

PK-PLAN-01

Port Kembla Milling

Environmental Management Plan

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Alterations and Amendments

Date	Initial	Alteration / Amendment	Revision
29/4/2013	K.D	First draft for internal review	PK-Plan-01 Rev1 April 2013
30/09/2013	K.D	Final draft for agency consultation	PK-Plan-01 Rev1 September 2013
12/01/2015	B.W	Addition of paragraphs addressing Holcim Directives Section 6.4.2	PK-Plan-01 Rev1 Jan 2015
8/04/2016	B.W	Annual review	PK-Plan-01 Rev1 April 2016
12/2/2019	P.J	Plan review, refresh to ISO14001:2016 framework and consolidation of a number of PKM environmental plans	PK-Plan-01 Rev1 Feb 2019
16/4/19	P.J	Updated following comments from DPE.	PK-Plan-01 Rev1 April 2019
06/4/22	BR	Updated after IEA	PK-Plan-01 Rev1 April 2022
11/5/23	BR	Minor updates after internal audit	PK-Plan-01 Rev7 May 2023
27/11/24	BR	Include document review recommendation from IEA	PK-Plan-01 Rev8 Nov 2024
20/01/2025	BR	Updated after review from Department	PK-PLAN-01 Rev 9 20 Jan 2025
13/02/2025	RM	Final Review	PK-PLAN-01 Rev 10 13 Feb 2025

1 Introduction

As part of its commitment to continual improvement in safety, health and environmental management, Cement Australia has developed and implemented an integrated Safety, Health, Environmental and Quality Management System (SHEQMS) that has been certified against the requirements of ISO 14001, “Environmental Management Systems – Requirements with Guidance for Use”, ISO 45001 Occupational Health and Safety Management Systems—specification with guidance for use and ISO9001 “Quality Management Systems – Requirements with Guidance for Use”. Certification is maintained via an agreed surveillance program with SAI Global.

The SHEQMS provides the framework to enable Cement Australia to manage and demonstrate compliance with all relevant SHE compliance obligations.

This Environmental Management Plan (EMP) provides specific information for Cement Australia’s Port Kembla Milling (PKM) operations to support the common (CAS-FW-002) SHEQMS Manual. This plan also meets the requirements of Clause 40 of PKM’s Project Approval 10_0102 which requires the development and implementation of an Environmental Management Strategy.

In addition, rather than maintaining separate, stand alone specific environmental management plans, this EMP also contains the elements of the required Stormwater Management Plan, Noise Management Plan, Air Quality Management Plan and Energy Management Plan required to meet clauses 16, 25, 30 and 31 of Project Approval 10_0102. It also includes information to meet the requirements of the Acid Sulphate Management Plan, Green and Golden Bell Frog Management Plan, and Landscape Management Plans that were included as Cement Australia’s commitments to the original Project Approval submitted to the Department of Planning, House and Infrastructure (DPHI). The site still maintains stand alone Emergency Response, Traffic Management and Safety Management Plans.

This EMP is reviewed and updated at least tri-annually, or following a significant change to an operation, system or process.

1.1 Purpose

The purpose of this Environment Management Plan is to describe the environmental management system employed by Port Kembla Milling (PKM) and to ensure the site complies with all environment-related legal and other requirements. The Plan seeks to ensure effective processes are in place for the:

- Identification of, and compliance with all issued conditions, modifications, licences and other relevant legal and other requirements.
- Identification and assessment of all environmental risks (aspects and impacts).
- Implementation of controls to prevent environmental harm.
- Development of objectives and targets to promote continual improvement in environmental management and sustainability, and
- Critical evaluation and review of environmental and sustainability performance and the environment management system.

1.2 Context of the Organisation

1.2.1 Organisation and its Context

Port Kembla Milling is located on 4.5ha of reclaimed land in the Wollongong Local Government Area of NSW in the Outer Harbour of the port of Port Kembla. The land, (Lot 2002 DP 1176582), is leased from the NSW Ports and is accessible from Christy Drive.

The land is zoned in the Wollongong Local Environment Plan (LEP) as MD SEPP (Major Development – State Environment Planning Policy). Under the State Environmental Planning Policy (Major Projects) Amendment (Three Ports) 2009 the land is zone SP1 Special Activities.

The site consists of a processing plant with vertical roller mill, transfer hoppers, storage bins and silos for dispatch of product, a materials transfer system, transfer chutes and dust suppression systems, a clinker storage shed, truck and ship unloading facilities, truck loading facilities, associated office and amenities, workshop, substation, transformer yard and car parking.

The port of Port Kembla is the closest industrial port to Sydney, NSW. Port Kembla Milling is located in the Outer Harbour while to the north of the site is the Inner Harbour. The Inner Harbour services BlueScope Steel, a Grain Terminal, a Coal Terminal and Australian Amalgamated Terminals.

The location of Port Kembla is ideal due to its proximity to Sydney and to BlueScope steel for the local supply of Granulated Blast Furnace Slag (GBFS). Port Kembla also has access rail and road infrastructure and an existing labour force with the skills necessary to service PKM.

PKM site is surrounded by industrial developments including:

- The Inner Harbour to the North
- Bluescope Steelworks to the Northwest
- Other industrial and heavy industrial developments to the west and south
- The Tasman Sea to the east.

The nearest residences to the site are located on Wentworth Road (See Figure 1-1), 750 m to the south of the site. Between the Site and the nearest residences are numerous industrial sites: a container distribution yard; a rail locomotive maintenance workshop; motor mechanical workshops; and various light industrial activities.

PKM produces Portland Cement and Ground Granulated Blast Furnace Slag (GGBFS) Cement using a vertical roller mill. Cement consists of approximately 90% clinker, 5% limestone and 5% gypsum while GGBFS consists mainly of 95-100% GBFS and 0-5% gypsum. The site operates 24 hours, 7 days a week.



Figure 1-1 Port Kembla site and neighbouring activities and residences

1.2.1.1 Processes that occur on site

Raw materials, clinker and granulated blast furnace slag are delivered to site by truck and ship where they are stored in various sheds and bins.

Raw materials are delivered to site by road (GBFS, gypsum, limestone) and ship (clinker). Trucks deliver raw materials to the raw material receival hopper from where it is conveyed to the appropriate storage facility.

Clinker is delivered by ship to No. 203 Berth 6 (Port Kembla Gateway). The clinker unloading system can handle both open hold and self discharge ships. The clinker is then conveyed to the 90k tonne clinker shed via an enclosed conveyor.

A high-level process overview is provided in Figure 1-2.

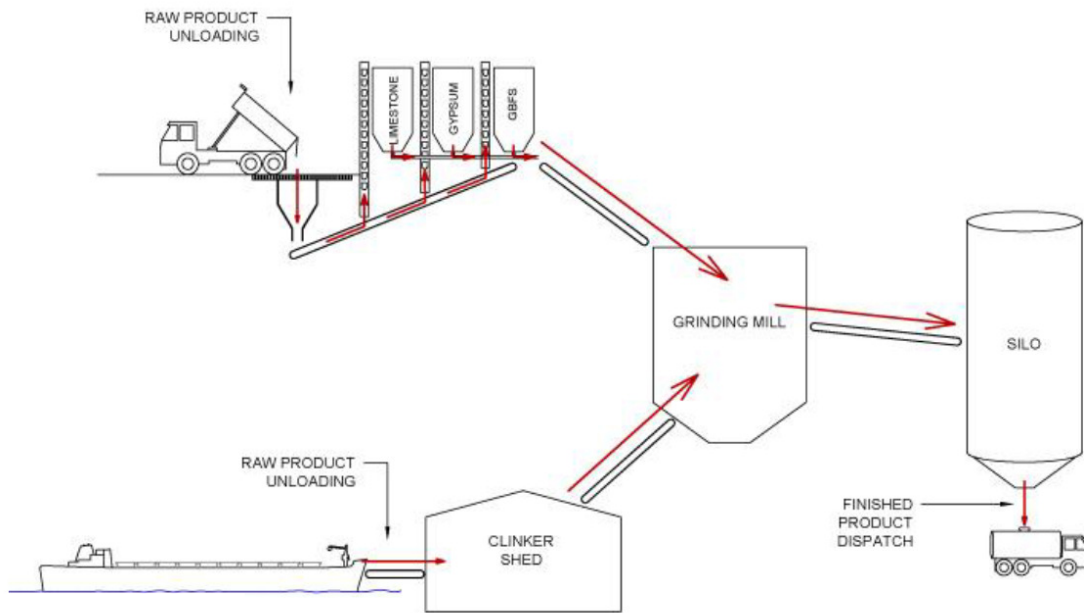


Figure 1-2 High level process overview

Raw materials are transported to the mill from storage bins via conveyor and processed in the mill. The raw materials along with heated air, water and grinding agents are ground in the mill until the mixed product is ground to an appropriate size (blaine). At this point it becomes Cement or GGBFS and is fine enough to be blown by hot air up and out of the mill through the bag filter to the cement cooler. The cement cooler acts as a heat exchanger and cools the product down to approximately 65°C - 70°C. The finished product is transferred via air slides and bucket elevator to the relevant storage silo.

Pneumatic road tankers collect product from the storage silos, pass over a weighbridge to confirm correct weight, and are dispatched to the customer.

In addition to production activities, maintenance of plant and equipment plays a key role in ensuring that PKM operates as efficiently and effectively as possible. The site has a structured life-cycle based computerised maintenance regime which ensures that routine and preventive maintenance activities are implemented across the Plant.

1.2.2 Scope of the EMP

The scope of this EMP includes all related Cement Australia activities, sub-activities, organisations, operations and individuals working within Lots 2002/DP 1176582, Part Lot 41/DP 1158340, Part Lot 73/ DP 1175848 and Part Lot 2003/DP 1176582.

Specifically, the following are included in the EMP:

- All Cement Australia equipment, facilities, operations and processes at Port Kembla Arawata Drive;
- Cement Australia employees working at Port Kembla Arawata Drive;
- Contractors working for or on behalf of Cement Australia at Port Kembla Arawata Drive;
- Vendors and service providers working for or on behalf of Cement Australia at Port Kembla Arawata Drive;
- Visitors to Port Kembla Milling;
- The management (including the collection, storage, off-site disposal of waste streams;
- The management of utilities – such as water and electricity.

The scope of this EMP does not include off-site Cement Australia supplier operations, maritime operations, ship refuelling, ship maintenance or the transportation and distribution of cement products beyond site boundaries.

1.2.3 Document Review

This Environmental Management Plan will be regularly reviewed in accordance with Cement Australia's Document Control Procedures, within 3 months following submission of an audit report as required by the conditions of consent under approval MP10_0102 or as directed by the Planning Secretary. If necessary to improve the environmental performance of the project or reflect updates to management practices, the management plans and programs will be revised and submitted to the Planning Secretary for approval.

2 Requirements/System Overview

The Cement Australia SHEQMS documentation structure is described in CAS-FW-002 Safety, Health, Environment and Quality Management System (SHEQMS) Manual, and is followed by the Cement Australia Port Kembla Milling (PKM) operations.

All Cement Australia sites are expected to maintain a high level of environmental performance in line with the company's SHEQ Policy (CAS-PO-001).

The SHEQMS provides the framework to enable Cement Australia to manage and demonstrate compliance with all relevant SHE compliance obligations.

This Environmental Management Plan (EMP) provides specific information for Cement Australia's PKM operations to support the common SHEQMS Manual.

2.1 Document Overview

This document details how the PKM operations maintain and manage the site specific elements of the SHEQMS and environmental and sustainability performance.

The structure of this EMP follows the framework of the ISO14001:2015 Environmental Management System standard, with the key sections being:

- Context of the Organisation
- Leadership
- Planning
- Support
- Operation
- Performance Evaluation
- Continual Improvement

2.2 Relationship to other Documents

This EMP is part of a suite of documents which describe the processes and techniques that are used to manage the environmental performance and risks associated with PKM based activities.

The documents listed in Section 3.1 support the Cement Australia SHEQMS and this plan.

2.3 Responsibilities

It is the responsibility of all PKM employees, contractors and visitors to the PKM operations of Cement Australia to comply with the requirements of this EMP.

All personnel are encouraged to suggest improvements, corrections and alterations to this plan.

The PKM Safety and Sustainability Specialist is responsible for facilitating updates to this plan.

3 Applicable Documents

3.1 Cement Australia Documents

Reference	Document Name
CAS-PO-001	SHEQ Policy
CAS-FW-002	SHEQMS Manual
CAS-FW-008	Managers Safety Health and Environment Due Diligence
CAS-FW-17.2	Crisis and Business Continuity Management
CAS-PR-1.1	Leadership and Accountabilities
CAS-PR-1.2	SHEQ Management System Review
CAS-PR-3.1	Competency and Behaviours
CAS-PR-3.2	SHE Site Inductions
CAS-PR-4.1	Communication and Engagement
CAS-PR-4.2	SHEQ Observations
CAS-PR-5.1	Risk Management
CAS-PR-5.2	Management of Change
CAS-PR-5.5	Hazardous Substances and Dangerous Goods
CAS-PR-7.1	Legal and Other Requirements
CAS-PR-10.1	Environmental and Sustainability Management System Requirements
CAS-PR-10.2	Air Quality
CAS-PR-10.2.1	National Pollutant Inventory – Preparation and Submission of Reports
CAS-PR-10.3	Water Conservation and Management
CAS-PR-10.4	Land Management
CAS-PR-10.4.1	Land Contamination Management
CAS-PR-10.5	Waste Management
CAS-PR-10.6	Environmental Noise, Vibration and Blast Overpressure
CAS-PR-10.7	Biodiversity Management
CAS-PR-11.1	Contract Management for Onsite Works
CAS-PR-11.3	Principal Contractors
CAS-PR-12.1	Community Engagement and Licence to Operate
CAS-PR-13.1	Project Management SHEQ Requirements
CAS-PR-15.1	Incident Management – Notification, Recording, Investigation and Analysis
CAS-PR-15.2	Community Complaints
CAS-PR-16.1	Compliance and Reporting

Reference	Document Name
CAS-PR-17.1	Emergency Management
CAS-PR-18.1	Site Security
FORMS/REGISTERS	
CAS-F-5.1B	Job Planning Tool
CAS-SF-5.2A	Management of Change – Risk Assessment and Approval Form
CAS-SF-5.2B	Management of Change – Change Request Form
CAS-REG-5.5A	PKM HazChem Register
PORT KEMBLA DOCUMENTS	
PK-F-1	Environmental Inspection Checklist
PKM-PL-6.23A	Stockpile Management Plan
PKM-WI-0147	Inspection Replenishment of Spill Kits and Drain Warden
PKM-WI-0036	Discharge of Finished Product from Mill to Baghouse
PKM-WI-0022	Discharge of Product from Silos to Tankers
PKM-WI-0023	Silo Discharge Via Slides to Selected Silos
PKM-WI-0010 K91	Raw Material Transport to Feed Bins
PK-WI-G	Minor Spill Response Work Instruction
PK-SP-G	Emergency Response Plan and Pollution Incident Response Management Plan

3.2 Non-Cement Australia Documents

Reference	Document Name
NSW EPA	Environment Protection Licence EPL 20101
Department of Planning and Environment, House and Infrastructure (DPHI)	Project Approval 10_0102
ISO 14001:2015	Environmental management systems – Requirements with guidance for use
AS/NZ 4801	Occupational Health and Safety Management Systems – Specification with guidance for use

3.3 Acronyms

CAS	Cement Australia System – document code – documents with this code are Cement Australia documents which the Port Kembla Milling operation must comply with.
Cement	Generic name for finished product. Brand names include General Purpose Cement and Portland Cement
Clinker	Cement Clinker is an intermediate product used in manufacture of Portland and blended Cements. Clinker is made by heating in a rotary kiln at high temperature a mixture of raw materials including limestone. This process enables a chemical reaction to take place enabling the raw materials to aggregate together as molten mineral nodules approximately 3-25mm in diameter.
EPA	Environment Protection Authority
GBFS	Granulated Blast Furnace Slag is also known as slag or wet slag. It is a by-product obtained during the iron making process. It is a raw material in the production of GGBFS.
GGBFS	Ground Granulated Blast Furnace Slag - Is a finished product using GBFS as its main component by weight in the production of an alternate cement product. It also has a trade name of ECOCEM.
GM	General Manager – senior executive of Cement Australia
ISO14001	ISO 14001 is the international standard for Environment Management Systems.
MD SEPP	Major Development – State Environment Planning Policy
PKM	Port Kembla Milling
SHEQ	Safety, Health, Environment and Quality

3.4 Definitions

Term	Definition
Environmental Aspect (ISO14001:2015)	An element of an organisation's activities, products, or services that can interact with the environment.
Life Cycle (ISO14001:2015)	Consecutive and interlinked stages of a product (or service) system, from raw material acquisition or generation from natural resources to final disposal. The life cycle stages include acquisition of raw materials, design, production, transportation/delivery, use, end-of-life treatment and final disposal.
Outsource (ISO14001:2015)	Make an arrangement where an external organisation performs part of an organisation's function or process. Note, the external organisation is outside the scope of the management system, although the outsourced function or process is within the scope.

