

Boral Cement

Berrima Cement Works

Pollution Incident Response

Management Plan

(part of Site Emergency Response Plan)

Rev.6

April 2018

Table of Contents

1. General Information	2
1.1 Foreword	2
1.2 Background and legislative requirements	2
1.3 Definition of a pollution incident	2
2. Risk Assessments and Pre-emptive Actions	3
2.1 Environmental Aspects and Impacts Register	3
2.2 Emergency-Security Risk Register	4
2.3 Hazardous Substances and Dangerous Goods Register	4
3. Safety Equipment	5
3.1 Spill Prevention and Control	5
3.2 Stormwater management	6
4. Emergency Response Plan	6
4.1 Emergency Procedures	7
4.2 Evacuation arrangements	8
4.3 Training and employee awareness	8
4.4 Testing and implementation	9
5. Pollution Incident Notification Procedures	9
5.1 Notification of relevant government authorities	9
5.2 Communicating with neighbours	10
6. References	11
7. Revision History	12
APPENDIX A: Pollution Incident Authority Notification Contacts	13

1. General Information

1.1 Foreword

This document was prepared to fulfil the requirements of the NSW Protection of the Environment Legislation Amendment Act 2011 (POELA Act) in terms of preparation and implementation of a pollution incident response management plan.

This plan forms a part of the overall Boral Emergency Response Plan that was reviewed and amended to ensure that they cover all the new requirements of the POELA Act. The plan is kept, tested and implemented in accordance with the Act and the POEO(G) Regulation.

1.2 Background and legislative requirements

The POELA Act introduces several changes to improve the way pollution incidents are reported, managed and communicated to the general community. The Act includes a new requirement under Part 5.7A of the *Protection of the Environment Operations Act 1997* (POEO Act) to prepare, keep, test and implement a pollution incident response management plan.

The objectives of these plans are to:

- ensure comprehensive and timely communication about a pollution incident to staff at the premises, the Environment Protection Authority (EPA), other relevant authorities specified in the Act (such as local councils, NSW Department of Health, SafeWork NSW, and NSW emergency services), and people outside the facility who may be affected by the impacts of the pollution incident;
- minimise and control the risk of a pollution incident at the facility by requiring identification of risks and the development of planned actions to minimise and manage those risks;
- ensure that the plan is properly implemented by trained staff, identifying persons responsible for implementing it, and ensuring that the plan is regularly tested for accuracy, currency and suitability.

The specific requirements for pollution incident response management plans are set out in Part 5.7A of the POEO Act and the Protection of the Environment Operations (General) Regulation 2009 (POEO(G) Regulation)¹.

1.3 Definition of a pollution incident

As per the POEO Act, pollution incident means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise.

¹ See www.environment.nsw.gov.au

A pollution incident is required to be notified if there is a risk of 'material harm to the environment', which is defined in section 147 of the POEO Act as:

(a) harm to the environment is material if:

- (i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or;
- (ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and;

(b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

Organisations in NSW are required to report pollution incidents immediately to the EPA, NSW Department of Health, NSW emergency services, SafeWork NSW and the local council. 'Immediately' has its ordinary dictionary meaning of promptly and without delay. These strengthened provisions will ensure that pollution incidents are reported directly to the relevant response agencies so they will have direct access to the information they need to manage and deal with the incident in a faster time.

There are new associated offences, for individuals and corporations, for not preparing a plan, not keeping the plan at the premises to which it relates, not testing the plan in accordance with the Regulations and not implementing the plan in the case of an incident.

2. Risk Assessments and Pre-emptive Actions

2.1 Environmental Aspects and Impacts Register

The Cement Works in Berrima identifies and assesses environmental aspects, hazards and impacts in accordance with the Boral Cement SOPs CEM-ENV-003 Environmental Aspects and Impacts and CEM-ENV-010 Environmental Risk Assessment (included in the Emergency Response Plan folder). Boral's risk management process is based on AS/NZS ISO 31000:2009 - Risk management - Principles and guidelines

. The process aims at identifying all reasonable foreseeable sources of risk, areas of impact, events (including changes in circumstances), their causes and their potential consequences. The identification involves consideration of both normal and abnormal modes of operation (e.g. maintenance, start up, shut down, emergency stop), and considers the following environmental aspects:

