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Adelaide Brighton Cement Ltd

ABN 96 007 870 199

Dust Management Plan

Adelaide Brighton Cement Limited

Licence number: 35
Premises Address: Stockwell Road, Angaston 5353 (Angaston Site)

ENVIRONMENT PROTECTION AUTHORITY

THIS IS THE APPROVED Plan

REFERRED TO IN CONDITION S-264

OF EPA AUTHORISATION NUMBER 35

DELEGATE DATE 25/10/2019

August 2019

Glossary

Term	Definition
$\mu g/m^3$	micrograms per cubic metre
µm	micrometre
°C	degrees Celsius
m	metre
m^3	cubic metres
m^3/s	cubic metres per second
Nomenclature	**Definition**
PM_{10}	particulate matter with a diameter less than 10 micrometres
$PM_{2.5}$	particulate matter with a diameter less than 2.5 micrometres
Abbreviations	**Definition**
ABC	Adelaide Brighton Cement
Air EPP	Environment Protection (Air Quality) Policy 2016
DMP	Dust Management Plan
EPA	Environment Protection Authority
PO	Plant Operator
PSS	Production Shift Supervisor (includes senior production supervisor day shift)
TARP	Trigger Action Response Plan

Contents

Dust Management Plan

1.0 Purpose

The purpose of this Dust Management Plan (DMP) is to minimise dust emissions from on-site activities.

2.0 Scope

The plan addresses

- Objectives of the plan
- Dust management practices
- Development of trigger action response plans
- Reporting methodology
- Public access to reports and plan

3.0 Objectives of Dust Management Plan

The objectives of this plan are to:

- Take reasonable and practical measures to minimise dust emissions from on-site activities from leaving the premises
- Develop trigger action response plans to prevent or minimise off site particulate dust impacts
- Facilitate on going implementation of dust control measures
- Provide public access to annual reports and this plan

4.0 Background

The Angaston plant produces specialist cement and lime products (quicklime and hydrated lime).

The plant is located about 1.5 kilometres west of the town of Angaston and is located within the Barossa Industry zone. The plant's adjacent neighbours include Angaston Power Station, APA natural gas compression facility and Capral's aluminium manufacturing plant located to the South West. Metal fabricators, workshops and Vinpac wine bottling/packaging facility are located immediately to the north of the site. The site has surrounding rural production zones to the west and north, rural landscape protection zoning to the south and extractive mining zone to the east of the site.

ABC's customers and suppliers use the major arterial roads servicing the Angaston plant for the delivery of goods and materials by road.

4.1 Sources of dust

Fugitive dust emissions may occur from the following sources at the site:

- Unloading and onsite handling of raw materials
- Wind erosion from stockpiles
- vehicle movements on paved and raw material stockpile areas
- Combustion emissions from vehicles onsite
- Dust collectors and bag filters

4.2 Details of the receiving environment

The Angaston site is located within a general industry and mineral extraction zones with adjoining primary industry, general industry and mining extraction zones. The Aerial photo below shows the ABC site boundary surrounding sensitive receptors and adjoining Barossa Council Development zones.

4.3 Dust controls

ABC has implemented a range of fixed measures to reduce or eliminate the potential sources of fugitive dust across the Facility, including the following:

- Stockpiling and handling of raw material largely occurs inside sheds (Gantry building)
- Manufactured products with significant dust generation potential such as clinker are stockpiled and handled inside sheds
- Rapid raise doors
- Transfer points are enclosed
- Conveyors are enclosed
- Water sprays on crusher
- Sprinklers on clay stockpile
- Vegetation barriers to reduce wind speed and trap dust
- Shade cloth on fences around clay stockpiles
- Truck wash
- Dust collectors

ABC has implemented a range of administrative measures to reduce the potential source of fugitive dust across the facility, including the following:

- Regular road sweeping program to minimise dust build-up on the premises sealed roads
- A site housekeeping programme including register, schedule of areas to be cleaned, cleaning and inspection records

5.0 Applicable Legislative requirements and guidance

South Australian Environment Protection Act 1993
South Australian Environment Protection Regulations 2009
South Australian Environment Protection (Air Quality) Policy 2016 (Air EPP)

The air quality criteria that are relevant to dust emissions from the site are reproduced in Table 1.

Table 1: Relevant criteria from the Air EPP Schedule 2 (unless noted otherwise)

Pollutant	Classification	Averaging time	Maximum concentration (µg/m³)
Particles as PM_{10}	Toxicity	24 hours	50
Particles as $PM_{2.5}$	Toxicity	24 hours	25
		12 months	8

Adelaide Brighton Cement Ltd EPA Licence No35, condition (S-264)

DUST PREVENTION (S - 264)

The Licensee must:

1. *take all reasonable and practicable measures to prevent dust from leaving the Premises.*
2. *develop a Dust Management Plan to the satisfaction of the EPA by the compliance date listed below; and*
3. *implement the Dust Management Plan approved in writing by the EPA (or any revised plan approved in writing by the EPA).*

Compliance Date: 30/08/2019

6.0 Responsibilities

The organisation chart presented in figure 1 shows personnel with roles that have been assigned under the dust management plan.

