown in Figure 2. This structure considers the roles and responsibilities of this OEMP and its associated documents.

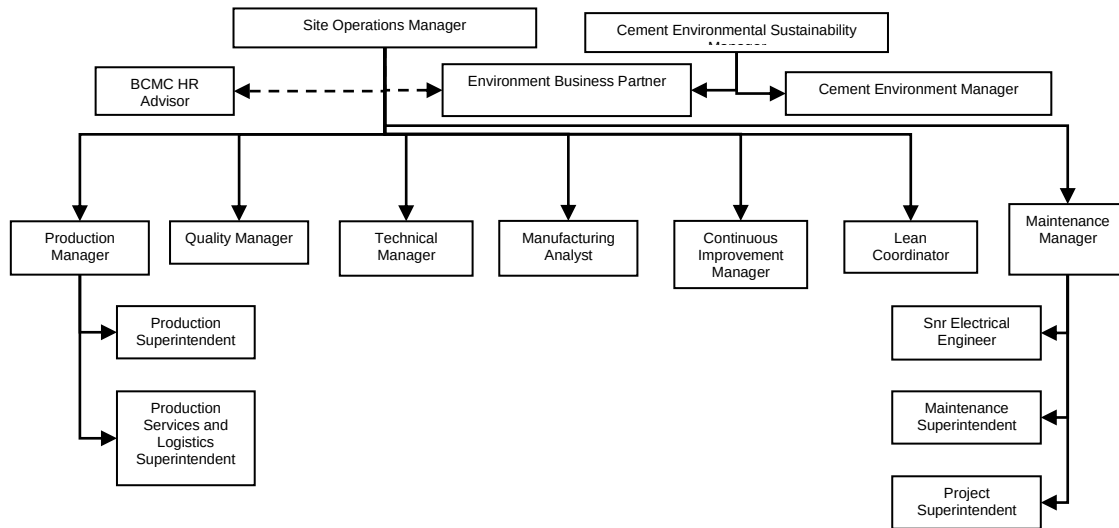


Figure 2 Management team structure

4.2 Roles and responsibilities

The general responsibilities in Table 5 apply in relation to this OEMP.

Table 5 Environmental roles and responsibilities

Role	Responsibility	Authority
<i>National General Manager – Operations</i>	Responsible for ensuring adequate resources are available to implement the OEMP, including: ✓ delegate environmental management responsibilities to personnel.	✓ to suspend site work if health and safety of personnel and/or environment is endangered; and ✓ to suspend an individual from activities for disregarding the OEMP following consultation with Operations Manager.
<i>Site</i>	Responsible for ensuring the operation	✓ to direct personnel to change work



<i>Operations Manager</i>	of the OEMP. This includes: ✓ approve the OEMP and any revisions which are incorporated; ✓ implementing Boral environmental policy on site; ✓ ensuring site environment performance objectives and targets are established, monitored and achieved; ✓ defining responsibilities for the OEMP; ✓ ensuring availability of the resources; ✓ communicating the importance of the OEMP and meeting statutory and regulatory requirements; ✓ conducting management reviews of the OEMP; ✓ ensuring that material environmental incidents are immediately reported to 5 compulsory government authorities; ✓ verifying the implementation of corrective and preventive actions; and ✓ recognising and responding to community concerns.	practices if they are deemed to be hazardous to the environment and/or health and safety of personnel; ✓ to temporarily suspend site work if health and safety of personnel and/or environment is endangered, pending further consideration with the National General Manager – Operations; ✓ to temporarily suspend an individual from activities for disregarding the OEMP.
<i>Production Manager / Technical Manager / Maintenance Manager</i>	Responsibility and authority to ensure that the site environmental objectives are achieved. This includes: ✓ ensuring staff are trained and updated on environmental awareness, responsibilities, instructions and procedures; ✓ ensuring environmental incidents are investigated and corrective and preventative action taken; ✓ ensuring operations comply with the conditions of Development Approval, EPL and relevant legislation; ✓ developing and implementing plans to respond to incidents and minimise environmental harm;	✓ to direct personnel to change work practices if they are deemed to be hazardous to the environment and/or health and safety of personnel; ✓ to temporarily suspend site work if health and safety of personnel and/or environment is endangered, pending further consideration with the Site Operations Manager; and