- Air (i.e. emissions to atmosphere from point and non-point sources including particulates, organic vapours, combustion products and odours);
- Noise and vibration;
- Water discharges (i.e. liquid effluent discharged to sewer, stormwater infrastructure or directly to the environment);
- Liquid and solid spills;
- Non-hazardous waste (i.e. any solid by-products of the operation/activity including materials recycled, reused and then disposed of);
- Hazardous waste (any liquid or solid wastes or by-products which are, or have the potential to be hazardous to human health or the environment);
- Energy usage (including gas, electricity and motor vehicle usage);
- Water usage (i.e. any activity where water is consumed);

- Flora and fauna (i.e. potential threat to vulnerable, threatened or endangered flora or fauna and their communities);
- Raw material usage (process inputs other than energy or water);
- Other issues (including visual impacts, on and off-site traffic, and dangerous goods storage).

The whole process of aspect identification and risk assessment is documented in a site risk register entitled CMT-ENV-002 Berrima Environmental Aspects and Impacts Register. In areas where the risk assessment suggests high or medium risk levels, controls or pre-emptive actions are implemented to eliminate or where this is not possible, minimise the risk to as low as reasonably practicable. Following the implementation of controls, a residual risk assessment has been undertaken to verify the effectiveness of the selected controls. Pre-emptive actions and the residual risks rating as well as future improvement plans are also documented in the site's Environmental Aspect and Impact Register.

The Register is reviewed at least once every two years by the site's Site Operations Manager, and also in circumstances when:

- Boral Environmental Policies, processes, procedures or activities are modified;
- Serious incidents occur;
- Change to legal and/or standards requirements.

2.2 Emergency-Security Risk Register

The site additionally maintains an emergency-security risk register, which considers all potential emergency scenarios and security risks. Risk assessments of all scenarios are captured in the register, and a response plan is developed based on identified risks. The risk register is prepared in consultation with the appropriate subject matter experts from the site, and is reviewed at least once a year.

The emergency-security risk register covers scenarios such as (but not restricted to) cement spills, dust or hot material discharge, LPG incidents, gas explosion, fire and smoke, traffic incidents, liquid spills, and bomb threat.

2.3 Hazardous Substances and Dangerous Goods Register

Hazardous materials are managed on site in line with the Boral Group Standard GRP-HSEQ-4-04 Hazardous Chemicals and Dangerous Goods.

Berrima has a Hazardous Substances and Dangerous Goods Register (included in the Emergency Response Plan folder). The register contains the maximum quantity of any hazardous material that is likely to be stored or held onsite, its location(s), description of use on site, supplier contact information, hazards associated with this product, and controls in place to mitigate potential risks. Furthermore the register summarizes the outcomes of the risk assessment undertaken for each substance.

Each material classified as Hazardous Substance or Dangerous Good by the Australian Dangerous Goods Code has an associated Safety Data Sheet (SDS) which contains a description of the hazards to human health and the environment. A current register of SDS's is accessible through the BORAL Intranet application ChemAlert. SDS's are displayed on site at the location where they are stored and/or handled. Supporting signposting is also displayed where required.

Storage locations of hazardous materials are included in the Berrima Works Site Environmental Layout (included in the Emergency Response Plan folder).

3. Safety Equipment

All safety equipment is listed in the Berrima Emergency Equipment Register (included in the Emergency Response Plan folder). It contains a description of the equipment, location, required testing interval, due test date and date tested and the names and signatures of authorised personnel.

The register includes:

- all fire-fighting equipment (e.g. fire extinguishers, fire suppressants, fire systems, hose reels, hydrants and signage),
- appropriate flotation devices (when a risk of drowning is present),
- safety harnesses and lanyards for work at heights or in confined spaces,
- emergency communication equipment (e.g. telephones, mobile phones, Public Address (PA) systems, two-way radios, signage and loud hailers),
- warning, detection and suppression devices, emergency lighting and signage,
- first aid and medical equipment (e.g. defibrillator etc),
- emergency spill containment kits, and
- floating booms for oil retention.

3.1 Spill Prevention and Control

Spill prevention and control are managed in line with the Boral Cement SOP CEM-ENV-014 Spill Prevention and Control. Spill prevention equipment and measures aim to eliminate or reduce the probability of spills occurring and reduce the degree of damage that could occur to the surrounding environment.