Term	Definition
Worker	Workers include: - an employee; or - a contractor or subcontractor; or - an employee of a contractor or subcontractor; or - an employee of a labour hire company who has been assigned to work in the person's business or undertaking; or - an outworker; or - an apprentice or trainee; or - a student gaining work experience; or - a volunteer; or - a PCBU if the person is an individual who carries out work in that business or undertaking.

4 Management System Requirements

4.1 Leadership

4.1.1 Leadership and Commitment

The Operations Manager is responsible for the effective implementation of this EMP and the establishment of environment and sustainability objectives and targets that facilitates continual improvement of environmental and sustainability management within Cement Australia activities at PKM.

In addition, members of the PKM leadership team play an active role in the weekly SHE Friday Forum conference calls, chaired by members of Cement Australia Executive. This forum is used across the business to share relevant learnings from incident and industry alerts, as well as providing the business units the opportunity to share proactive actions being taken to continuously improve SHE performance.

The Safety and Sustainability Specialist participates in the fortnightly Safety and Sustainability team conference call. The purpose of this engagement is a two-way conversation for the sharing ideas, team focus areas, areas of concern, project updates etc.

At a site level, a weekly meeting is scheduled and held that focusses on safety and sustainability. The site also maintains a monthly site housekeeping inspection with particular attention paid to environmental and sustainability proactive measures.

In addition, as part of the management review process, (Section 4.5.4 Management Review) the effectiveness of the EMP is reviewed and communicated to the PKM Leadership Team, ensuring the accountability for improving environmental and sustainability performance across the organisation.

4.1.2 Policy

PKM operations are undertaken in accordance with CAS-PO-001 SHEQ Policy. Commitment to this policy is demonstrated via communication and promotion of the policy to relevant stakeholders and the implementation and evaluation of this EMP.

The SHEQ Policy is communicated internally via the induction process and will be made available to interested parties upon request. Copies are maintained on noticeboards within PKM work areas and on the Cement Australia website.

4.1.3 Organisational Roles, Responsibilities and Authorities

All Cement Australia employees, subcontractors/suppliers, and visitors to the PKM operations have a responsibility for identifying improvement opportunities, working to achieve environment and sustainability performance improvements, and for limiting and reducing the impacts on the environment associated with the PKM activities.

Section 4.3.1 of CAS-FW-002 Safety, Health, Environment and Quality Management System (SHEQMS) Manual provides a general description of the resources, roles, responsibility, and authority for environmental and sustainability management within Cement Australia.

Other site documents may also define site roles and responsibilities.

4.2 Planning

4.2.1 General

Management of environmental aspects, impacts, risks and opportunities are undertaken in accordance with CAS-PR-10.1 Environment and Sustainability Management System Requirements.

Hazard identification and risk management shall be applied prior to the introduction of new activities, work areas, tasks, management systems, procedures, substances or equipment, including company organised and supported activities/events involving participation of Cement Australia employees, and during any trial period at PKM.

4.2.2 Environmental Aspects

Environmental aspects and any associated risks and opportunities (those that can be controlled or influenced by our activities) are identified for PKM based activities, products and services within the defined scope of the SHEQMS and this EMP and recorded in PKM-REG-5.1A Risk Register as Environmental Aspects and Impacts.

Identification of environmental aspects shall take into account where PKM has outsourced processes still within Cement Australia work scope to an external organisation. It also takes into account planned or new developments or new/modified activities, products and services.

Identification of environmental aspects also requires consideration of the entire life cycle of the product or service where Cement Australia can control or influence. Dependent on the work scope applicable to this EMP, life cycle considerations may include the identification of environmental impacts or opportunities applicable to the acquisition of raw materials, production, transportation and/or delivery, use of products, and the recycling or disposal processes utilised, and the operational controls required to address any associated significant environmental aspects from these stages.

The PKM Environmental Aspects Registers will identify for each environmental aspect if the activity is outsourced, if there are known risks with managing an environmental aspect and impact, any relevant life cycle considerations and the level of control that Cement Australia can exercise over the risk or opportunity. Significant aspects are those that have an assessed raw risk rating of Medium 13 or above.

The Environmental Aspects register is a live document that is regularly reviewed and maintained and new aspects and impacts added whenever they are identified.

4.2.3 Task Based Risk Assessment

In addition to the high-level risk assessment, all tasks carried out on site which are not governed by a set of specific written instructions require a Job Planning Tool be used to plan the work and assess potential risks (including environmental risks). All risk identified must have controls implemented prior to commencing work.

All tasks that are subject to a written work instruction (i.e. routine tasks) must also first be assessed for risk (including environmental risks) and have controls documented. These controls must be implemented prior to commencing work.

4.2.4 Management of Change

PKM operations will ensure that any changes to operations will meet all environmental compliance obligations and shall effectively control environmental aspects, risks and opportunities and any potential for environmental incident that may result from activity, product, service or system changes.

Management of change shall be conducted in accordance with CAS-PR-5.2 Management of Change. The management of change process is looking to identify potential environmental or sustainability risks and/or opportunities that may be introduced in the event of, but not limited to, the following triggers:

- Temporary or permanent changes to Cement Australia occupied facilities, raw materials, process chemicals, process parameters, equipment design, technology, design/layout of workplaces, tools, processes and materials;
- Contractual changes e.g. new contracts, contract renewal, contract closure, customer, supplier, contractor;
- Significant organisational changes e.g. personnel or staffing changes, including suppliers and contractors;
- Installation of new equipment;
- Demolition, remodelling or addition of existing buildings;
- Installation and/or occupation of a new building;
- Replacement of existing equipment not like for like;
- Digging, trenching, excavation and/or removal of soils.

PKM operations will ensure that any new significant environmental aspect or sustainability risk and/or opportunity identified via the management of change process is incorporated into the site's Environmental Aspects Register, is communicated to all relevant stakeholders and subject to appropriate operational control, internal audit and review.

4.2.5 Compliance Obligations

PKM operations manage relevant environmental compliance obligations in accordance with CAS-PR-7.1 Legal and Other Requirements, through the use of Law Compliance, an externally administered legislation alert and records database for Safety and Environment law and via a documented Cement Australia Compliance Obligations Register.

On a monthly basis, the Cement Australia Safety and Sustainability Function review changes to the relevant legal obligations via the Law Compliance subscription service and identifies any potential impacts to Cement Australia operations. Where relevant changes are identified, the applicable Cement Australia operations are notified of the updated legal obligation via email communications.

Where a legislative change impact is identified in relation to PKM activities, the Safety and Sustainability Specialist shall ensure appropriate actions are implemented to address the change.

Environmental legislation in New South Wales (NSW) is typically administered and enforced by the NSW Environment Protection Authority (EPA).

The following tables identify a number of sources of environmental legislation potentially relevant to PKM operations.

Commonwealth	Australian Radiation Protection and Nuclear Safety Act 1998
	Australian Radiation Protection and Nuclear Safety Regulation 1999
	Biosecurity Act 2015
	Biosecurity Regulations 2016
	Environmental Protection (Sea Dumping) Act 1981
	Environmental Protection and Biodiversity Conservation Act 1999
	Environmental Protection and Biodiversity Conservation Regulations 2000
	Hazardous Waste (Regulation of Exports and Imports) Act 1989
	Industrial Chemicals Act 2019 (Australian Industrial Chemicals Introduction Scheme - AICIS)
	Marine Orders (91, 93, 94, 95, 96, 98)
	National Environmental Protection Measure (Air Toxics)
	National Environmental Protection Measure (Ambient Air Quality)
	National Environmental Protection Measure (Assessment of Site Contamination)
	National Environmental Protection Measure (Movement of Controlled Wastes)
	National Environmental Protection Measure (National Pollutant Inventory)
	National Greenhouse and Energy Reporting Act 2007
	National Greenhouse and Energy Reporting Regulations 2008
	Navigation Act 2012
	Ozone Protection and Synthetic Greenhouse Gas Management Act 1989
	Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995
	Protection of the Sea (Harmful Antifouling Systems) Act 2006
	Protection of the Sea (Prevention of Pollution from Ships) Act 1983
	Radiation Safety Act 1999
	Radiation Safety Regulation 2010
	Renewable Energy (Electricity) Regulation 2011

State (NSW)	Biodiversity Conservation Act 2016
	Biodiversity Conservation Regulation 2017
	Contaminated Land Management Act 1997
	Electricity Supply Act 1995
	Environmental Planning and Assessment Act 1979
	Environmentally Hazardous Chemicals Act 1985
	Heritage Act 1977
	Local Government (General) Regulation 2005
	National Parks and Wildlife Act 1974
	Ozone Protection Act 1989
	Protection of the Environment Operations (Clean Air) Regulation 2010
	Protection of the Environment Operations (General) Regulation 2009
	Protection of the Environment Operations (Noise Control) Regulation 2017
	Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2014
	Protection of the Environment Operations (Waste) Regulation 2014
	Protection of the Environment Operations Act 1997
	Public Health Act 2010
	Public Health Regulation 2012
	State Emergency and Rescue Management Act 1989
	State Environment Protection Policy No. 55 – Remediation of Land
	Sydney Water Act 1994
	Sydney Water Regulation 2017
	Waste Avoidance and Resource Recovery Act 2001
	Water Management (General) Regulation 2011
	Work Health and Safety Act 2011
	Work Health and Safety Regulation 2017

The following information in this section identifies other relevant compliance obligations with respect to environmental and sustainability management for PKM.

4.2.5.1 Site Leases

Cement Australia Pty Ltd holds a lease with the Port Kembla Port Corporation for the property located at Arawata Drive, Port Kembla. (Property Reference Lot 2002/ DP 1176582). This lease is currently due to expire 31 March 2033.

Cement Australia also has a contract with Port Kembla Gateway for the use of No 6 Jetty, Berth 203.

Copies of these leases are available within Cement Australia's Controlled Documents Database. These leases contain references to environmental management to which Port Kembla Milling are required to comply.

4.2.5.2 Major Project Approval

Port Kembla Milling operates under a Project Approval 10_0102 administered by the Department of Environment and Planning (DPHI).

As part of this, the Cement Grinding Mill Project (now known as Port Kembla Milling) was issued with a Project Approval which included 4 Schedules containing numerous conditions for the construction and subsequent operation of PKM. On 22 June 2012 the Project Approval was modified to account for a change in design PKM. There has also been addition modifications to the Project approval MP10_0102-MOD-2 on 2 September 2022 and MP10_0102-MOD-3 on 14 June 2024.

Details of each condition of Project Approval 10_0102 are maintained within the site-specific obligations section of Cement Australia's subscription of Law Compliance.

4.2.5.3 Environment Protection Licence (EPL)

Port Kembla Milling operates under an Environmental Protection Licence EPL No. 20101 administered by the NSW EPA. A copy of the EPL can be located on the NSW EPA website (see link) and a hard copy should be made easily accessible to site employees e.g. posted on site noticeboards.

<https://apps.epa.nsw.gov.au/prpoeoapp/>

The EPL sets conditions to protect environmental values such as water, (stormwater, groundwater, marine), air, (including odour, noise and dust), land and waste management.

The reporting period for the EPL covers dates from the 16th March to the 15th March of the relevant year.

The annual compliance return to the NSW EPA is due for submission no later than 15th May every year. This is a declaration of Cement Australia's compliance with its EPL and is required to be signed off by two Company Directors. Following receipt and approval of the annual return, the EPA will issue a licence return invoice to be paid by the due date. There are penalties for late lodgement or failure to lodge an annual return.

Details of each condition of the EPL No. 20101 are maintained within the site-specific obligations section of Cement Australia's subscription of Law Compliance.

4.2.5.4 ISO14001:2015 Environmental Management Systems

The environmental management system in place at PKM is based on the requirements of the Cement Australia Corporate Environment Management System which is certified to the International Standard for Environment Management Systems, ISO 14001:2015.

An external audit is undertaken at PKM annually to ensure ongoing certification of the EMS to ISO14001.

4.2.6 Objectives and Planning

Each year, PKM operations establish and maintain environmental and sustainability objectives and targets in accordance with CAS-PR-10.1.

Action plans are established with PKM's Safety and Sustainability Plan. Each objective and target are captured within this plan together with the proposed steps that will be taken to achieve the objective and target. Progress towards achieving these objectives and targets is monitored regularly and discussed during scheduled team meetings.

4.3 Support

4.3.1 Resources

While all Cement Australia workers hold environmental management responsibilities, the following section details the roles within PKM operations with specific environmental responsibilities relating to activities conducted under the scope of this EMP.

Manager Safety and Sustainability

The Manager Safety and Sustainability has the authority from the General Manager Sales, Marketing & Risk, and is responsible for:

- Advising all levels of management in Cement Australia on all aspects of SHE management;
- Ensuring the establishment of appropriate SHE policies, plans, processes and systems to manage SHE risks in the company;
- Undertaking reviews of SHE incidents with the relevant Operations or Functional Managers where applicable;
- Providing the Cement Australia leadership team with up-to-date information on all relevant SHE issues, initiatives and updates to legislation;
- Developing and delivering SHE related presentations to customers and prospective customers on behalf of Cement Australia;
- Providing a uniformed direction and positive assistance to SHE personnel and leadership team members;
- Ensuring Cement Australia achieves and maintains SHE certification as applicable;
- Ensuring SHE audits are conducted for each operation in accordance with the audit schedule;
- Represent Cement Australia on industry bodies relating to SHE matters;
- Reporting to the Cement Australia leadership team members, those areas where compliance with SHE obligations is not being met and the corrective actions and or process to be implemented to bring operations back in to compliance;

Developing, implementing and monitoring objectives and targets, strategies and initiatives for Cement Australia and the individual operations (as required).