	✓ ensuring that material environmental incidents are immediately reported to 5 compulsory government authorities; ✓ ensuring proper management of waste and chemical products for careful handling, storage or removal.	✓ to temporarily suspend an individual from activities for the OEMP.
<i>Environmental Sustainability Manager/ Environmental Business Partner</i>	Responsibility and authority to ensure the effectiveness of the OEMP. This includes: ✓ reporting material environmental incidents to 5 compulsory government authorities in accordance with the Berrima Cement Works SOP CMT-ENV-015; ✓ ensuring the site-specific OEMP components are established, implemented and maintained; ✓ ensuring all personnel are aware of the EPL, DAs and other regulatory requirements relating to the operations and environmental performance; ✓ reporting on the performance of the OEMP and need for improvements; ✓ reporting non-compliances with the EPL, DAs and other relevant regulatory requirements; ✓ promoting the awareness of environmental performance and requirements in the organisation; ✓ coordinating the auditing of the Non-standard Fuel Program to ensure compliance with the DA; ✓ coordinating verification of the implementation of corrective and preventive actions. ✓ working with Technical Manager on establishing and updating procedures for the tracking of non-standard fuels, ✓ monitoring the tracking procedures and ensuring compliance with procedures. ✓ coordinating the development and	✓ to direct personnel to change work practices if they are deemed to be hazardous to the environment and/or health and safety of personnel; ✓ to temporarily suspend site work if health and safety of personnel and/or environment is endangered, pending further consideration with the Site Operations Manager; and ✓ to temporarily suspend an individual from activities for disregarding the OEMP.



	maintenance of systems for the collection, analysis and reporting of emission data and environmental performance; ✓ assuring that environmental monitoring data are published monthly on the Boral Berrima website. ✓ assisting in the development, implementation and maintenance of programs to review and improve the environmental performance of the Works.	
<i>Team Leaders / Front Line Supervisors</i>	Responsible for the prevention of poor environmental performance arising from work methods and work environment. This includes: ✓ identifying, reducing and preventing environmental problems; ✓ immediately reporting environmental incidents to the Operations Manager or HSE Advisor; ✓ monitoring operations and maintenance work to ensure emissions are maintained within approved levels; ✓ initiating preventive actions to minimise frequency and recurrence of environmental incidents; ✓ investigating and reporting of environmental incidents; and ✓ initiating corrective actions to repair harm caused by environmental incidents.	✓ To report activities in which the environment and/or health and safety of site personnel is at risk.
<i>All personnel</i>	All personnel are required to: ✓ report all incidents, near misses and hazards; ✓ comply with all environmental policies, procedures and instructions; and ✓ participate in environmental training, meetings and toolboxes.	



Personnel responsible for implementing this OEMP are in Table 6, which will be updated each time there is a change of personnel.

Table 6 Site safety and environmental personnel

Role	Personnel	Emergency contact number
EGM Cement	Rajeev Ramankutty	0419 355 502
Operations Manager	Dean Beltrame	0401 896 979
Production Manager	Waqas Ali	0401 899 099
Technical Manager	Gabriel Paicu	0401 897 301
Environmental Sustainability Manager	Greg Johnson	0401 893 420
Environmental Business Partner	Sharon Makin	0401 894 185

5 COMMUNICATION AND REPORTING

5.1 Communication and consultation

Communication both internally and externally allows Boral to provide and obtain information relevant to environmental compliance, including information related to its significant environmental aspects, environmental performance, compliance obligations and recommendations for continual improvement.

It is imperative that a prompt and clear answer is provided by the site when complaints or information is received from external sources. Communication shall be conducted in accordance with GRP-HSEQ-2-02 Communication and Consultation with an emphasis that all communication adheres to the following:

- transparent;
- appropriate;
- truthful;
- factual;
- include all relevant information; and
- be understandable by interested parties.