In places or situations where a spill risk exists, the following measures have been implemented:

- Placement of spill-risk facilities away from sensitive environments (sufficient to allow for effective intervention prior to pollution occurring in the event of a spill);
- Use of secondary spill containment facilities such as bunding around all storage tanks and other areas where hazardous substances are stored;
- Ensuring risky activities such as tank loading are undertaken on bunded, hardstand areas;
- Avoiding risky activities at times when weather events may magnify the harm caused by a spill;
- Ensuring drainage structures can be sealed to halt passage of spilt fluids;
- Training of employees and contractors in good environmental practice.

The site utilizes universal spill kit wheelie bins that are audited and stocked regularly by a specialised local supplier. Spill kits are registered and mapped; personnel are trained in the proper use of spill kits.

The site's hazardous substances storage areas, oil and fuel storage tanks, bunds and compounds comply with the requirements of Australian Standard AS1940—2004: The storage and handling of flammable and combustible liquids.

3.2 Stormwater management

Stormwater and process water is managed in line with the CMT-ENV-005 Berrima Water Management Plan.

Stormwater from the site is collected and either discharged directly into Lake Quality or via the collection ponds into Lake Breed. Lake Breed discharges into Lake Quality. An occasional overflow from Lake Quality discharges into Stony Creek that flows north into the Wingecarribee River. Site dams and drainage system are mapped in the Berrima Works Site Layout. The site has a water system diagram which shows the schematic flow of process water and water valves on site.

During normal operation, the water in Lake Quality is used for process water and there is no discharge into Stony Creek.

During periods of high rainfall Lake Quality may fill and overflow into Stony Creek. Water levels in the dams are monitored electronically and used to determine when a discharge to the water course occurs. Several oil collecting booms fitted to the discharge point prevent the discharge of oil from the dam in case such oil contamination reaches the dam.

Each discharge is monitored, with multiple water quality parameters measured. The main sources of potential contamination of the stormwater on the site include:

- solid contamination in the stormwater runoff from the site;
- oil and other liquid contamination due to spills and leaks; and
- process waste water.

Solid contamination is minimised by regular and routine site cleaning and by the use of settling ponds and weirs. Existing emergency procedures are used to contain and clean up oil and other liquid spills and leaks (see Section 3.1).

4. Emergency Response Plan

The site has developed an Emergency Response Plan which is in line with the Boral Group Standard GRP-HSEQ-2-09 Emergency Preparedness and Response. The Emergency Response Plan is reviewed annually.

It includes:

- 1) A list of emergency response contacts including:
 - name and position;
 - location and hours of work;
 - afterhours availability and contact details;
 - role and authority level, and;
 - how the person can be identified in an emergency situation.
- 2) A list of relevant external emergency services and their contact details, e.g. fire brigade, police, ambulance, electricity, gas, water and sewage, poisons information, Environment Protection Authority;
- 3) Emergency procedures including responsibilities (see Section 4.1);
- 4) The Hazardous Substances and Dangerous Goods Register;
- 5) A site plan, floor and area plans (layout of the workplace) showing the location of;

- Offices;
- buildings;
- warehouses;
- entrances and exits;
- dangerous goods storage areas (including gas cylinders);
- evacuation routes and emergency assembly areas;
- hazardous substance storage areas, and;
- emergency response equipment (such as fire-fighting equipment, and spill kits).

4.1 Emergency Procedures

The site's emergency plan includes the following emergency situations:

- Fire and smoke;
- Bomb threats;
- Evacuation;
- Medical emergency;
- Structural damage or building collapse;
- Electric shock;
- Vehicle contact with overhead electrical cables;
- Rail incident;
- Civil/public disorder;
- Armed holdup or intrusion;
- Fire or explosion in coal mill or kiln;
- Pollution incident response;
 - Dust discharge/spill;
 - Chemical spill/release;
 - Hot material spill.

All emergency procedures consider:

- 1) Safe evacuation routes and exits;
- 2) Location and special needs of persons with disabilities;
- 3) Safe use of lifts and escalators (e.g. they shall not be used during a fire);
- 4) accounting for personnel (including employees, contractors and visitors on site);
- 5) Shut down of plant, equipment and services (if safe to do so);
- 6) Safety of assembly areas;
- 7) Role of reception staff and the Switchboard Administrator;
- 8) Floor and area marshalling;
- 9) Restrictions on vehicle movements;

- 10) Central control and coordination points;
- 11) Communication methods;
- 12) First aid personnel;
- 13) Emergency response equipment;
- 14) Safety features of equipment;
- 15) Security guards and other specialist staff;
- 16) Visitors and the public (includes neighbours);
- 17) Emergency service response times;
- 18) Recovery (i.e. return to normal operations after the event);
- 19) Coordination with other agency plans.