SHE Function Leads

SHE Function Leads (e.g. Principal Safety and Health Advisor, Principal Sustainability and Environment Advisor and S/S Assurance Specialist) are responsible for assisting the Manager Safety and Sustainability and will assist in:

- Establishing appropriate SHE policies, plans, processes and systems to manage SHE risks in the company;
- Active participation in SHE Executive Council Committee meetings;
- Providing assistance to relevant operational and functional managers in determining SHE requirements;
- Planning for, development and communication of annual internal SHE function and site/project internal self-auditing programs;
- Evaluating, recommending and delivering suitable SHE training for all staff;
- Advising site Safety and Sustainability Specialists and Managers/personnel with respect to SHE management of all aspects of their business;
- Developing, delivering and evaluating suitable SHE management training for operations and business units;
- Assisting with the identification of risks, through participation in risk assessments;
- Emphasis of the importance of SHE management during site visits updates and reviews;
- Keeping abreast of changes to legislation and communicating such changes to line management; and
- Monitor SHE compliance obligations and those areas where operations are not in compliance.

Operations Manager

- Overall responsibility for the operations and all activities that occur on site including environmental and sustainability management;
- Ensures relevant employees are appropriately trained in environment and sustainability matters;
- Sets objectives and targets for improving site environmental and sustainability performance;
- Approves and facilitates the implementation of environmental controls, projects and other required works;
- Communication internally and externally on environment and sustainability matters.

Production and Maintenance Manager

- Day to day implementation of environmental controls;
- Ensuring relevant environmental controls are registered and maintained within the site's maintenance management system;
- Coordinate response to incidents and document incident reports;
- Implementation of standardised procedures for the safe and environmental responsible operation of all equipment on site.

Operators

- Operate equipment in the manner in which it was designed and as per relevant work instructions and manuals;
- Report any environmental incidents to the Operations Manager or Production and Maintenance Manager;
- Respond to and clean up any spillages immediately, taking care to prevent spillages reaching the stormwater system;
- Maintain housekeeping standards throughout the Plant;
- Attend environmental awareness training.

Port Kembla Safety and Sustainability Specialist

The PKM Safety and Sustainability Specialist will be responsible for:

- Actively promoting environment management and sustainability across the PKM operations;
- Advising site personnel on all aspects of environment and sustainability management, including updates to legislation;
- Monitoring the site/project compliance with the Cement Australia SHEQMS and advising the Operations Manager of any non-compliance.
- Keeping the Operations Manager informed of all environment and sustainability matters;
- Reviewing all incident reports, advising on and confirming that appropriate corrective actions are implemented;
- Identification and coordination of environmental monitoring activities;
- Collection, collation, monitoring and reporting of environmental data as required (e.g. resource use, waste disposal);
- Assisting site employees in the identification of hazardous situations and appropriate site controls;
- Working with the employees to identify and assess all environmental aspects and risks/impacts and keeping registers up to date.
- Facilitate the completion of internal and external environmental reporting requirements;
- Active participation in scheduled safety and sustainability function meetings;
- Participate in organised internal related audits of other Cement Australia operations;
- Developing and promoting a positive reporting culture;
- Understand and managing the environmental compliance obligations for the operations;
- Provide assistance to other key stakeholders in identifying the environmental risks and/or opportunities when procuring goods and/or services;
- Managing environmental documents and records as required;
- Ensuring the appropriate level of environmental performance of contractors when carrying out activities with environmental risk; and
- Reviewing and contributing to the ongoing management of the environmental management system including updates to the Environmental Management Plan and supporting documents.

4.3.2 Competency, Training and Awareness

All employees, visitors and contractors who work/visit Port Kembla Milling are required to complete a site induction. This induction covers:

- Significant environmental issues and sensitive environmental areas of the site
- Legal requirements including due diligence and duty of care.
- Environmental responsibilities.
- Identifying and reporting environment and community incidents
- Emergency response and pollution incident response and reporting for environment emergencies

Environmental awareness training for Port Kembla employees occurs every 2 years and covers as a minimum:

- Cement Australia SHEQMS overview;
- Benefits of having an environmental management system;
- Cement Australia SHEQ Policy;
- Roles and responsibilities;
- Elements of a sustainable workplace;
- Key compliance obligations at Federal, State level and site specific;
- NSW environmental offence definitions and penalties;
- Discussion of significant conditions of EPL No. 20101 and Project Approval 10_0102;
- PKM significant aspects and applicable controls;
- Hazardous substances management;
- Contractor and third party management;
- Communications, reporting and notifications – incidents and complaints;
- Environmental monitoring;
- Emergency response; and
- Housekeeping for general environmental management.

4.3.3 Communication, Participation, Consultation and Reporting

This section provides a description of the communication, participation and consultation requirements and processes for PKM.

4.3.3.1 Internal Communications

Mechanisms for the communication of environment management related information to internal stakeholders include:

- Weekly site meetings with all site employees;
- The site maintains a monthly site housekeeping inspection with particular attention paid to environmental and sustainability proactive measures;
- Monthly business reviews with the Cement Australia executive;
- Tool box talks to share recent safety or environmental learning's from incidents, events or other opportunities experienced on site or within the Cement Australia group;
- Sharing of learnings from presentations given at the weekly SHE forum with employees as relevant.

4.3.3.2 External Communications

The Operations Manager is responsible for coordinating all communication with Government authorities including relevant environmental authorities.

The Operations Manager is responsible for coordinating all communication with the community and local community groups. Community engagement will be on an as-needs basis.

Communication will principally occur through the Cement Australia website.

In accordance with the Protection of the Environment Operations Act, Port Kembla Milling will ensure mandatory environmental monitoring data and the required contact information is available on the website.

When required, Port Kembla Milling may engage directly with local residents along Wentworth Road and elsewhere as and when affected by the operation.

4.3.3.3 External Reporting

Port Kembla Milling is required to submit reports to various government agencies.

These are summarised in Table 4-1 below. The required content of these reports is outlined in the relevant legislation or in the case of the Annual Return, on the form itself.

However, refer to section 4.3.3.4 for specific details on the content of the Annual Report to the Department of Planning and Environment, House and Infrastructure (DPHI).

Table 4-1 Mandatory Reporting Requirements

Report Name	Recipient	Coordinator	Approval	Frequency	Due
Annual Return	EPA	S/S Specialist	CEO and Company Secretary	Annual	15 May
Annual Report	DPHI	S/S Specialist	Operations Manager	Annual	30 June
National Pollutant Inventory (NPI)	EPA	S/S Specialist	Principal Sustainability Advisor	Annual	30 Sept
National Greenhouse and Energy Report (NGER)	CER	Principal Sustainability Advisor	CEO and Company Secretary	Annual	31 Oct
Independent Environmental Audit (IEA)	DPHI	S/S Specialist	Operations Manager	Every 3 years	2027

NOTE:

EPA – Environment Protection Authority

DPHI – Department of Planning, Housing and Infrastructure.

CER – Clean Energy Regulator

4.3.3.4 Annual Report to DPHI

The following information shall be included in the Annual Report submitted to the DPHI:

- A summary of the complaints received during the past year, and compare this to complaints received in previous years;
- A summary of the monitoring results obtained during the past year, and a comparison of these results against the relevant:
 - Impact assessment criteria/limits
 - Monitoring results from previous years
 - Predictions in the EA
 - Identify any trends in the monitoring results over the life of the development
 - Identify any non-compliance during the previous year and
 - Actions that were, or are being, taken to ensure compliance
- Total tonnes of product transport from site (condition 20 of DA)
- Total truck movements (condition 20 of DA)
- Total production of finished product (condition 5 of DA)

Copies of the previously submitted annual reports are maintained on the PKM drive within the SHE folder.

4.3.3.5 Complaint Handling

Port Kembla Milling maintains a telephone complaints line. This telephone line is maintained 24 hours, 7 days a week. When the site is unmanned, the telephone complaints line sends a voice message via email to the Operations Manager and Safety and Sustainability Specialist. The telephone complaints line number is posted on entrance signage to Port Kembla Milling. This is a condition of EPL 20101.

The procedures outlined in Cement Australia procedure for Community Complaints (CAS-PR-15.2) will be utilised for managing community complaints.

The following details pertaining to a community complaint shall be recorded in the Cement Australia incident management database:

- Date and time of complaint;
- Method by which the complaint was made;
- Personal details of the complainant or a note to the effect that details were not provided;
- Nature of the complaint;
- Action taken by Port Kembla Milling in relation to the complaint, including follow-up contact with the complainant; and
- If no action taken then the reasons why no action was taken.

These records must be provided to an EPA officer if so requested and reported in the Annual Report (DPHI) and Annual Return (EPA).

All community complaints will be investigated using the procedures outlined in CAS-PR-15.1 including raising corrective and preventative actions.

4.3.4 Documented Information

Documents and records will be controlled in accordance with the procedures outlined in Cement Australia's Document Control and Control of Records procedure (CAS-PR-7.2). This procedure stipulates processes for the drafting, approval, distribution and control of all documents and records related to the environmental management system.

Obsolete documents are destroyed or are identified as being out-of-date to prevent their unintended use. Documents that must be retained after revision to meet a records retention requirement are marked as obsolete upon revision. Documents that need not be retained are destroyed upon revision.

Documents relevant to the SHEQMS at both the corporate level and site level are maintained within Cement Australia's Controlled Documents Database (CDD).

4.3.4.1 Record Keeping and Retention

Table 4-2 outlines a list of records to be retained as part of this procedure and/or the management plans.

Table 4-2 List of records required to be maintained

Type of Record	Location	Retention
Major Project Approval, EPA Licence, Leases and other Authorities	Document Management System (online) Copy of EPA Licence must also be kept on site notice board	Indefinite – length of operation
The Environment Management Plan (this document)	Document Management System (online)	Indefinite – length of operation
Regulatory authority inspection reports	Document Management system (online)	4 years (EP Lic.)
Correspondence with regulatory authorities.	Environment files online	4 years
Environment assessments by consultants for specific aspects and impacts (i.e. air quality impact assessments etc.)	Document management system (online)	4 years (EP Lic)
Community complaints	Incident management database	4 years (EP Lic)
Product despatch data	DMS	4 years
Total truck movements annually	Tracked internally via DMS – reported as required.	4 years
Monitoring records and completed inspection checklists	Environment files online	4 years (EP Lic)
Induction and Training records	Environment files online	Length of employee service
Records of management review	Environment files online	4 years
Records of communications with stakeholders	Environment files online	4 years

Type of Record	Location	Retention
Records of incidents and incident investigations	Environment files online	4 years (EP Lic)
Records of Non-conformances	Online audit tool, Environment files online, incident management database	4 years (EP Lic)
Audit reports	Online audit tool	4 years (EP Lic)
Corrective and preventative actions	Online audit tool, incident management database	4 years

4.4 Operation

Cement Australia manages its environmental operational control requirements in accordance with those procedures identified in Section 3.1. Operational control procedures are developed and implemented as necessary to manage environment or sustainability risks identified in relation to Cement Australia activities. Operational controls are developed with a priority on control options with a higher reliability in prevention of environmental incident, consistent with the hierarchy of controls. The operational controls are evaluated on an ongoing basis to verify their effectiveness.

Applicable processes that are outsourced by Cement Australia to suppliers and/or contractors external to Cement Australia shall be managed in accordance with CAS-PR-11.1 Contract Management for Onsite Works. Where contractors are performing activities at PKM, or on behalf of Cement Australia where those activities may impact on Cement Australia environmental performance, these shall be captured on the Environmental Aspects Register to ensure the appropriate risk control measures are in place and monitored.

Site specific work process and instructions are developed where it has been identified that the control of all aspects of the risk have not been identified within the Cement Australia operational control procedures, or where the work involves discreet activities for which environmental management is inherently complex (e.g. significant risk, legal or contractual requirement).

The following is a list of the PKM site specific work processes and instructions relevant to this EMP:

- PKM-PL-6.23A - Stockpile Management Plan
- PKM-WI-0147 - Inspection Replenishment of Spill Kits and Drain Warden
- PKM-WI-0036 - Discharge of Finished Product from Mill to Baghouse
- PKM-WI-0022 - Discharge of Product from Silos to Tankers
- PKM-WI-0023 - Silos Discharge Via Slides to Selected Silos
- PKM-WI-0010 K91 - Raw Material Transport to Feed Bins
- PK-WI-G - Minor Spill Response Work Instruction
- PK-SP-G - Emergency Response Plan and Pollution Incident Response Management Plan

4.4.1 Water Quality and Conservation

This section describes how PKM manages and controls water related aspects associated with its operations. There are a number of compliance obligations related to water management contained within the Project Approval 10_0102 (Condition 16) and EPL No.

20101 (Condition L1) and details of these conditions can be located within the site-specific section of Cement Australia's compliance register (Law Compliance subscription).

Key elements of the original Stormwater Management Plan submitted to the Department for the original project approval have been captured in the following sections of this EMP to ensure ongoing compliance to condition 16 of the Project Approval and L1 of EPL 20101.

4.4.1.1 Potential Water Pollutant Sources

The main sources of pollutants that could potentially enter the stormwater system at PKM are:

- Spilled product and/or raw materials;
- Hydrocarbons from a chemical, fuel or oil spill or leak;
- Gross pollutants e.g. rubbish, debris

4.4.1.2 Stormwater Management Controls

While the site maintains a stormwater treatment measure in the form of a bio-retention basin, described in the next section, it is important that the site implement controls to prevent the pollutants from entering the stormwater system in the first instance. Controls to be implemented include:

- Ensuring minimal dangerous goods and fuel are stored on site and those that are, are stored and handled in a covered bunded area to ensure that no fuels or chemicals are exposed to the weather or can enter the stormwater system;
- All areas where vehicles operate are sealed or hard stand to prevent vehicle generated dust and erosion;
- Drain wardens (geofabric installed under catch pit grates) are installed within vulnerable stormwater pits to remove sediment from stormwater runoff;
- Good housekeeping practices are carried out on site with regular site clean ups and routine housekeeping inspections;
- Spill kits are provided for all areas where chemicals are handled as well as near the truck parking and loading/unloading zones in case of a ruptured fuel tank;
- Product loading from silos occurs via enclosed and sealed hoses which have a fail safe shut valve in case of a malfunction;
- Raw material delivery is protected by wind breaks;
- No products or raw materials are stored uncovered outside. The clinker shed is maintained under negative pressure and all material transfer points have bag filters to prevent dust emissions;
- Emergency spill response procedures are in place for oil and chemical spills (see PK-WI-G Minor Spill Response Work Instruction).
- Spill kits are on hand at key locations where oil and chemical spills could occur;
- A vacuum truck, normally used for unblocking equipment is on hand for rapid clean up of any product spilled in the event of a system malfunction or failure;
- Maintenance procedures are in place for maintenance of the stormwater system in addition to maintenance of all plant and equipment including that which could give rise to dust or product spillages;
- Inspection processes are in place for regular inspection and cleaning of the stormwater system.
- Drain warden inspections are captured within the Monthly Housekeeping procedure and management of drain wardens are covered by Work Instruction PKM-WI-0417.