Boral Cement communicates with the local community through media releases and briefings, letter drops, community meetings and community groups, newsletters, open days, plant tours, and through information posted on the Boral Cement website.

Boral Cement has an established Community Liaison Committee (CLC) that complies with the MOD 15 consent. The group meets approximately three to four times each year. The CLC has representatives of Boral Cement, the local community and council. All other local residents are also invited to the meetings. The meetings are professionally facilitated. The agenda for each meeting is determined in consultation with the members and has generally covered all aspects of the Works' operation, environmental management plans, monitoring data, and incident reports.

The agenda typically includes environmental monitoring program and results and members are given an opportunity to review and comment on the Works performance. Boral Cement will provide scientific and technical support and respond to comments and any recommendations from the committee.

Records and minutes of the meeting are prepared and made publicly available on Boral's website. Copies of meeting minutes will be provided to DPE on request.

5.2 Reporting

Annual reporting is required to both DPE and EPA within two months following the end of the Licence year (the licence anniversary date is 1 May).

5.2.1 Annual Environmental Management Report

The Annual Environmental Management Report (AEMR) is prepared in accordance with Condition 7.3 and 7.3A and is submitted to DPE, EPA and Council. It is required to include as a minimum as per Condition 7.3:

- a) details of compliance with the conditions of this consent;
- b) a copy of the Complaints Register (refer to condition 0 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 0;
- 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.

And Condition 7.3A, 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.

The Secretary may require Boral Cement to address matters in relation to the environmental performance of the Kiln 6 Upgrade as reported in the AEMR.

5.2.2 Annual Return

The Annual Return to EPA is prepared in accordance with Condition R1 of the EPL and comprises at a minimum:

- statement of compliance;
- monitoring and complaints summary;
- statements of compliance for:
 - license conditions;
 - load based fees;
 - requirement to prepare pollution incident response management plan;
 - requirement to publish pollution monitoring data; and
 - environmental management systems and practices.

5.2.3 Non-standard fuels first year assessment report

One year after the commencement of the use of Non-Standard Fuels, Boral Cement was to prepare and submit a First-Year Monitoring and Modelling Assessment Report to the Secretary, EPA and the NSW Department of Health.

This report was submitted to the DPE, EPA and NSW Health on 29 November 2020.

The report included:

- nature, quantity and quality of Non-Standard fuels used;
- assessment of the results of the Continuous Emissions Monitoring, the Ambient Air Quality Monitoring Program [see air quality management plan] and the Process Monitoring requirements of the DA against the emission limits and process parameters and predictions made in the SEE and other documents;
- assessment of the Non-Standard Fuels tracking program including a description and assessment of trends identified;
- assessment of the adequacy of Non-Standard Fuels quality management system and procedures; and
- review of the necessity for continuing or modifying any of the emission monitoring, reporting or pollutant tracking requirements of the DA.

5.2.4 Incident reporting under the MOD 15 consent

Boral Cement will notify DPE and other relevant agencies of any incident or potential incident with actual or potential off-site impacts on people or the environment immediately after Boral Cement is aware of the incident in accordance with the procedure in Section 6.1. Boral Cement will provide a detailed report of the incident to DPE and other relevant agencies within seven days of the incident.

5.2.5 Notice of incident to NSW Health

Boral Cement will notify Sydney South West Public Health Unit of any incident with actual or potential significant off-site impacts on human health or amenity as per the requirements of the site PIRMP.

5.3 Complaints and dispute resolution procedure



Boral Cement has an effective complaints procedure operating at the Works in accordance with Condition M6 of the EPL.

Boral Cement displays a sign near the entrance to the Berrima Cement Works in a position that is clearly visible to the public. The sign provides the following information:

- a telephone number on which complaints about operations on the site may be lodged;
- a postal address to which complaints may be sent; and
- an email address to which electronic complaints may be transmitted.

Contact telephone numbers are also provided on the website and repeated at each CLC meeting.