4.2 Evacuation arrangements

The Berrima Emergency Response Plan describes evacuation procedures and arrangements have been made for the safe evacuation of personnel in the event of an emergency, such as:

- 1) Documented site and floor plans are displayed at prominent locations in each building, structure or workplace;
- 2) A list of emergency personnel (including external emergency services) and their contact details are displayed at prominent locations (including near phones);
- 3) Designate assembly areas are clearly marked on site and floor plans;
- 4) Emergency exit points are indicated with illuminated signage which complies with regulated Australian Standards;
- 5) Measures are established for accounting for personnel during and post-evacuation;
- 6) Procedures are in place for initiating re-entry after evacuation.

4.3 Training and employee awareness

Boral employees and contractors receive site inductions and regular training to ensure that they have the competence to successfully implement and comply with legislative obligations and to ensure that workplaces are able to prepare for and deal with an emergency. Training requirements are outlined in the Boral Group Standard GRP-HSEQ-2-09 Emergency Preparedness and Response. Training records are kept in the human resources database.

Employees are made aware of the location of fire-fighting equipment and undergo training in accordance with legislative requirements, Personal Protective Equipment (PPE), the methods of notifying authorities of an emergency and all exits within or near their area. They are informed about the route to and location of the assembly point outside the building.

Employees are instructed to make immediate and direct contact with relevant internal personnel to report emergencies and their location. The effectiveness of emergency response plans depends on the willingness of staff at all levels to make themselves aware of the immediate actions they shall take in an emergency, so that they are capable of acting promptly, calmly and efficiently. Inducted visitors should also be able to identify and participate in a site evacuation, although employees remain responsible for the safe evacuation of visitors.

4.4 Testing and implementation

The site/operations manager or their delegate ensures that emergency systems are maintained and that their effectiveness is evaluated at least once a year.

5. Pollution Incident Notification Procedures

5.1 Notification of relevant government authorities

Any pollution incident that causes or threatens “material harm” to the environment or people must be notified to five compulsory government authorities immediately upon becoming aware of the incident. When new information comes to hand following the initial notification, this information must also be communicated immediately. The authority contact list is summarised in Appendix A.

Only nominated Boral personnel are authorised to make these notifications:

Stuart Hutchings	NSW Operations Manager	02 4860 2267	0401 894 120
Gabriel Piacu	Berrima Production Manager	02 4860 2211	0401 897 301
Michael Curley	Berrima Cement Works HSE Advisor	02 4860 2351	0401 894 393
Ibrahim Muharrem	Cement Environmental and sustainability Coordinator		0401 897 646

All notifications are to be in line with the site SOP entitled **CMT-ENV-009 Berrima_Pollution Incident Notification**. This document is available in WizBiz Library (http://mapros23.boral.com.au/sites/WizBiz/ReferenceLibrary/BlueCircle/EnvironmentSustainability/Site_Procedures_Berrima/default.aspx), Yokagawa system, and is included in the Emergency Response folder.

All communication, including immediate early notification and updates; is to be recorded in the Pollution Incident Immediate Notification Log (see **CMT-ENV-009 Berrima_Pollution Incident Notification**).

In borderline situations, where the exceedance of the trigger level of “material harm” of a pollution incident may not be clear, a quick assessment including consultation with Boral environmental personnel would be undertaken to help the decision whether to notify or not.

Boral Cement's Management Team must be informed promptly of the incident and that fact that the relevant authority(ies) have been notified This includes environmental personnel listed above, and,

- Boral Cement Executive General Manager;
- Boral Cement National Operations Manager;
- Boral Cement HSEQ Manager;
- The Boral Ltd Group Environmental Advisor.

5.2 Communicating with neighbours

In case of pollution incidents that may potentially pose threat to the health and safety of the neighbours, the neighbours must also be urgently notified.

Instructions on when and how to communicate pollution events to the local community are given in site SOP entitled **CMT-ENV-009 Berrima_Pollution Incident Notification**. This document is available in WizBiz Library

(http://mapros23.boral.com.au/sites/WizBiz/ReferenceLibrary/BlueCircle/EnvironmentSustainability/Site_Procedures_Berrima/default.aspx), Yokagawa system, and is also included in the Emergency Response folder. Neighbours details are summarised in Appendix B of the SOP. A hard copy of neighbour contacts is maintained in the Shift Supervisor's office.