4.4.1.3 Stormwater Treatment

Surface water runoff generated on site during rainfall events is collected by a network of stormwater drains and pipes across the site (see Stormwater plan Appendix 1), in addition to overland flow in high rainfall events, that discharges runoff for treatment into a bio-retention basin located in the north eastern area of the site. Water that has passed through the bio-retention basin discharges via two pipes to the harbour.

The bio-retention basin ensures that surface water runoff is treated for nutrients and suspended solids before it is discharged from site.

The bio-retention basin has a surface area of 1600 sq.m, with a filter area of 785 sq.m.

Bio-retention basins work by filtering runoff using natural infiltration processes. Surface plantings in the basin prevent fine sediment from clogging the surface of the system while plant root mass aids in nutrient uptake.

At the bottom of the bio-retention basin, sand and gravel transition layers direct treated water into perforated pipes that discharge treated water to the harbour.

Gross pollutant traps (GPTs) are installed upstream of the bio-retention basin to remove gross pollutants and reduce blocking of the basin filter media.

4.4.1.4 Maintenance of the Stormwater System

Regular maintenance and inspections of the stormwater system is required to ensure it functions correctly.

The Port Kembla Milling computerized preventative maintenance management system automatically generates a work order at 3 monthly intervals for the inspection of all aspects of the stormwater management system.

The form PK-F-1 contains specific details as to what is to be inspected and maintained, however includes the following:

- Ponding, clogging or blockage of the filter media in the bio-retention basin. Untreated water should not be pooling on the surface of the system for extended periods of time. (greater than 12 hours).
- Surface vegetation in the bio-retention basin to be monitored as vigorous plant growth is important for treatment. This includes scheduled watering in dry periods;
- Prevent undesired growth of weeds and vegetation;
- Removal of debris and sediment in drains and in the bioretention basin;
- Any litter should be removed from the filter area in the bioretention basin and from drains generally;
- Remove all weeds from both the batter slope and filter area. This should be carried out by hand or with targeted herbicide;
- Remove excess or dead plant material which will increase the nutrient load on the system.

4.4.1.5 Water Consumption

PKM consumes potable water in a number of processes and activities, with the majority of the water on site is consumed in cement milling activities. A smaller proportion of potable water is also consumed in the following activities:

- Gardening;
- Cleaning,
- Use in amenities.

The site continues to identify opportunities for minimising its water consumption across all site activities. Water consumption is recorded and reported.

4.4.2 Noise Management

This section describes how PKM manages and controls its noise and vibration related aspects associated with its operations. There are a number of compliance obligations related to noise and vibration management contained within the Project Approval 10_0102 (Conditions 23 – 26) and EPL No. 20101 (Condition L3) and details of these conditions can be located within the site-specific section of Cement Australia's Compliance Register (Law Compliance subscription).

Essential elements of the original Noise and Vibration Management Plan submitted to the Department for the original project approval have been captured in the following sections of this EMP to ensure ongoing compliance to condition 23-26 of the Project Approval and L3 of EPL 20101.

4.4.2.1 Noise and Vibration Sources

The main noise sources associated with PKM operations is mechanical plant consisting of dust collection units, compressors, fans, motors for conveyors and the mill, blowers, hot gas generators and the mill itself. Mobile plant consists of one excavator operated in the clinker shed, forklift and elevating work platform, and delivery and despatch trucks.

4.4.2.2 Noise Controls and Mitigation

Controls implemented and maintained by the site to mitigate excessive noise levels include:

- Sound power levels considered when purchasing new equipment.
- Where necessary, noise controls and/or shielding of equipment will be installed.
- Regular (5 yearly or within six months of commissioning new equipment) noise contour mapping is under taken and noise issues addressed systematically.
- Noisy equipment is housed inside buildings where possible and landscaping has been shaped to assist in noise absorption.
- All site personnel must adhere to the site workplace health and safety requirements in relation to use of appropriate personal protective equipment when operating, or in the vicinity of noise generating plant/equipment (refer PK-MP-J Safety Management Plan).
- Vehicles will not be left turned on or idling at the site for longer than minimum amount of time required completing site activities.
- Regular and effective plant/equipment maintenance will be completed.
- Annual noise monitoring by external contractors.
- Any exceedance of licence and or DA conditions will be managed as incidents (events) and controlled in accordance with Cement Australia's Incident Management procedures, Incident communication and control measures will also require discussion with the EPA.

Controls and strategies in place to manage noise emissions standards for vehicle movements:

- Fleet replacement & maintenance program in place, ensuring that they meet the latest ADR noise and emission standards
- Annual noise monitoring completed on trucks
- Low speed limit for the site to minimise compression breaking.
- Vehicle maintenance program
- Enclosed loading bay.

4.4.2.3 Truck Noise Auditing Program

The Environment Protection Licence and Major Project Approval also require the implementation of a Truck Noise Auditing Program. Auditing will be conducted on a sample of trucks (both CA owned and Lorry Owner Driver vehicles) that service PKM on an annual basis.

Trucks will be audited in accordance with the National Transport Commission National Stationary Exhaust Noise Test Procedures for In-Service Motor Vehicles – September 2006.

4.4.3 Air Quality

This section describes how PKM manages, and controls air emission related aspects associated with its operations. There are a number of compliance obligations related to air emissions contained within the Project Approval 10_0102 (Condition 30) and EPL No. 20101 and details of these conditions can be located within the site-specific section of Cement Australia's Law Compliance subscription.

Essential elements of the original Air Quality Management Plan submitted to the Department for the original project approval have been captured in the following sections of this EMP to ensure ongoing compliance to condition 30 of the Project Approval and EPL 20101.

4.4.3.1 Potential Air Emission Sources

In addition to fuel combustion processes, the processes of raw material delivery (both by truck and ship), milling, storage and handling and product dispatch are the main generation sources of air emissions from the PKM operations. Air emissions (both as point source and fugitive sources) will include:

- Carbon dioxide, carbon monoxide, NO_x, SO_x and emissions from fuel combustion processes.
- Particulate matter in the form of Total Suspended Solids (TSP) and particulate matter less than 10 microns. (PM₁₀).
- Any exceedance of licence and or DA conditions will be managed as incidents (events) and controlled in accordance with Cement Australia's Incident Management procedures, Incident communication and control measures will also require discussion with the EPA.

4.4.3.2 Air Emission Limits

Cement milling is a Scheduled Activity under Schedule 1 of the POEO Act. Air quality limits are prescribed in the Protection of the Environment Operations (Clean Air) Regulation 2010 in Schedule 3 (for Cement and Lime handling specifically) and Schedule 4 for all other activities on site.

Project Approval 10_0102 stipulates all plant equipment must meet Group 6 air emission limits. The group 6 limits applicable to PKM's operation are summarised in the Table 4-3 below.

Table 4-3 Applicable Group 6 Air Emissions Limits for PKM

Reference	Activity	Pollutant	Group 6 Limit
Schedule 3 Cement and Lime Handling (POEO Clean Air Regulation 2010)	Any crushing, grinding, separating or materials handling activity	Total Solid Particulates (TSPs)	20 mg/m ³
Schedule 4 (POEO Clean Air Regulation 2010)	Any activity or plant (except boilers, gas turbines and stationary reciprocating internal combustion engines listed below)	Nitrogen dioxide (NO ₂) or Nitric oxide (NO) or both, as NO ₂ equivalent	350 mg/m ³
	Sulfuric acid mist (H ₂ SO ₄) or sulphur trioxide (SO ₃) or both, as SO ₃ equivalent	Any activity or plant	100 mg/m ³
	Hydrogen sulphide (H ₂ S)	Any activity or plant	5 mg/m ³
	Fluorine (F ₂) and any compound containing fluorine, as total fluoride (HF equivalent)	Any activity or plant, other than the manufacture of aluminium from alumina	50 mg/m ³
	Chlorine (Cl ₂)	Any activity or plant	200 mg/m ³
	Hydrogen chloride (HCl)	Any activity, other than the manufacture of glazed terracotta roofing tiles	100 mg/m ³
	Cadmium (Cd) or mercury (Hg) individually	Any activity or plant	0.2 mg/m ³
	Volatile organic compounds (VOCs), as n-propane	Any activity or plant involving combustion (except as listed below)	40 mg/m ³ VOCs or 125 mg/m ³ CO

In addition, EPL 20101 stipulates an emission concentration limit of 20 mg/m³ for total suspended particles (with no oxygen correction) for the cement mill stack.

4.4.3.3 Air Emission Controls and Mitigation

The principal operational controls implemented on site to prevent air quality exceedances are detailed in Table 4-4 below.

Table 4-4 Air Emission Controls

Sources	Operational Controls	Person Responsible
Point source dust - dust collectors, stack Gaseous emissions (Mill stack)	- Dust collectors maintained properly as per maintenance requirements. - Bag breakage detectors. - Immediate shutdown of relevant parts of process in event of dust collector failure. - Enclosed conveyors and transport systems. - Continuous Emissions Monitoring for Dust (particulates). Maintained within TIS. - Annual stack testing. - Maintenance procedures. - Process controls – use of slag/gypsum dryers and other parameters as per standard operating procedures.	Production and Maintenance Manager
Wheel generated dust	- Regular site road sweeping - Good driving behaviours.	Production and Maintenance Manager
Raw material delivery hopper - dust	- Wind shields - Raw materials naturally moist	Production and Maintenance Manager
Ship unloading - dust	- Sensor used to show crane operator when grab is positioned inside hopper, radio controlled interlock is also used to prevent spills. - Dust collectors	Production and Maintenance Manager
Fugitive dust	- Good housekeeping practices - Dust collectors - Enclosed conveyor systems - Storage raw materials in bins/sheds - Grass coverings to unsealed areas	Operations Manager

4.4.3.4 National Pollutant Inventory

PKM is required to report its air emissions under the National Pollutant Inventory Reporting scheme. Based on an assessment of inputs and outputs to the process, in addition to energy (fuel and gas) consumed on site, the facility meets the reporting thresholds for Categories 2a and 2b.

Port Kembla is required to report the following emissions (using the Emissions Estimation Techniques outlined the industry manual).

Table 4-5 Emissions to be reported for National Pollutant Inventory PKM

Emissions to be Reported

Arsenic and compounds	Magnesium oxide fume
Beryllium and compounds	Mercury and compounds
Cadmium and compounds	Nickel and compounds
Carbon monoxide	Oxides of Nitrogen
Chromium (III) compounds	Particulate Matter ≤ 2.5 μm (particulate matter 2.5 microns or less, also known as PM _{2.5})
Chromium (VI) compounds	Particulate Matter ≤ 10.0 μm (particulate matter 10 microns or less, also known as PM ₁₀)
Copper and compounds	Polychlorinated dioxins and furans (TEQ)
Fluoride compounds	Polycyclic aromatic hydrocarbons (B[a]P _{eq})
Hydrochloric acid	Sulphur dioxide
Lead and compounds	Total Volatile Organic Compounds

The NPI reporting process is coordinated by the central Safety and Sustainability Team however data collection is facilitated by the site Safety and Sustainability Specialist.

4.4.4 Energy Management

A condition of the project approval 10_0102 was the development and implementation of an Energy Management Plan. The Energy Management Plan was required to include details of energy consumption, and potential measures (for ongoing) reduction in energy consumption and greenhouse gas emissions into the long term.

PKM was constructed specifically to replace Cement Australia's aging and inefficient cement manufacturing plant located in Kandos NSW. The state of the art technology employed at PKM, in addition to the significant energy and carbon intensity reductions made through the closure of the Kandos facility resulted in the PKM project being awarded a \$9.5 million Clean Technology Investment Program grant by the Commonwealth Government 2013.

4.4.4.1 Energy Consumption and Greenhouse Gas Emissions

Energy is consumed at PKM in the form of electricity, natural gas and diesel. Electricity consumption on site contributes Scope 2 (or indirect) greenhouse gas emissions and the consumption of natural gas and diesel contributes to the site's Scope 1 (or direct) greenhouse gas emissions.

Energy consumption on site occurs as a result of raw material and product handling, the cement milling process itself, transport and mobile plant activities and finally as a result of plant ancillary services such as lighting.

The raw material and finished product handling is powered by electricity (principally via the use of conveyors). Diesel is the main fuel used for transport and mobile plant operations while hot gas generators, fed with natural gas, are used in the milling process.

Through the installation of a Vertical Roller Mill (VRM) as opposed to traditional cement grinding ball mills, energy consumption is reduced in the grinding process without the compromise of product quality. Energy savings of approximately 7 Kilowatt-hour/metric ton of raw material are achieved when compared to ball milling. The electricity savings of a new finish grinding mill when replacing a ball mill is estimated at 30 kilowatt-hour/metric ton cement (Innovations in Portland cement, 2004).

The vertical roller mill at PKM is the first of its kind to operate in Australia and the new technology has reduced the energy intensity of the milling process by approximately 30% (as compared to a conventional ball mill).

Electricity reductions and associated reductions in greenhouse gas emissions when comparing the performance of vertical roller mills (VRM) to ball mills is obvious. The energy efficiency benefit of a VRM over traditional ball mill is even greater when grinding blast furnace slag, as the VRM can accept raw materials containing up to 20% moisture. Specifically, this reduces the energy required through the drying process and thereby lowers energy consumption as compared with traditional ball milling.

4.4.4.2 Management of Energy and Greenhouse Gas Emissions

The management of energy and greenhouse gas emissions and continual improvement in energy efficiency is an ongoing focus of PKM and Cement Australia.

At PKM, energy consumption is monitored and categorised throughout the company through a detailed, plant-specific annual process audit. These reviews are key processes used to identify where efficiencies can be made and have contributed to or in some cases triggered projects for energy efficiency.

Cement Australia and the Port Kembla Mill recognise that the effective management of energy and, subsequently greenhouse gas emissions is a key strategic challenge for the business due to the rising cost of energy and the ever changing government climate policies.

To achieve best practice in energy management focus is required on energy procurement; energy use and energy reduction. At Cement Australia and PKM, these focus areas are underpinned by a framework of policies and procedures and reporting and compliance measures (such as NGERs and Shareholder reporting requirements).

Cement milling is an energy intensive process and PKM seeks to minimise energy use at every available opportunity. The management of energy at PKM is based on the following key management actions:

- Effective design and installation of newest available technology such as the vertical roller mill;
- The requirement to assess energy efficiency and GHG emissions during the early stages of selecting new equipment;
- Effective maintenance and operation of all equipment and regular review of maintenance processes;
- Regular energy mass balance and process audits; and
- The identification and implementation of energy efficiency opportunities where economically feasible and practicable.