Boral Cement records all complaints received in a complaints register. As a minimum the following information is recorded:

- the date and time, where possible, of the complaint;
- the means by which the complaint was made;
- any personal details of the complainant that were provided, or if no details were provided, a note to that effect;
- the nature of the complaint;
- any action(s) taken by Boral Cement in relation to the complaint, including any follow up contact with the complainant; and
- if no action was taken by Boral Cement in relation to the complaint, the reason(s) why no action was taken.

The record of complaint is kept for at least 4 years and is available for inspection by the EPA or DPE on request.



6 INCIDENT AND NON-CONFORMANCE RESPONSE

6.1 Incident response

Incidents and non-conformances are managed in accordance with the emergency plan (Appendix 7), site Pollution Incident Response Management Plan (Appendix 8) and safety management system (the system is on the Boral Cement intranet)

The EPL licensee or its employees are required to notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with Part 5.7 of the POEO Act and the Work's emergency response plan.

All incidents must be reported immediately to the Supervisor of the area where the incident occurred. If the Supervisor is not able to be contacted, the person must notify each relevant authority.

Material harm to the environment is defined in Section 147 of the Act as “actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000”.

The relevant authorities are in Table 7.

Table 7 Relevant authorities

DPE	1300 305 695
EPA Pollution Incidents (24 hours)	131 555
South Western Sydney Local Health District – Public Health Unit	John Birkett 02 8778 0855 1300 066 055 or 02 8738 3000 (after hours)
SafeWork NSW	13 10 50
Fire and Rescue NSW	000

The following information must be included in the notification to the relevant authorities:

- the time, date, nature, duration and location of the incident;
- the location of the place where pollution is occurring or is likely to occur;
- the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known;
- the circumstances in which the incident occurred (including the cause of the incident, if known); and
- the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.

Written details of the notification will be provided to EPA and DPE within seven days of the incident in accordance with Condition R2.2 of the EPL.

6.2 Non-conformance response

Boral Cement's incident reporting, investigation and action procedure is implemented when there is an environmental non-conformance with a consent or EPL condition, or the OEMP.

6.2.1 Initial response

The first priority in response to a non-conformance is to ensure that all affected persons are attended to and any person(s) requiring first aid or medical treatment are provided with that treatment as soon as possible. Any first aid injuries shall be managed in accordance with GRP-HSEQ-4-05 First Aid Standard. Areas subject to a non-conformance investigation must be made safe and barricaded off (e.g. tape or other barrier) to preserve material relevant to any investigation. The need to secure the scene may be under the direction of WHS or Environmental Authorities for serious non-conformances, with various conditions applied.

6.2.2 Reporting

The Operations and/or Site Manager (or delegate) must ensure that all relevant persons are informed of a non-conformance within any prescribed or defined timeframes. A One Point Lesson document has been prepared for reporting environmental non-conformances at the Works.

Personnel with site safety and environmental responsibilities are provided in Table 6. Contact details for the relevant personnel are displayed on the site HSEQ notice board. Internal non-conformance notification is incident specific. Detailed non-conformance notification details are provided in GRP-HSEQ-3-02-A02 Incident Management Chart.

The relevant senior manager, in consultation with the Environment Business Partner, must notify the Business Unit or Executive General Manager if the regulator or other external agency is to be notified of a non-conformance. Relevant external authorities are in Table 7.

6.2.3 Investigation

All non-conformances shall be investigated to a level commensurate with the risk to identify the cause or causes of a non-conformance and any preventive and/or corrective actions that once implemented are to eliminate recurrence of the non-conformance or reduce the likelihood of a recurrence as far as reasonably practicable.

In consultation with either the WHS Manager or the Environmental Sustainability Manager the site Operations Manager is responsible for delegating investigations of non-conformance. The level of investigation depends on the type and severity of the non-conformance. In general, higher risk non-conformances attract greater resources and formality in the investigation process, which includes specialist skills and methods. An investigation is to be carried out by a competent person or persons as soon as reasonably practicable after a notice of a non-conformance has been received.