In case of a fire, smoke, and explosions the site personnel will work together with fire brigade, police and SES to alert potentially affected neighbours and if necessary arrange evacuation.

In case of severe dust emission incidents from stacks, which could pose a threat to health and safety, reasonable attempts will be made to inform New Berrima residents and other potentially affected neighbours as soon as practicable, using the following methods, as applicable:

- staff members will ring residents home or mobile phone;
- automatic text messages will be sent to residents;
- auto dial-up may be set up to inform residents immediately;
- letter-box drop will be organised as soon as practicable;
- staff members will inform residents personally (door-knocking)
- emailing;
- internet;
- display of information in the local store.

Residential areas likely to be affected by a pollution incidents are mapped in Berrima Works Survey and Layouts Site Map of Dust Affected Areas (Map No 60059-A).

Residents that chose not to be included in the site's community register will be informed by letter-box drop and through information material displayed at the local store. This includes any follow-up information on the resolution of the incident and on its outcomes, as appropriate.

6. References

Australian Standard AS 1940:2004 The storage and handling of flammable and combustible liquids

Berrima Cement Works Emergency Response Plan

Berrima Works Closed Circuit Water System Flow, P&I Diagram (A12027)

Berrima Works Site Environmental Layout (Map No 40405)

Berrima Works Survey and Layouts Site Map of Dust Affected Areas (Map No 60059-A)

Berrima Works Spill Kit Location Map

CEM-ENV-003 Environmental Aspects and Impacts

CEM-ENV-009 Berrima_Pollution Incident Notification

CEM-ENV-010 Environmental Risk Assessment

CEM-ENV-011 Water Management

CEM-ENV-013 Waste Management

CEM-ENV-014 Spill Prevention and Control

CMT-ENV-002 Berrima Environmental Aspects and Impacts Register

CMT-ENV-005 Berrima Water Management Plan

GRP-HSEQ-4-04 Hazardous Chemicals and Dangerous Goods GRP-HSEQ-2-09 Emergency Preparedness and Response Hazardous Substances and Dangerous Goods Register

EPA 2012 Environmental guidelines: Preparation of pollution response management plans

Protection of the Environment Legislation Amendment Act 2011 No 63

Protection of the Environment Operations (General) Regulation 2009 (POEO(G) Regulation)

7. Revision History

Version	Change Date	Summary of Change	Prepared by	Approved By
Rev.0	1 September 2012	New document	Karin Schianetz	Stuart Hutchings
Rev.1	24 January 2013	Included reference to Map 60059	Karin Schianetz	Stuart Hutchings
Rev.2	1 September 2013	Changes reflecting company restructure	Alex Wnorowski	Stuart Hutchings
Rev.3	1 September 2014	Annual review	Alex Wnorowski	Stuart Hutchings
Rev.4	1 September 2015	Annual review	Alex Wnorowski	Alex Wnorowski
Rev.5	22 March 2017	Major review, changes not marked	Michael Curley	Stuart Hutchings
Rev. 6	4 April 2018	Changes made to site contacts	Ibrahim Muharrem	Ibrahim Muharrem

APPENDIX A: Pollution Incident Authority Notification Contacts

GOVERNMENT AUTHORITY - COMPULSORY NOTIFICATIONS	EMERGENCY NOTIFICATION PHONE NUMBER
EPA – Environment Line	0 – 131 555 Select Option 1
Fire & Rescue NSW	0 – 000
Wingecarribee Shire Council	0 – 4868 0888
Public Health Unit) – Liverpool Office	0 - 02-8778 0855 Ask for the Environmental Team
SafeWork NSW	0 – 131050 Company ABN: 62 008 528 523 will be requested
GOVERNMENT AUTHORITY - RING IF RELEVANT	EMERGENCY NOTIFICATION PHONE NUMBER
Roads and Maritime Services (for road related incidents and road spills)	0 – 132 701 Select Option for reporting Traffic Incident
NSW Office of Water	Notify via EPA
Bush Fire Control Officer	Notify via 000
Poisons Information Centre	0 – 131 126
Endeavour Energy (power line emergencies)	0 – 131 003
OtisLine (lift emergencies)	0 – 1800 626847