The highest proportion of greenhouse gas emissions associated with PKM activities are the Scope 2 emissions generated from the consumption of electrical energy. The next highest contributor is the Scope 1 emissions associated with the consumption of natural gas. A minor contribution to total site emissions results from the use of diesel in materials handling and transport operations.

Given the majority of emissions relates to electricity and natural gas consumption, the actions detailed to reduce energy consumption will also have a direct impact on reducing greenhouse gas emissions.

4.4.4.3 Monitoring Energy Use and Greenhouse Gas Emissions

Port Kembla Milling utilises an electronic information system called TIS (Technical Information System) for the collection of all production and energy data. The TIS data management system delivers accurate, consistent and real time information on all process parameters to Plant Operators and Managers.

Information collated by TIS includes process measurements, emissions monitoring results, raw material product quality information, energy data, laboratory data and other miscellaneous information which may have an impact on the production process. The information is fed into the system either automatically (where meters and online data recorders exist (energy, emissions, real time analysis) or manually (laboratory and testing results).

TIS is used continuously to monitor the technical; performance of the milling system and for longer term trend analysis such as for monitoring energy efficiency and greenhouse gas emissions.

Each year, PKM develops a Safety and Sustainability Plan. This plan sets out the safety and sustainability strategic direction for PKM for the next five years. This process ensures that performance improvement initiatives (including energy efficiency opportunities) are formally communicated throughout the organisation. Data gathered during the technical and process audit and review processes is used for setting short and long term energy targets against the following key performance indicators (KPIs):

- Specific Electrical Energy Consumption Cement [kWh/t cementitious material] – the electrical energy needed to produce a tonne of cement (GGBFS and Cement combined)
- Specific natural gas consumption per tonne of cementitious material [GJ/t cementitious material] – the natural gas needed to produce a tonne of cement (GGBFS and Cement combined)
- Specific CO₂-emissions [kg CO₂ / t cementitious material] – the total CO₂-e emissions produced per tonne of cement (GGBFS and Cement combined)

4.4.4.4 Reporting Obligations

Port Kembla is a liable facility under National Greenhouse and Energy Reporting Act as it triggers the facility threshold for annual energy use. Energy consumption and greenhouse gas emissions data is collected and reported to the Clean Energy Regulator each year.

4.4.5 Waste Management

This section describes how PKM manages and controls the waste related aspects associated with its operations.

4.4.5.1 Sources of Waste Generation

Site activities and their associated actual and potential waste impacts are shown in the table below.

Activities	Potential wastes and their impacts if incorrectly managed
Shipping activities	Quarantine waste – introduction of foreign and harmful flora and fauna to Australian environment Ballast Water – pests and diseases introduced to the Australian marine environment and Port Kembla
Cement Milling production activities (including storage and transport of raw materials and finished product)	Process wastes (spillages and dust) if not managed adequately could enter stormwater system and be discharged to the environment or cause fugitive dust
Maintenance activities	Incorrect disposal of oils and greases used in maintenance Generation of packaging waste from spare parts Missed opportunity for recycling scrap metal, oils and lubricants and packaging materials
Office and Driver Amenity activities	Paper and general waste generation Missed opportunity for waste segregation and recycling
Pollution control devices	Bag filters – dust emissions if not correctly maintained (dust should be recycled back into system) Filter bags Gross Pollutant Traps – incorrect disposal of gross pollutants that may accumulate in GPT Drains and culverts – accumulation of dust and debris – if not collected and appropriately disposed of will be mobilised in stormwater system and released to environment.
Landscape maintenance	Accumulation of rubbish from on and offsite activities. Visual impact and could be released to environment causing harm to flora and fauna

4.4.5.2 Waste Classification

The classification of waste is based on the NSW EPA document “Environmental Guidelines: Assessment, Classification and Management of Liquid and Non- Liquid Wastes”.

The classification of wastes is necessary to determine whether licensed transporters are required and at which landfill the waste may be disposed.

Non-liquid wastes are divided into four categories as follows:

- Inert - waste that is unlikely to release significant quantities of greenhouse gasses or leachates contaminated with nutrients and/or chemicals;
- Solid - likely to release higher quantities of contaminants than inert waste and therefore need to be handled with greater care;
- Industrial - contain higher (four times) levels of contaminants than solid waste and needs to be managed with more stringent environmental controls than solid waste; and
- Hazardous - this type of waste contains contaminants at levels high enough to require treatment to render them safe before disposal.

Liquid wastes are divided into separate groups namely:

- Group A (controlled aqueous or non-aqueous liquids, liquids contaminated with non-harmful chemicals solvents or chemicals);
- Group B (grease laden waste, liquid food waste); and
- Group C (effluent) and hazardous liquid wastes.

All hazardous wastes scheduled for removal offsite (in drums, IBC's, or 'other') MUST be labelled with attached stickers (stickers can be obtained from the control room) as per Figure 4-1.

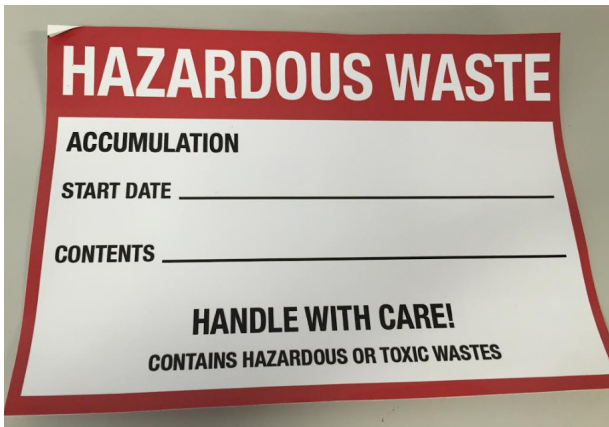


Figure 4-1 Hazardous Waste Labelling

4.4.5.3 Hazardous Waste Tracking

In NSW, under Part 4 of the Protection of the Environment Operations (Waste) Regulation 2014, the transport and disposal of hazardous waste listed in its Schedule 1 must be tracked when it is transported into, within or out of NSW.

Schedule 1 identifies a list of more than 60 different types of wastes that are required to be tracked and include waste types applicable to PKM operations such as clinical and related wastes, containers and drums contaminated with residues of substances listed in Schedule 1, waste mineral oils unfit for original intended use, waste oil/water/hydrocarbon mixtures.

As a waste producer, PKM is responsible for ensuring any hazardous waste it produces and disposes of is properly tracked.

As the waste producer, PKM is responsible for characterising the waste to determine its waste code and description as this is required for the waste tracking documentation.

A consignment authorisation (CA) is required to be provided to the waste producer or agent to transport a specific type of waste for up to one year. It is a legal requirement for a CA to be issued before waste which must be tracked can be transported. This may be arranged by the waste organisation, e.g. Cleanaway, however PKM should ensure this has been done.

For each consignment of trackable waste, a transport certificate must be created, printed and accompany the waste load during transport. A transport certificate contains information about the waste and records details about the transport and disposal of a load of waste.

A copy of the transport certificate, if being generated on PKM's behalf by the waste contractor, should be checked by a PKM representative as reflecting correctly the waste being removed from site, contains correct contact details and signed by an appropriate company representative.

A copy of this certificate should be maintained within site waste management records. An example of a waste transport certificate is shown below.

WASTE DATA FORM			
NEW SOUTH WALES			
CLEANAWAY		BEFORE COMPLETING AND SIGNING THIS FORM READ THE NEXT PAGE OF THIS FORM FOR IMPORTANT INFORMATION ON HOW TO FILL IN THIS FORM AND FOR INFORMATION ABOUT OBLIGATIONS AND OFFENCES	
Dangerous Goods		Complete this part if waste is a dangerous good.	
Proper Shipping Name	Dangerous Goods Class	UN Number	Packing Group
Type of Packaging	Number of Packages	Aggregate Net Quantity	
Load Identification			
Consignment Authorisation Number: 339514-2-J100-5091-2020		Load Number: 1249	
This consignment authorisation is valid From: 01/01/2019 To: 31/12/2020 (DD/MM/YYYY)			
Waste Consignor (Activity)			
Company Name	Port Kembla Milling Pty Ltd	Licensed ☐ Non-licensed ☐	License No.
Address	Ardena Drive - Outer Harbour PORT KEMBLA NSW 2565	Address of waste source (if not the same as company address)	
Contact Phone	24287191	Signature of Consignor	
Name of Consignor (print)		Date	
Waste Description			
List Containers:			
Waste Name	J160 S WASTE MINERAL OIL UNFI/FOR INTENDED USE, Waste mineral oils unfit for their original intended use		
Waste Origin Code (AK25HC)	C254	Waste Code	J160
Physical nature of waste (solid, liquid, sludge, etc)		Amount of Waste	tonnes ☐ kilograms ☐
Waste Type (hazardous, industrial, group A)		*Mineral oils TPI Waste Category	litres ☐
Proposed treatment at destination (landfill, incineration, immobilisation, storage, treatment, etc)			
Date of Waste Movements			
Date of dispatch		Expected date of delivery to destination	
Transporter			
Company Name		Licensed ☐ Non-licensed ☐	License No.
Address		RTA Registration No. of Vehicle	
GLENDENNING NSW 2761		Type of Transport (Road, Rail, Road & Rail)	
Contact Phone	02 99391522	Road	
Name of Driver (print)	Billy E	Signature of Driver	
		Date	
Waste Consignee (Destination)			
Company Name		License No.	
Destination		Quantity Received:	
GLENDENNING NSW 2761		Treatment given to waste at destination:	
Contact Phone	02 99391522	Date Received:	
Name of Representative (print)		Signature of Representative	
EMERGENCY CONTACT NAME: David Pear			

Figure 4-2 Example Waste Transportation Certificate for Hazardous Wastes

4.4.5.4 Waste Type, Classification and Management

Waste materials likely to be produced by Port Kembla Milling are outlined in the table below.

Type of Waste	Source / Area Generated	Classification	Management	Destination
General waste garbage (including putrescibles)	Workshop Storage and Despatch Silo Admin facility (including Dry laboratory, Crib Room and Driver Ablutions)	Solid waste	Disposal	Council landfill
Co-mingled waste (plastic bottles/aluminium cans, glass etc.)	Workshop Storage and Despatch Silo Admin facility (including Dry laboratory, Crib Room and Driver Ablutions)	Inert waste	Separated and recycled	Council recycling station
Paper and cardboard waste and packaging waste (plastic, wooden pallets)	Workshop Admin facility (including Dry laboratory, Crib Room and Driver Ablutions)	Inert waste	Separated and recycled	Recovery and recycling where possible
Scrap metal	Workshop Ship Receiving facilities	Inert waste	Separated and recycled	Recovery and recycling where possible
Oily waste and oil rags, spill clean up waste	Workshop	Liquid Group A Solid waste	Separated and recycled	Approved controlled waste disposal facilities
Filter bags	Dust collectors	Solid waste	Disposal	Council landfill
Process waste (off spec and other 'product' waste)	Storage and Despatch Silo Storage Bins and Clinker Shed, Grinding Mill, Baghouse, conveyors and galleries/gantries	Solid waste	Recycled through process	NA
Sanitary waste	Admin facility (including Dry laboratory, Crib Room and Driver Ablutions) Dry Laboratory	Liquid group C (effluent)	Sewerage system	Council waste water treatment system
Waste cementitious material from stormwater system	Collected during maintenance of stormwater system via vacuum truck	Solid waste	Collected during maintenance of stormwater system via vacuum truck and disposed	Recovery and recycling where possible
Batteries	Office, general plant and equipment	Special	Collected in office receptacle	Recovery and recycling where possible
Printing Cartridges	Office, weighbridges	Special		

Bins are to be provided to facilitate appropriate levels of waste recycling and reuse.

4.4.6 Shipping Activities, Quarantine and Ballast Water

Port Kembla Milling receives clinker via ship from the Gateway Port Kembla Wharf. The origin of this clinker may be Australian or from international suppliers. Ships which will supply Port Kembla Milling will be expected to comply with the Quarantine Act 1908, other requirements of the Australia Quarantine Inspection Service and the requirements of the Port Kembla Ports Corporation, as outlined in the Port Kembla Port Information Guide and the Customs Act 1901.

Port Kembla Milling and Cement Australia ensure that shipping operations engaged to ship to Australia from overseas are aware and capable of meeting the requirements outlined below.

4.4.6.1 Quarantine

The Australian Quarantine and Inspection Service (AQIS) require all vessels arriving in Australia from an overseas port to comply with pre-arrival, arrival and post-arrival declaration and inspection requirements.

Port Kembla is a 'proclaimed' port and as such vessels arriving from overseas may enter Port Kembla after being granted 'Approval to Berth'. A vessel is granted Approval to Berth after it has submitted a Quarantine Pre-Arrival Report to the Maritime National Coordination Centre between 96-12 hours prior to entering Australian waters.

4.4.6.2 National System for the Prevention and Management of Marine Pest Incursions – Ballast Water

All international vessels arriving in Australia are required to manage their ballast water in accordance with the Australian ballast water management requirements. These requirements are enforceable under the Quarantine Act 1908.

AQIS deems all salt water from ports and coastal waters outside Australia's territorial sea to be a 'high-risk' and capable of introducing exotic marine pests into Australia. The discharge of high-risk ballast water from ships is prohibited anywhere inside Australia's territorial sea.

Ballast water of the following types is deemed by AQIS to be 'low-risk':

- Fresh potable water sourced from a municipal water supply, with supporting documentation - Relative Density 1.002 or less at 15C and 1000 hPa atmospheric pressure
- Ballast water that has been exchanged at an approved location (mid-ocean) by an approved method
- Ballast water of which at least 95% was taken up in mid-ocean
- Ballast water of which at least 95% was taken up inside Australia's territorial sea

The Quarantine Pre-Arrival Report requires Ship Masters to declare whether or not they have complied with Australia's mandatory ballast water management requirements. All vessels require AQIS permission to discharge ballast water in Australian waters. Masters must also complete the 'AQIS Ballast Water Management Summary' (AQIS form 26) with details about ballast water uptake ports, ocean exchanges and intended Australian discharge locations. AQIS Officers will conduct ballast water verification inspections on board vessels to ensure compliance with Australia's ballast water management requirements. AQIS Officers will use the QPAR, the ABWMS and the vessel's deck, engineering and ballast water management logs to verify that the information supplied to AQIS is correct

4.4.7 Hazardous Substances and Dangerous Goods

This section describes how PKM manages and controls the hazardous chemicals related aspects associated with its operations. There are a number of compliance obligations related to hazardous chemicals contained within the Project Approval 10_0102 and EPL No. 20101 and these can be located within the site-specific section of the Compliance Register (Law Compliance subscription).

Very few hazardous substances and dangerous goods are stored on site at Port Kembla Milling operations.

Substances expected include:

- Oils and greases for lubrication preventative maintenance of equipment on site
- Oxy-acetylene gas bottles for use with cutting tools in the workshop
- Cleaning agents
- Small amount of paint for 'touch ups'

In addition to these substances, the following products and raw materials stored on site are considered hazardous substances (see SDS' attached at the Appendices).