6.2.4 Corrective actions

Following an investigation, the non-conformance investigator should consider corrective actions. Corrective actions deal with responding to the result of a non-conformance. Preventive actions aim to prevent recurrences of similar events. Once the root cause(s) and contributory factors of a non-conformance are established, corrective and/or preventive actions should be identified and implemented in response and to stop the non-conformance from happening again.

Controls are to be selected from the Hierarchy of Controls and according to the GRP-HSEQ-1-03 Hazard Identification and Risk Management Standard. An investigator must consult with employees and other workers before finalising any corrective or preventive actions that may impact on operational controls in the workplace.

Furthermore, corrective and preventive actions must be assigned and prioritised (in order of most to least important) with an agreed time set to close them out. All corrective and preventive actions are to be recorded in SeQUENCE.

6.2.5 Closing a non-conformance

Any nominated corrective or preventive action is to be verified for completion and effectiveness before an issue can be closed out, by the responsible manager. Once an action is complete, the nominated employee is to send the issue to a nominated management representative to be verified and signed off. This will be defined in the database or through the assigned action in an incident spreadsheet.

When a non-conformance is corrected, the issue can be closed out by a nominated or required management representative. Issue close outs are tracked in accordance with the GRP-HSEQ-3-01 Monitoring and Review Standard and by the Environment Business Partner. Any follow up requirements are initiated as they are identified.

6.2.6 Incident alerts

Non-conformances that may have broader consequences across the business should be communicated to the business using the HSEQ-2-02-F02 HSE Alert template or the HSEQ-2-02-F03 Quality Alert template, as appropriate.

Before distributing HSE and Quality Alerts, the WHS Manager or Environmental Sustainability Manager must approve them. All personal details of any injured person or party directly involved in a serious non-conformance must be kept confidential.

6.2.7 Non-conformance roles and responsibilities

The personnel in Table 8 have responsibilities relating to non-compliances.

Table 8 Non-compliance roles and responsibilities



Role	Responsibility
Operations Manager	• Ensure all non-conformances are investigated and apply resources as needed. • Notify external regulator agencies (e.g. regulators, insurers) when a non-conformance occurs and when required.
Cement Environmental Sustainability Manager/ WHS Manager	• Assist in the HSE and Quality non-conformance response and investigation process, as required • Communicate any necessary change(s) from corrective and preventive actions to the relevant authorising manager responsible for the procedure(s) within the Company HSEQ Management System.
WHS or Environmental Business Partner	• Take part in the non-conformance response and investigation process, as appropriate. • Recommend action on non-conformance data and trends, as relevant.
Person identifying incident	• Take immediate action — immediately notify one-up manager.
Incident scene/senior manager	• Contact Emergency Services (ambulance, fire brigade or police), when required. • Preserve the non-conformance scene. • Coordinate help where needed at the incident scene.
Incident team leader	• Assess the risk. Decide and set up a structured approach to link data and activities on non-conformances. • Initiate formal non-conformance investigation using the approved Company template. • Recommend final remedial, corrective and preventive actions to the Regional General Manager. • Communicate critical issue and findings to other businesses (as appropriate).
Employees	• Report all non-conformances to the manager or supervisor as soon as they occur. • Complete the relevant sections in the Incident and Investigation Form as soon as possible.

7 MONITORING, AUDITING AND REVIEW

7.1 Environmental monitoring

The consent requires the following monitoring:

- emissions to air; which is described in the air quality management plan (Appendix 4):
 - Condition 4.1A – continuous emissions monitoring;
 - Condition 4.1B – ambient air quality monitoring; and
 - Condition 4.1C – process monitoring.
- noise monitoring under Condition 6.4(a)(iii), which is described in the noise management plan (Appendix 6).

The EPL requires the following monitoring:

- Condition P1.1 requires the monitoring of emissions to air and dust monitoring, which is described in the air quality management plan (Appendix 4);
- Condition P1.3 requires the monitoring of discharge to waters, which is described in the water management plan (Appendix 11); and
- Condition L5 specifies where noise is to be monitored, however, it does not specify the monitoring frequency. This is described further in the noise management plan.

The results of monitoring are reported in the AEMR and Annual Return. Monitoring results are kept for at least four years and are available onsite to be produced if requested by an authorised officer of the EPA upon request.