- Portland Cement
- Portland Cement Clinker
- Ground Granulated Blast Furnace Slag Cement
- Ground Slag

A risk assessment must be completed for all hazardous substances and dangerous goods received on site. In addition, readily accessible copies of the Safety Data Sheet (SDS) for all chemicals are available and the chemicals on site are listed on the Port Kembla Milling Hazardous Chemicals Register.

4.4.7.1 Controls and Mitigation

The following sections discuss the management controls implemented at Port Kembla Milling to control the risks associated with hazardous substances and dangerous goods.

- The mill hydraulics system and workshop area are the only areas that contain hazardous materials (Flammable/Combustible Liquids), as cement and cement products are largely inert.
- Fire fighting and monitoring systems have been incorporated into the final design of the Plant.
- Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals as described in WHS Regulations 2011 Schedule 10 are NOT to be purchased on or for the site at any time.
- A risk assessment and SDS review must be carried out prior to the purchase of any new hazardous substances or non-hazardous substance.
- Appropriate licensing requirements must be met and approved prior to the transport or receipt of any hazardous substances.
- Vehicles used in the transport of hazardous substances must comply with the hazardous substances/dangerous goods labelling requirements.
- Dangerous Goods stored on site must be clearly labelled with the correct primary class hazard diamond.
- A hazardous substance/dangerous goods register is maintained for all substances stored and handled on site.

- Hazardous substances must be labelled with the manufacturer's or importer's label. These labels must remain legible and must not be removed, defaced or altered. Where possible, hazardous substances will remain in their original containers.
- Under NO circumstances shall food and/or drink containers be used for the purpose of decanting Hazardous Substances. If a hazardous substance is decanted from its original container, the new container must be labelled with:
 - Product name
 - Name, address, phone no. of Australian manufacturer or importer
 - HAZARDOUS or words that indicate the severity of the hazard, e.g. 'dangerous poison', 'warning' or 'caution'.
- All decanted non-hazardous substances must also be labelled with the name of the product.
- Hazardous substances must be stored in accordance with legislation and the relevant Australian Standards, such as AS1940.
- Hazardous substances storage on site includes the following:
 - Hazardous substances that are not compatible are stored separately so that a loss of containment will not cause a dangerous situation
 - All storage areas and vessels containing hazardous substances are equipped with sufficient spill prevention equipment installed to prevent any escape to the environment.
 - Areas where hazardous substances are stored are equipped with impervious foundations and bunded with a capacity sufficient to contain a maximum likely spill, plus an additional 10% volume.
 - Spill kits and emergency response equipment are available in all areas where substances are processed or transferred to storage vessels.
 - Bunding and other spill prevention equipment is checked regularly to ensure correct functionality and, where applicable, all drains and valves are closed.
- Dangerous goods that are incompatible must be segregated to prevent them mixing. This may be achieved by the use of an impervious barrier or by a separation distance sufficient to prevent contamination (a distance of 1.5 metres should be sufficient in most circumstances).
- The following segregation principles are applied at Port Kembla Milling:
 - All chemicals must be stored in their respective classes, taking into account incompatibilities within a class.
 - Except as indicated on the relevant Safety Data Sheet (SDS), dangerous goods should be segregated based on the Recognising Dangerous Goods Segregation Chart.
- Wherever possible, dangerous goods and hazardous substances will be stored in original containers and labelled as supplied.
- Hazardous substances and dangerous goods are disposed of in accordance with regulatory requirements and only after all options for the reduction, reuse and recycling of such materials have been exhausted.
- Staff on site have received mandatory environmental awareness training as discussed in the EMP including training in hazardous substances and dangerous goods, spill response (PK-WI-G) and incident management and reporting.

- Training is delivered annually and covers, as required by the NSW Control of Workplace Hazardous Substances Code of Practice:
 - The labelling of containers of hazardous substances, the information that each part of the label provides and why the information is being provided.
 - The availability of SDS for hazardous substances, how to access the SDS, and the information that each part of the SDS provides.
 - Information about hazardous substances to which employees are or may be exposed in the course of their work. Information should include the nature of the hazards, risks to health arising from exposure, the degree of exposure and routes of entry of the hazardous substances into the body. This includes information on the forms of hazardous substances including dusts, fumes and other atmospheric contaminants.
 - The risk assessment process and how the employee can contribute.
 - The work practices and procedures to be followed in the use, handling, processing, storage, transportation, cleaning up and disposal of hazardous substances.
 - The measures used to control exposure to hazardous substances, including any information that the employee requires for the correct use and maintenance of control measures.
 - The proper use and fitting of personal protective equipment.
 - The procedures to be followed in case of an emergency involving hazardous substances or dangerous goods
 - First aid and incident reporting procedures to be followed in case of injury or illness.
 - The nature of and reasons for, any monitoring required and access to the results of monitoring.
 - The employees' rights to be advised of the intention to use a new hazardous substance where they are likely to be exposed in the course of their work and the right to be consulted in the process of risk assessment of a hazardous substance.
 - Employees' rights and obligations in relation to health surveillance.
 - Duties under the WHS Regulation of suppliers, employers and employees.

4.4.8 Land Management

This section describes how PKM manages and controls the related land management aspects associated with its operations. There are a number of compliance obligations related to land management contained within the Project Approval 10_0102 and these can be located within the site-specific section of the CA compliance register (Law Compliance subscription).

There are also conditions relevant to land management contained within the site lease documents. Copies of site leases are maintained within AODocs.

Land management matters for ongoing control and management for PKM include:

- Contaminated Soils and Asbestos
- Fauna management
- Acid Sulphate Soils
- Visual Amenity and Landscaping, including lighting and signage
- Weed Management

4.4.8.1 Contaminated Soils and Asbestos

Coffey Environments Australia Pty Ltd (Coffey) was commissioned by Cement Australia to carry out sampling and analysis of site soils at Port Kembla Milling in early 2012. The objectives of the sampling and analysis were to:

- Provide information on the presence of contamination on site
- Comment on the suitability of the site for the proposed industrial land use (from a soil contamination perspective) based solely on the data collected by Coffey.
- Provide recommendations on the need for further assessment and/or remediation or management.

The results of the assessment identified some potentially contaminating activities and associated Areas of Concern (AEC) associated with former industrial activities on site and nearby areas. Sampling and analysis of soil was carried out to assess these potential AECs.

Additional sampling was also undertaken in the reclaimed area.

Asbestos containing material (ACM) was identified in the form of cement sheeting fragments and/or fibre bundles in soil in three investigation locations (CTP03/0.4-0.6m; CTP11/1.0-1.2m; CTP12/0.6- 0.65m). Laboratory analysis indicated that no respirable fibres were detected in any samples analysed from the site. The presence of ACM in fill material within the historical foreshore portion of the site, in conjunction with the historical presence of ACM in fill material in a bund that was removed from the site, suggests that further unidentified ACM may be present and may be encountered during construction or future site operational activities. Capping of the ACM affected material in this manner is considered to be suitable to remove the exposure pathway to the identified ACM. The presence of the detected ACM is also identified on a site plan attached to the CMP for the site. The CMPs developed for the site (construction and operational) are considered to be suitable to manage potential unexpected encounters of ACM in soil during construction, and during future site operational activities.

A former AST (aboveground storage tank) was present along the northern site boundary, adjacent to the Port Kembla Gateway administrative building, the footprint of which straddled the northern boundary (according to Coffey (2012), approximately one third of the footprint of the AST bund was within the site boundary). Review of historical reports suggests that the bund in which the AST was located was unlikely to be able to contain fuel in the event of a spill. During the site inspection, surface staining of soil and hydrocarbon odours were noted in the vicinity of the former AST, and also in a small stockpile created by a surface scrape during removal of the AST infrastructure. Subsequent investigation of the former AST area indicated the presence of hydrocarbon-impacted fill material to a depth of approximately 0.5 m below ground level (mbgl).

The affected fill material was excavated from the former footprint during the investigation and stockpiled on plastic sheeting. Laboratory results indicated:

- *Two elevated semi-volatile total petroleum hydrocarbon (TPH) results were reported for validation samples collected along the northern site boundary, which are likely to be attributable to the residual off-site contamination source north of the site boundary. Aromatic/aliphatic speciation of these samples reported concentrations below the health-based investigation levels (HILs) for Industrial land use.*

- One of the samples collected from the excavated stockpile reported a TPH concentration exceeding the adopted site assessment criterion for the semi-volatile TPH fractions. Aromatic/aliphatic speciation was not performed on this sample. The reported semi-volatile TPH concentration was two to three times lower than the equivalent concentrations in two of the validation samples from the excavation, for which aromatic/aliphatic speciation results were well below the HILs for industrial land use. Hence, despite the aromatic/aliphatic speciation not having been performed on this sample, it is considered unlikely that the sample would be unsuitable for an industrial land use.

Clearsafe Environmental Solutions Report Number: 20-9645-01-IR on the 13th December 2018, deemed the surface areas and air of the site to be clear of asbestos.



Figure 4-3 Location of the area of the site where there is capped asbestos containing materials.



Figure 4-4 Encapsulated asbestos impacted stockpile. Photograph shows orange geo fabric encapsulating layer placed directly above the contaminated soils



Figure 4-5 Encapsulated asbestos impacted stockpile with centre point at 307405.8862E, 6183655.792N. Photograph shows white geo fabric encapsulating layer placed directly above the contaminated soils.

Table 4-6 Site Summary of ACM Type and Site Location

Port Kembla Grinding Facility Material Type and Location	Risk Rating
Summary of Asbestos Containing Materials (ACM)	
307252E, 6183722N 1.5m of Capping, Warning Fabric installed 500mm below finished RL	9 (Low)
307156E, 6183755N 0.8m of Capping, Warning Fabric installed 500mm below finished RL	9 (Low)
307172E, 6183731N 1.7m of Capping, Warning Fabric installed 500mm below finished RL	9 (Low)
'Old Reclamation' – The sub-surface soils associated with the shoreline prior to the 'Outer Harbour Reclamation' of 2011.	10 (Low) (Assumed)
307423E, 6183627N 1m of Capping, Warning Fabric installed 500mm below finished RL	9 (Low)
307405.8862E, 6183655.792N 1m of Capping, Warning Fabric installed directly above contaminated soils	9 (Low)

Management Responsibilities

- The Work Health and Safety Act 2011 require hazards to be controlled as far as is reasonably practicable and the control hierarchy to be progressively applied. Port Kembla Milling will apply the control hierarchy to minimise employee, contractor, environmental and public risk from exposure to soil contaminants.
- Engage a Competent Person to provide direction as to the correct method of disposal or on-site treatment of contamination where appropriate.
- Implement approved measures to control risk of exposure (either to the environment or employees) of pollution/contamination as far as is reasonably practicable through the progressive application of the control hierarchy.
- Implement measures to control employee risk of exposure to airborne respirable asbestos fibres as far as is reasonably practicable through the application of the control hierarchy.
- Maintain site Contaminated and Asbestos Containing Soil Register and make it available to any person who may be potentially exposed to Asbestos or ACS.
- Ensure all Asbestos and ACS is labelled on site plans and maps.
- Ensure awareness training is provided to employees who could potentially be exposed to airborne asbestos fibres or come into contact with ACS or Asbestos
- Provide employee medical surveillance where there is a demonstrable health risk from occupational exposure to Contaminated Soils and/or airborne respirable asbestos fibres.
- Establish procedural and engineering controls for all work with Asbestos and ACS.
- Provide appropriate plant and personal protective equipment to undertake any work with the potential to disturb Asbestos and ACS.
- Ensure proper disposal/treatment/capping of all Asbestos and ACS in accordance with legal requirements.
- Provision of adequate information to employees on the status/progress of the management plan actions and any specific Asbestos and ACS related issues that may arise.
- Ensure all relevant employees including contractors are advised of the Contaminated and Asbestos Containing Soils Register and are advised of the precautions to be taken to minimise exposure. This shall form part of the Site Induction.

Unexpected Finds Protocol

In the event that suspected / unexpected / unidentified contaminated materials are encountered / disturbed the following will actions will be taken:

- Stop work in the subject area and contact the Operations Manager;
- Quarantine / segregate the suspected / unexpected / unidentified contaminated material;
- Operations Manager to arrange for field testing and collect samples for analysis at a NATA accredited laboratory in accordance with NEPM guidelines;
- The results of the laboratory analysis will confirm the presence / absence of contaminated material;
- The Contaminated and Asbestos Containing Soil Register shall be made readily available to all site personnel, visitors and contractors/sub-contractors.

Asbestos Removal Work

As far as practicable ACS will be handled by a licensed asbestos removalist.

All such work to be carried out in accordance with the requirements of the Work Health & Safety Regulations 2017 and the Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC:2002(2005)].

An Asbestos Removal Control Plan will be developed for all work involving the removal of ACS. Following the removal of ACS a visual clearance inspection shall also be conducted by a competent person.

For all non-exempt asbestos removal work (see definitions) Port Kembla Milling requires evidence that Workcover NSW have been notified and have received the Asbestos Control Plan prior to the removal of ACS commencing.

Workplace airborne fibre monitoring will be conducted where the Asbestos Removal Control Plan requires air clearance monitoring to be conducted. All air monitoring shall be conducted in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC: 3003(2005)].

Where air clearance monitoring is required an Air Monitoring Clearance Certificate must be issued by a competent person. Clearance certificate(s) must be issued and received prior to the removal of barriers and signs.

During all such projects the contractor will ensure that clean-up is properly completed, that visual and air clearances are issued by a competent and independent person and that all asbestos and ACS is collected, and disposed of in accordance with appropriate regulations. A copy of all ACS disposal certificates shall be retained in the Asbestos Register.

Unauthorised employees or contractors shall not cross over a barrier/containment areas where asbestos projects are in progress.

Health Surveillance

Employees who believe they have been exposed to a soil contamination above the National Exposure Standard must notify the Operations Manager immediately.

Upon clarification with the Cement Australia Group Health & Workers Compensation Manager and external expert advice, Health Surveillance will be provided if the exposure assessment indicates that it is warranted.

The current recommended Asbestos (all forms) National Exposure Standard is:

- Crocidolite, Amosite, Chrysotile and other forms - 0.1 fibres/mL of air.
- Any mixture of these, or where the composition is unknown - 0.1 fibres/mL of air.

The information below sets out the airborne asbestos fibre concentrations that if exceeded indicates a need to implement a control, action or other requirement. These levels are occupational hygiene 'best practice', and are not health-based standards.

Asbestos Control Levels

Control Level (airborne asbestos fibres/mL) Control / Action

<0.01 Continue with control measures

□ 0.01 Review control measures

≥0.02 Stop work and find the cause

Contaminated and Asbestos Containing Soils Register

The Port Kembla Milling Contaminated and Asbestos Containing Soils Register is numbered PK-RE-I and is available for reference.

The Register contains the following information:

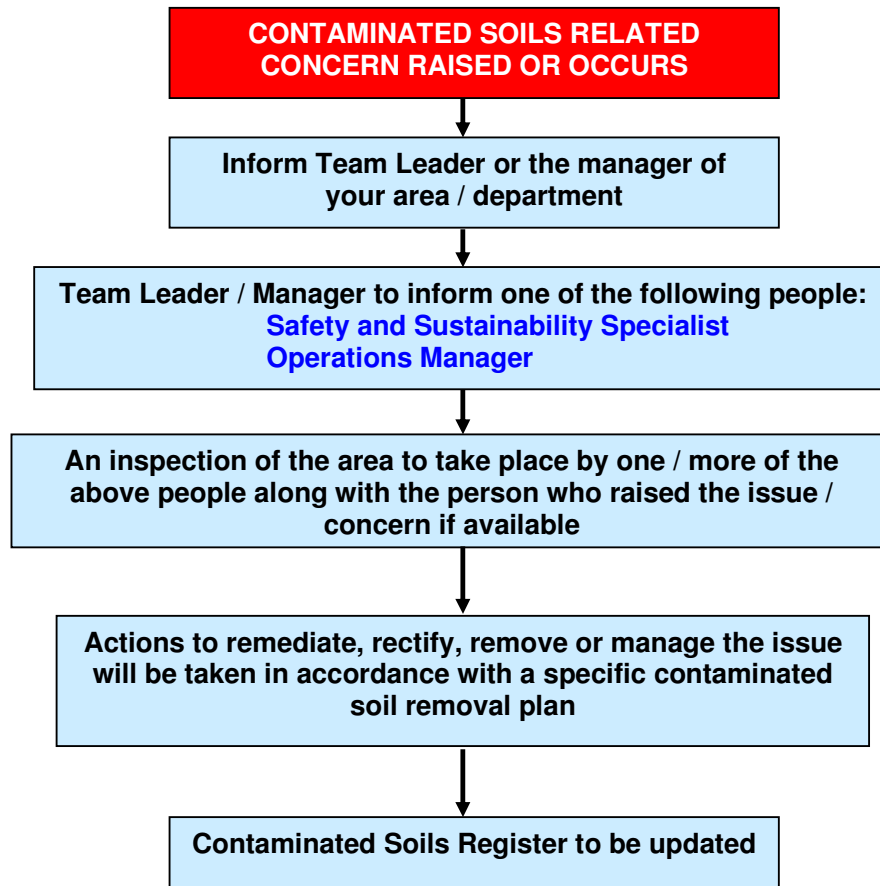
- The date the inspection / identification was made and details of the competent person(s) who carried out the inspection / identification;
- Type of contamination;
- The location of the material;
- When it has been sampled;
- A risk assessment of the ACS;
- Details of any assessment or testing conducted;
- Recommended actions.

Inspections

Regular inspections of the soil surface will be conducted as part of the routine Site Environmental Inspection process.

Cement Australia policy is to conduct a review every 3 years if low risk.

Figure 4-6 Flowchart for raising contaminated soil related issues



4.4.8.2 Fauna Management

The Green and Golden Bell Frog (GGBF) are listed as an Endangered Species under Schedule 1 of the NSW Threatened Species Conservation Act 1995. At the national level, the species is listed as Vulnerable under Schedule 1 Part 2 of the Environment Protection and Biodiversity Conservation Act 1999.

Ecological survey efforts have identified a number of populations of the GGBF in close proximity to the Port Kembla Outer Harbour. The nearest known breeding habitat of the GGBF to the PKM site is located approximately 200m from the site boundary at Salty Creek.

Given that the PKM site has installed a 1,600 square metre bio-retention basin, it is possible, in the event that water was allowed to pond in this basin that it could lead to the creation of an attractive frog habitat. GGBF have been known to successfully breed where water has ponded for a period of 6 – 8 weeks.

Cement Australia made a commitment as part of the original project approval to “minimise potential impacts on the threatened species and threatened species habitat of the Green and Golden Bell Frog during construction and operational phases of the project. If the GGBF is found on the site, CA will implement a GGBF management plan in consultation with a suitably qualified ecologist and the NSW EPA and in accordance with the approved GGBF Master Plan for the Port Kembla Outer Harbour area.”

Fauna Management, Control and Mitigation

Given the GGBF habitat preference, their mobile nature, and the presence of the bio-retention basin, it is possible that the GGBF could migrate onto site at some stage. Cement Australia is committed to management activities that focus on early attention and employee awareness if and when frogs are detected on site.

In line with the Best Practice Guidelines Green and Golden Bell Frog Habitat (NSW), the following measures have been implemented:

- Environmental awareness training that includes GGBF profile and identification, capturing, handling and relocation procedures;
- Awareness posters around site;
- Implementation of reporting protocols in the event a GGBF is detected (usually visually or by frog call);
- Undertake regular active searches (site walkovers);
- Review and implement protective management actions on detection of the GGBF in consultation with a suitably qualified ecologist.

The bio-retention basin and stormwater management system at PKM are subject to regular 3 monthly inspection and maintenance regimes. Any frogs, tadpoles or signs of frog activity will be reported during this inspection process.

In addition, monthly site environmental inspections are conducted to ascertain the effectiveness of environmental controls. This process also includes a routine check for signs of frog activity.

If frogs are detected during regular inspections or at any other time, the sighting is to be reported to the Operations Manager immediately. Evidence of frogs will be investigated by the Operations Manager and Safety and Sustainability Specialist in consultation with ecologists as required.

Frog Sightings

If a frog is sighted on or off site and it is interfering with operations or it is in danger it should be removed to a safe location as soon as possible.

If possible, a representative from PKM shall engage a WIRES (Wildlife Information, Rescue and Education Service Inc.) representative to capture the frog(s) safely by calling:

13 000 WIRES - 1300 094 737

Where WIRES are unavailable and/or delays in capturing may result in harm to the frog(s), capture of the frog(s) shall be performed by staff trained and documented within an applicable Job Planning Tool:

- Use a net or hands (with gloves)
- Frogs can see their side view as good as in front. Coming from behind is the ideal way
- Hold frogs by the hind legs and place frogs arms on a covered finger
- Place captured frogs in a high container (as they may “wall jump”) or cover with a breathable lid and keep in a cool, dark moist place

If there is evidence of frog chytrid infection (frogs may exhibit lesions or sloughing skin and be lethargic) the following actions shall take place:

- Place the frog into a container without directly touching it
- If the frog is still alive, make sure the container is escape-proof and has a few small air holes and a small amount of water.
- Ring the Frogwatch Helpline on 0419 249 728 for an opinion on whether the frog is sick or whether it is likely to survive transportation. The Helpline will advise you where and how to transport the frog.
- If the frog is dead, put the container into a plastic bag and into a freezer as soon as possible then call the NSW EPA Line on 131 555 for further advice.

Frog Relocations

In the event a Green and Golden Bell Frog is identified and captured on site the following relocation procedure will be initiated:

- If the frog appears to be healthy, a release location (i.e. one of the potential relocation areas described in below) shall be determined in consultation with WIRES. The frog shall be released into the relocation area by a suitably qualified/licensed individual (as defined by NSW Parks and Wildlife).
- If the frog appears to be sick, or is dead, the procedures outlined above shall be followed.
- The Environment Manager at the NSW Ports – Port Kembla should be informed of what actions have or plan to be taken.

Relocation of Green and Golden Bell Frogs shall only be performed by a qualified individual.

Details of Green and Golden Bell Frog relocations (date, where found and location of release) shall be recorded and reported in the Frog Register (PK-RE-H).

4.4.8.3 Acid Sulphate Soils

Acid sulphate soils are naturally occurring soils, sediments or organic substrates (e.g. peat) that are formed under waterlogged conditions. These soils contain iron sulphide minerals. In an undisturbed state below the water table, acid sulphate soils are benign. However if the soils are drained, excavated or exposed to air, the sulphides react with oxygen to form sulfuric acid.

Coffey Geotechnics Pty Ltd provided an overview of the potential for Acid Sulphate Soils (ASS) on the PKM site as part of the original Environmental Approval process. Their investigations indicated a high probability that the acid sulphate soils may be present on this site.

Management of potential ASS at Port Kembla will be conducted in accordance with best practice and as guided by the NSW Acid Sulphate Soils Manual and the QLD Acid Sulphate Technical Manual (available online).

The management of potential ASS at Port Kembla will be in accordance with the key principles of avoidance (or disturbance) in the first instance and where this is not possible, management strategies will be risk based and will include, minimisation of disturbance and neutralisation of acid sulphate soils.

All excavation work planned to a depth greater than 1.5m requires Operations Manager approval.

In such cases where excavation is to be conducted on areas of non-reclaimed land or the depth of the excavation is likely to be below the sea floor in the reclaimed areas, some form of mitigation and control of potential ASS is required.

For small, temporary excavations (no more than 3 cubic metres) a task based risk assessment Job Planning Tool shall be conducted for the work.

The Safety and Sustainability Specialist shall be consulted if any questions or concerns.

4.4.8.4 Visual Amenity and Landscaping

A visual impact assessment was conducted by Site Plus as part of the original Environment Approval process.

This impact assessment found that while the Port Kembla Grinding facility visually impacts the area due to its scale, it is considered that the type, bulk and scale of the proposed development is in keeping with the existing industrial landscape character.

The utilization of recessive colours on buildings and use of screen planting and landscaping have been implemented to ameliorate the visual impact. Other initiatives include:

- Large trees to provide scale to the grinding operation;
- Large trees to filter and screen views;
- Planting of hardy groundcover and small shrubs to soften entrance to carpark;
- Mounds planted with feature shrubs alongside entrance roads to visually reinforce their location;
- Hydro mulched lawn areas all around plant where not used for roads or garden beds; and,
- Provision of an external seated shaded area for staff and visitors to use.

Signage

No plans exist for commercial signage. Any future signage will be submitted to Wollongong City Council for approval. Any signage proposed for the site will be installed so as not to interfere with traffic, pedestrian or cyclist sight lines.

Lighting

Lighting on site has been developed to comply with AS 4282-1997 Control of the Obtrusive Effects of Outdoor Lighting in order to minimise light spill on surrounding areas outside the site boundaries and minimise visual impact when viewed from adjacent premises.

4.4.8.5 Weed Management

Given the Port Kembla Mill was established on a 'green field' site it is unlikely that significant weeds will be a problem in the early years of operation. Weeds in general are not expected to directly affect the operation at the Mill however Cement Australia has a duty to protect the environment and importantly prevent the ongoing spread of weeds.

In addition, the visual presentation of a site is important for the company's reputation and community acceptance. As such, it is important that weeds are effectively controlled on site. To this end Port Kembla Milling is committed to managing weeds by:

- Preventing the introduction of weeds, and
- Controlling (if possible reducing) existing weed populations

There are a number of noxious weeds declared for the Wollongong Council, some of which are considered Weeds of National Significance. These weeds must be eradicated as soon as they are detected.

Other, environmental weeds, can be considered those found in garden beds and grassed areas that were not planted during the original or subsequent planned landscaping operations.

PKM engage external contractors to conduct weed management and other landscaping activities.

4.4.9 Emergency Preparedness and Response

PKM operations manage its Emergency Preparedness and Response in accordance with the Emergency Response Plan and Pollution Incident Response Management Plan (PK-SP-G).

This plan describes the emergency procedures to be observed in the event of an incident that would require the total or part evacuation of the Cement Australia PKM facility.

PKM provides coverage of applicable emergency preparedness and response procedures within SHE site inductions of new employees, visitors, workers and/or Contractors as required.

4.4.10 Contractor, Subcontractor and Supplier Management

The SHE management of subcontractors and suppliers to Port Kembla Milling is managed in accordance with Contractor Management for On-Site Workers (CAS-PR-11.1). This procedure defines the processes used for managing contractors and suppliers to Cement Australia, to ensure that they meet all the relevant SHE legal and contractual requirements of the Contracts and this plan.

When engaging contractors and/or suppliers to undertake an activity for Cement Australia that has been assessed as presenting moderate to high SHE risk, contract terms and conditions and request for quote or tender information includes the requirement for contractors and/or suppliers to demonstrate they have suitable systems that address the management of SHE risks and compliance to all relevant legislative requirements.

In particular, Cement Australia requires contractors and/or suppliers of goods and/or services with moderate to high SHE risk to address the following:

- Identification of all SHE hazards and risk associated with the activity;
- Provision of Safety Data Sheets (SDS) for all hazardous materials to be used;
- The specific control measures that will be used to mitigate any risks associated with the activity;
- The proposed method of conducting the activity, including how the controls will be implemented, i.e. a safe work method statement (SWMS);
- Evidence of required qualifications for the activities (e.g. pest control licences etc.); and
- Procedures for incident management (e.g. how spills will be cleaned up and managed, incident reporting etc.)

To fulfil the duty of care obligations, the subcontractor/supplier and Cement Australia shall be SHE compliant by ensuring facilities, plant, equipment, hazardous substances, systems and processes of work are appropriate for the nature and type of work to be undertaken.

Relevant supervisory personnel will be responsible for ensuring that subcontractors and/or suppliers are compliant, and shall seek site Safety and Sustainability Specialist assistance as required.

Records of applicable licences are to be obtained from each subcontractor and/or supplier and retained for PKM records.

It is the responsibility of Cement Australia supervisory personnel to ensure all subcontractors and/or suppliers working on their behalf are made aware of their SHE obligations, through site induction or applicable information. Induction training records will be retained in the appropriate file. Any SHE management activities specific to the work undertaken by the subcontractors and/or suppliers will be the responsibility of the subcontractor and/or supplier, and will be clearly defined at the commencement of the contract.

4.5 Performance Evaluation

4.5.1 Monitoring, measurement, analysis and evaluation

Environmental Monitoring and Measurement

EPL 20101 stipulates the environmental monitoring that must be conducted for the Port Kembla operations. Where environmental monitoring is specified in the EPL, the results of monitoring are required to be published on the Cement Australia website within 14 days of receipt of the monitoring results, in compliance with the Protection of the Environment Operations (Amendment) Act 2011.

An environmental monitoring results template is maintained on the PKM drive and is to be updated with each new set of results. The website is required to display records of the last four years of monitoring results.

4.5.1.1 Stormwater Monitoring

EPL No. 20101 requires that discharge from the bio-retention basin be collected and tested at monthly intervals or when there is flow. Analytes to be tested are pH, total suspended solids and oil and greases.

Grab samples are collected by staff from an accredited laboratory. Results are to be reviewed by PKM personnel and actions taken to address any abnormal results. Results are to be incorporated into the environmental monitoring record published on the Cement Australia website within the mandated 14 days of results receipt.

4.5.1.2 Noise Monitoring

Environmental noise monitoring is required to be undertaken on an annual basis at three residential locations stipulated in EPL 20101. In addition, noise monitoring is also undertaken at specified site boundary locations. This monitoring is conducted by a suitably qualified acoustic engineer. Meteorological data will also be collected at the time of sampling to ensure samples collected meet the requirements of the EPL. Results are to be incorporated into the environmental monitoring record published on the Cement Australia website within the mandated 14 days of results receipt.

In addition to annual noise monitoring, noise contour mapping study will be conducted every 5 years for the plant and/or when there are significant changes to equipment on site.