As required by the POELA Act, the monitoring data are provided on the Work's website. The summary report is updated each month with all new results received in the preceding month and if results are received from respective labs or providers uploaded by the 10th working day of the next month.

7.2 Environmental auditing

7.2.1 Internal auditing

Boral Cement undertakes periodical environmental audits as part of its environmental management programme. The auditing schedule is prepared each year for all Boral Cement facilities by the Boral Cement Environmental Sustainability Manager. This auditing is primarily for performance improvement and is used to confirm that environmental objectives are being met and to identify opportunities for improvement. Auditing also includes reviews of sites performance against their Environmental Permit Planner.

7.2.2 External auditing

The Kiln 6 Upgrade Development Approval and the Cement Mill 7 Development Approval specify a programme of 3-yearly environmental auditing by an independent, qualified person.



The Secretary of DPE may direct alternative auditing arrangements and has to approve of the independent auditor before the audit is commenced.

These independent audits are:

- carried out in accordance with ISO 19011:2002 Guidelines for Quality and/or Environmental Management Systems Auditing;
- assessing compliance with the requirements of the licence and DAs;
- assessing operations against predictions made and conclusion drawn in the SEE and other documents; and
- review the effectiveness of the OEMP including any environmental impact mitigation work.

The environmental audit report must be submitted for comment to the DPE, EPA and the Wingecarribee Shire Council within one month of the completion of the audit.

DPE may require Boral Cement to undertake works to address the findings or recommendations presented in the environmental audit report.

The next triennial audit is due to be undertaken in November 2023.

7.2.3 Auditing of non-standard fuel program

Within 12 months of the delivery of the first load of any Group 1 or Group 2 fuels Boral Cement arranged an independent audit of the non-standard fuels program. This will be repeated every 12 months thereafter or as otherwise directed by the Secretary. The audits will:

- be carried out in accordance with ISO 19011:2002 Guidelines for Quality and/or Environmental Management Systems Auditing;
- assess compliance with the requirements of the consent, licence and approvals;
- review the management practices and operating procedures for Kiln 6 when using non-standard fuels including the minimisation of dioxin emissions;
- assess the quality control and assurance procedures of the non-standard fuel suppliers including sampling and analysis to ensure compliance with non-standard fuel specifications;
- review the quality control procedures implemented by Boral Cement including assessment of handling, verification and analysis information generated by Boral Cement and received from the non-standard fuel suppliers;
- recommend actions to improve the non-standards fuels program; and
- a review of compliance with the process parameters specified in Condition 3.24 of the MOD 15 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.

The audit report is submitted for comment to DPE, the EPA and the NSW Health within 3 months of commissioning of the audit.

DPE may require Boral Cement to undertake works to address the findings or recommendations presented in the audit report.

The Non-Standard Fuel audit can be undertaken in conjunction with the triennial audits.



7.3 Review of OEMP

Boral Cement will review the OEMP every three years. The review is to 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. Boral will also revise the OEMP if required by the outcomes of an AEMR.

Boral Cement is to notify DPE, EPA and Wingecarribee Shire Council of the completion of each review and to supply a copy of the updated OEMP to those parties on request.

Boral Cement will also make any revised OEMP available for public inspection upon request.

7.4 Environmental awareness and training

In order to implement this OEMP and accompanying management plans, it is important that all staff are aware of the site procedures in relation to environmental management.

The Environmental Business Partner and the Production/Technical Manager will determine the level of training required by site personnel for any changes to this Plan and any associated procedures/work instructions and will develop a training program.

All training completed will be recorded in the Training Records System maintained by HR Department.

Audits and checks will verify compliance with the procedures.

7.5 Record Keeping

All records are to be kept for the time periods required by statutory timeframes and/or Boral policies (Refer to Boral HSEQ Group Standard GRP-HSEQ-2-04-Documents Control and Records Management).

7.6 Legal References

The business has access to the applicable legislation relevant to the OEMP via the Boral Group Standards GRP-HSEQ-1-04 Legal and Other Requirements.