4.5.1.3 Stack Emissions Monitoring

EPL 20101 requires that air monitoring be undertaken at least on an annual basis for the Mill Filter Stack. Stack emissions testing is undertaken by suitably qualified air emission testing contractors. The following parameters are required to be monitored:

- Dry gas density
- Moisture content
- Nitrogen oxides
- Oxygen
- Temperature
- Total solid particulates
- Type 1 and Type 2 substances in aggregate
- Velocity and
- Volumetric flow rate

Type 1 (Antimony, Arsenic, Cadmium, Lead and Mercury) and Type 2 (Beryllium, Chromium, Cobalt, Manganese, Nickel, Selenium, Tin and Vanadium) substances are heavy metals. This stack testing also allows an assessment to be made of compliance to the Group 6 air emission limits. Results are to be reviewed by PKM personnel and actions taken to address any abnormal results.

Results are to be incorporated into the environmental monitoring record published on the Cement Australia website within the mandated 14 days of results receipt.

4.5.1.4 Waste Management

Internal waste audits will be conducted periodically to confirm the amount and types of wastes produced. Part of this assessment will result in the development of waste reduction opportunities and related objectives and targets.

4.5.1.5 Environmental Site Inspections

As a fundamental part of the environmental management practices on site at Port Kembla Milling, a monthly Environmental Inspection will be undertaken by the Operations Manager or their delegate. The purpose of this inspection will be to gauge the effectiveness of the environmental management practices detailed in this EMP. All parts of the PKM operation will be inspected. Refer to PK-F-1 Environmental Inspection Checklist.

4.5.1.6 Frog Monitoring

Monitoring for signs of frog activity are to be included in the monthly and three monthly workplace inspection processes.

4.5.1.7 Truck Noise Auditing Program

EPL No. 20101 requires that an annual truck noise auditing program is undertaken on a sample of trucks servicing the site. These are required to include both Cement Australia vehicles and those Lorry Owned Driver vehicles.

The noise auditing is to be undertaken by an external noise consultant and be undertaken in accordance with the National Transport Commission National Stationary Exhaust (Noise Test Procedures for In Service Motor Vehicles).

This work is undertaken in conjunction with Cement Australia Distribution.

A summary of the testing program is to be provided in the site Annual Return to the NSW EPA.

4.5.1.8 Approved Production

Project Approval 10_0102 stipulates annual production limits for a combined cement and Granulated Ground Blast Furnace Slag (GGBFS) total of 1,400,000 tonnes.

Production volumes are to be monitored regularly using actual and forecast production volumes to ensure these limits are not going to be exceeded.

The Central Safety and Sustainability team shall be advised with advanced warning if the site is concerned that the production limits will likely be exceeded.

4.5.1.9 Traffic Movements

Project Approval 10_0102 stipulates the permitted daily and hourly number of raw material and dispatch truck movements as per the table below.

Vehicle Type	Daily	Peak Hour
Raw Material (24 hours / 7 days a week)	280	22
Dispatch (24 hour)	464	20
Total	744	42

It also requires the tracking and recording of accurate movements of cement and GGBFS transported from the site on a monthly basis, and the date and time of each truck movement.

This data is required to be reported in the annual report to the DPHI. The Project Approval stipulates the limits on truck movements.

4.5.2 Evaluation of Compliance

PKM operations manage the evaluation of compliance in accordance with CAS-PR-7.1 Legal and Other Requirements. Audits for the evaluation of compliance against the relevant obligations are undertaken and are scheduled based on the risk of activities.

The checklists include the key SHE legal and other requirements relevant for the specific activities, products and services undertaken by PKM. The process will follow the requirements for SHE audits, detailing evidence sighted for compliance, actions for improvement, and raising any non-compliance.

4.5.3 Internal Audit

PKM operations undertake audits in accordance with CAS-PR-16.1 Compliance and Reporting.

Conformance Audits may be performed by site personnel, the central Safety and Sustainability Function, and/or external third-party compliance accreditation bodies. The central Safety and Sustainability Function is responsible for planning, scheduling, and implementing internal regulatory compliance and high-risk activity conformance audits.

Port Kembla Milling will conduct and or participate in a number of environmentally related audits at specified frequencies. These are summarised in the table below.

Audit Type	Who	When	What
Internal monitoring and measurement activities	Site personnel	One per month but could be a safety, health, environment and quality audit.	For environment these usually check compliance to relevant Group Procedures or the effectiveness of controls for specific environment aspects and impacts
Internal energy and waste audits	Site personnel	Annually	Energy and waste resource efficiency is assessed to identify improvement opportunities.
Workplace Inspection Checklist	Site personnel	Monthly	Effectiveness of environmental management practices.
Truck Noise Auditing	Site personnel to arrange with Distribution	Annually	Assessment of random selection of trucks for noise levels.
Pollution Incident Response Management Plan (PIRMP)	Site personnel	Annually	Testing of emergency contacts and emergency response plan
Compliance Register Verification	Central Safety and Sustainability Function	Annually	Includes assessment of compliance to relevant compliance obligations
SHEQMS Surveillance/ Certification	SAI Global	Annually	Assessment of PKM conformance with ISO standards and CA

			SHEQMS.
Independent Environmental Audits	ERM Consulting	Every 3 years	Assess PKM operations against Project Approval and EPL conditions.

4.5.4 Management Review

The central Safety and Sustainability Function undertakes an annual SHEQMS Management Review in accordance with CAS-PR-1.2 SHEQ Management System Review. This SHEQMS Management Review may include relevant information provided by other Cement Australia operations.

SHEQMS Management Review meetings include a review of the SHEQMS/EMP, including the policy and objectives and targets, review of SHE performance data and identification of issues and corrective and preventive actions to be taken.

The Environmental Management Plan and the Environmental Aspects Register will be reviewed annually by the Port Kembla Milling management team. These documents will also be reviewed following any significant change to the size and/or nature of site activities or structures.

A record of changes and amendments to this plan will be maintained.

4.6 Improvement

4.6.1 Event Investigation, Nonconformity, Corr. Action and Prev. Action

PKM operations manage its Nonconformity, Corrective Actions and Preventative Actions in accordance with CAS-FW-002 SHEQ Management System. Incident Management is managed in accordance with CAS-PR-15.1 Incident Management, Notification, Recording, Investigation and Analysis. These procedures define the responsibilities and processes for identifying and investigating opportunities for improvement, non-conformances and incident management within Cement Australia.

- These procedures also address corrective and preventative action plans and tracking of associated actions.
- All PKM employees and on-site contractor personnel are responsible, through verbal or written means, for bringing suspected (actual and potential) non-conformances or opportunities for improvement of environmental performance to the attention of any supervisor.
- Identified actions that require follow-up are entered into the Corrective Preventive Action System (CAS) where they are periodically reviewed and are subject to management oversight.
- Visibility and oversight of open actions are to be reviewed and reported on by the Safety & Sustainability Specialist.
- The affected project/site initiates corrective and preventive action plans that are periodically reviewed by the SHE Function and appropriate management to evaluate the progress of corrective actions.
- The status of corrective and preventive actions is reviewed on a regular basis at site meetings. Where necessary, overdue corrective/preventive actions are reviewed in these meetings. Updates are made to the EMP documentation to reflect process improvements intended to prevent future non-conformance.
- All injury, incident and near miss reporting and investigations on PKM sites are managed in accordance with CAS-PR-15.1 Incident Management, Notification, Recording, Investigation and Analysis.

4.6.1.1 Incident or Emergency

An emergency is defined by the NSW State Emergency Management and Rescue Act, 1980 as:

An emergency due to actual or imminent occurrence (such as fire, flood, storm, earthquake, explosion, epidemic or warlike action) which:

- (a) endangers, or threatens to endanger, the safety or health of persons or animals; or*
- (b) destroys or damages, or threatens to destroy or damage any property, being an emergency which requires a significant and coordinated response.*

For the purposes of the definition of emergency, 'property' includes any part of the environment of the State. Accordingly, reference to:

- (a) threats or danger to property includes a reference to threats or danger to the environment, and*
- (b) The protection of property includes a reference to the protection of the environment.*

Facilities in NSW need to define those circumstances that constitute an emergency for their specific operation and activities. This definition should also identify the types of incident or circumstance that do not constitute an emergency and the point at which an emergency ceases to be an emergency.

For PKM an 'emergency' is defined as:

'An actual or imminent occurrence which endangers or threatens to endanger the safety or health of persons or animals, or, destroys damages or threatens to destroy or damage property including the environment.'

Specifically, an emergency will be declared at PKM if one of the following scenarios occurs:

- Serious injury requiring immediate, on site medical assistance from emergency services;
- Fire or explosion requiring immediate, on site assistance from emergency services;
- Gas leak of sufficient concern to warrant immediate, on site assistance from emergency services;
- Spills or release of hazardous materials requiring immediate, on site assistance from emergency services;
- Natural event (flood, earthquake, storm, storm surge) leading to damage to plant, equipment or personnel, requiring immediate, on site assistance from emergency services;
- Serious vehicle accident occurring on site (or very close to site) involving PKM employees or contractors requiring immediate assistance from emergency services; and
- Shipping related incident including oil spills requiring immediate, on site assistance from the Port Authority and/or emergency services.

All other events or incidents that do not match the PKM definition of an emergency shall be defined as 'incidents'.

Internal and external notification requirements and immediate actions in the event of an emergency are defined in the PKM Emergency Response Sub-Plan PK-SP-G.

4.6.1.2 Pollution Incidents

All licensed facilities in NSW are required to maintain procedures to manage pollution incidents. A pollution incident is defined by the POEO Act as

'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.'

Facilities are required to develop and maintain a Pollution Incident Response Management Plan (PIRMP). PIRMPs are required to outline procedures for the immediate notification to authorities of pollution incidents, immediate actions and other necessary information for managing pollution incidents.

In the case of PKM, the Pollution Incident Response Management Plan (PK-SP-G) defines procedures for events that meet the description of an 'emergency' (including pollution incidents). For all other pollution incidents, the procedures outlined in this part shall be followed.

4.6.1.3 Notification of Pollution Incident or Environmental Harm

Where any incident that, as a result of action taken by Port Kembla Milling or associated with Port Kembla Milling, leads to material or serious environmental harm, the Operations Manager shall inform the following agencies immediately in the order outlined in the following table.

Contact details for authorities in the event of a pollution incident

Authority	Contact Details
EPA Environment Line	131555
NSW Health (Wollongong Public Health Officer)	02 9391 9000
Safework NSW	13 10 50
Wollongong City Council	02 4227 7111
Fire and Rescue NSW (if not contacted already)	02 9265 2999 000 if an emergency
Department of Planning, Housing and Infrastructure	1300 305 695
NSW Ports	02 4225 7935
Port Kembla Gateway	02 4276 3566
Site Operations Manager	0438 113 477
Port Kembla Safety and Sustainability Specialist	0419 348 940
BSMS Security	02 4225 7935

Incidents that involve 'Environmental harm' will also be reported to the EPA. Environment harm is defined in the POEO Act 1997 to include:

'any direct or indirect alteration of the environment that has the effect of degrading the environment and, without limiting the generality of the above, includes any act or omission that results in pollution'

The POEO Act contains very stringent requirements for reporting environment incidents and if there is any doubt as to whether an event constitutes environment harm the central Safety and Sustainability function should be consulted.

The General Manager –Operations and the Group Safety and Sustainability Manager shall be informed as soon as practicable of all incidents.

4.6.1.4 Management of Incidents

In all cases where a pollution incident has occurred (which is not also an emergency) the following immediate actions shall be taken:

- Ensure own personal safety first;
- Raise the alarm (inform supervisor / Operations Manager);
- Cease the activity causing the pollution (shut down equipment etc.);
- Contain the spill / pollutant;
- Ensure notification procedures are followed;
- Secure the scene (barricade off to prevent access);
- Conduct task-based risk assessment (Job Planning Tool) to plan clean up activities;
- Commence clean up; and
- Make a note of key timings (alarm raise, notifications made, activity ceased, clean up commenced etc.), extent of pollution (including whether it left the site boundary) and any witnesses.

Minor spills of product or liquids shall be managed in accordance with PK-WI-G Minor Spill Response Plan.

4.6.1.5 Investigating Incidents and Emergencies

The procedures outlined in the Cement Australia Procedure for Incident Investigation and Reporting (CAS-PR-15.1) will be utilised for identifying, recording, reporting and investigating environment incidents. CAS-PR-15.1 requires that:

- All incidents shall be reported, classified, recorded in the Cement Australia incident management database and appropriately investigated;
- Appropriate corrective and preventive actions shall be implemented and verified that the controls are effective;
- Incident data and performance statistics shall be periodically presented to the management team and to the Board for their review;
- Incident data shall be analysed for trends to prioritise resource allocation and identify opportunities for improvement of the Management System and performance.

4.6.1.6 Non-Compliances

Non-compliances may be raised as a result of near-hit incidents (an incident that occurs but does not result in harm to people, property or the environment), breaches and/or exceedances of EPA licence or Major Project Approval conditions or identified during an audit or inspection.

As with incidents, non-compliances will be:

- Reported, classified and recorded in the Cement Australia incident management database or in the Audit Management Tool (electronic database) for non-compliances identified through an audit or inspection.
- Appropriate corrective and preventative actions shall be implemented and verified for effectiveness.
- Non-compliance data and statistics will also be presented periodically to the management team and all the way up to the Board of Port Kembla Milling and Cement Australia for their review
- Non-compliance related data shall be analysed for trends to prioritise resource allocation and identify opportunities for improvement of the Management System and performance.

4.6.1.7 Reporting Incidents and Exceedances to the Authorities

Port Kembla Milling is required to report (including written reports and investigations) certain incidents, complaints and non-compliances to relevant authorities.

Table 4-6 below provides a summary of these requirements.

4.6.2 Continual Improvement

PKM shall continually review and improve the suitability, adequacy and effectiveness of the EMP to enhance environmental and sustainability performance.

Report Required	Due by	Report provided to	Method of communication	Information to be reported	Responsible
Incident leading to or likely to lead to pollution or cause environmental harm And Exceedance of limit or performance criteria specified in the Major Project Approval or Environment Protection Licence	Immediately (incidents only)	NSW EPA Wollongong Council NSW Health WorkCover Authority Fire and Rescue NSW	Telephone	- Time and duration of the emergency event - The type, volume and concentration of every pollutant discharged as a result of the event (spills). - All actions taken in relation to the emergency event and any associated communications. - The names and contact details of all people involved including staff and any witnesses. - The details of any measure/s taken or proposed to be taken to prevent or mitigate against the recurrence of such an event	Operations Manager
	Within 24 hours (incidents or exceedance)	DPHI	Telephone followed by written notification (email)	Written details of the notification previously provided by telephone.	
	6 days later (incidents or exceedance)	DPHI	Written Report	- Report covering: - Date, time and nature of the incident; - Identifies the cause (or likely cause) of the incident; - Describes what action has been taken to date; - Describes the proposed measures to address the exceedance/incident.	
	7 days later (incidents only)	NSW EPA	Written notification	Written details of the notification previously provided by telephone	
	If requested (incidents only)	NSW EPA	Written Report	- Cause, time and duration of the event; - Type, volume and concentration of every pollutant discharged as a result of the event; - Name, address and business hours, telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; - the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; - action taken by the licensee in relation to the event, including any follow-up contact with any complainants; - details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and - Any other relevant matters.	

Table 4-6 Notification and Reporting Requirements

Appendix 1 – Stormwater Plan