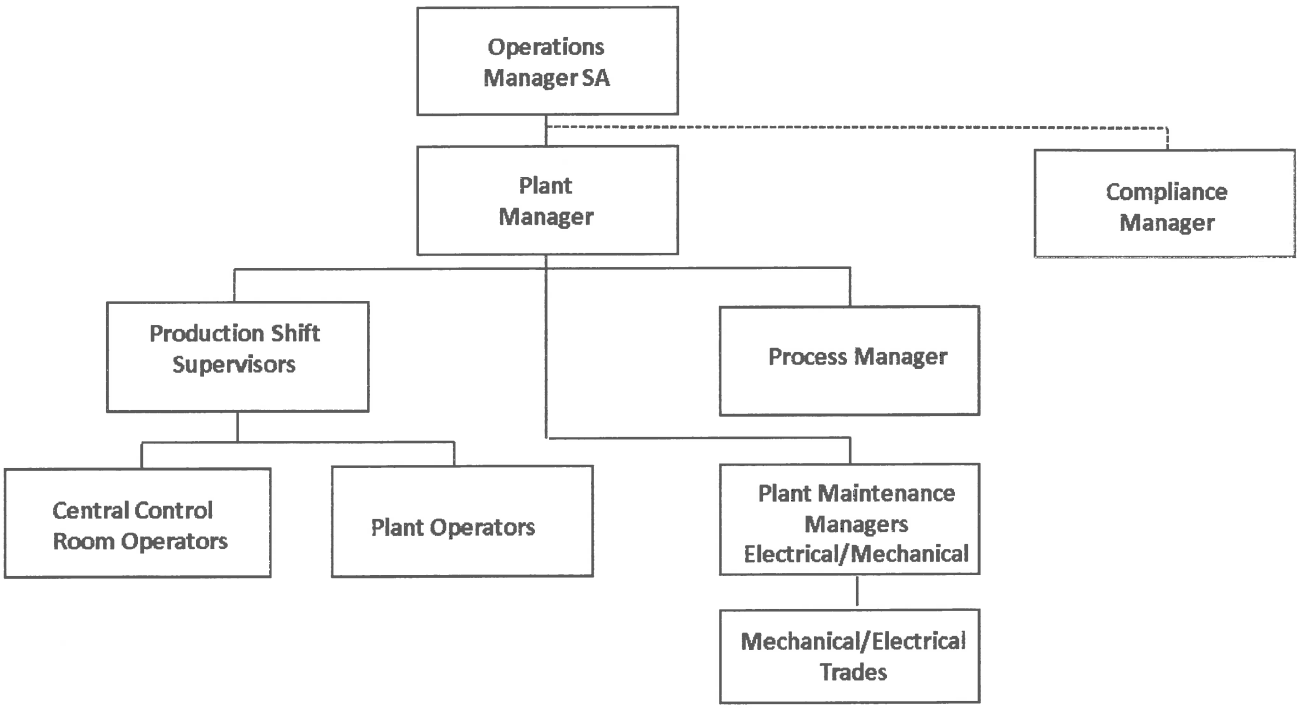


Figure 1: Organisation chart showing positions at the Facility with responsibilities under the DMP

All employees are responsible for complying with this plan, which includes:

- Taking action to minimise or prevent dust incidents
- Identifying and reporting dust incidents.

Responsibilities for key roles assigned in the dust management plan have been detailed in Table 2: General Responsibilities

Table 2: General Responsibilities

Plant Maintenance Managers (Electrical/Mechanical)	Responsibility and authority to ensure • Timely plant and equipment maintenance to minimise dust emissions
Central Control Room Operators (CCRO) Plant Operators (PO)	Responsible for minimisation of fugitive particulate emissions this includes: • Responding to and investigating TARP trigger threshold alerts • Initiating action to minimise particulate emissions • TARP reporting and recording
Production Shift Supervisors (PSS)	Responsible for minimisation of fugitive particulate emissions this includes: • Responding to, investigating and recording dust complaints • Responding to and investigating TARP trigger alerts • Initiating action to minimise particulate emissions • TARP reporting and recording • Responding to dust complaints
Senior Production Supervisor	Responsible for: • Responding to and investigating TARP trigger alerts • Street sweeper operations • Application and maintenance of chemical dust suppressant • Application of water • Clean up of spilled materials to reduce dust emissions
Plant Manager	Responsible for: • Implementation of Dust Management Plan and TARP • Ensuring employees and contractors are trained with respect to dust awareness, responsibilities, instructions, procedures • Ensuring timely maintenance of plant and equipment to reduce dust emissions • Investigation of dust complaints, identification and implementation of corrective/preventative action • Reviewing operations and implementing dust reduction solutions
Compliance Manager	Responsible for: • Annual reporting requirements of this plan • Annual Review and effectiveness of Dust Management Plan and TARP • Management of dust complaints (response, investigation, recording) • Ensuring dust management awareness is included in site inductions and environmental training
Operations Manager	Responsible for: • Ensuring compliance with this Dust Management Plan and TARP • Ensuring employees are aware of the site EPA licence conditions and reporting requirements relating to this Dust Management Plan and TARP • Provision of resources to reasonably and practically implement this Dust Management Plan and TARP

7.0 General Dust Management Practices

The following dust mitigation practices outlined in Table 5 General Dust Management Practices, shall be implemented on an ongoing basis at the site. Additional dust mitigation practices may be required in response to trigger levels being reached and these are outlined in Section 8.

Table 3: General Dust Management Practices

Parameter	Action	Frequency	Responsibility
Administrative actions			
Induction	Inductions for all employees and contractors shall include information on: • Potential sources of dust • Licence conditions • Minimising or eliminating dust impacts • Environmental incident reporting • Individual staff/contractor responsibilities	At beginning of employment and renewed annually (contractors) or biennially (employees)	Compliance Manager
Reassignment of responsibility	When staff that are normally responsible for dust management are unavailable (e.g. on leave), reassign responsibilities to another staff member	Prior to staff unavailability	Plant Manager
Maintenance – plant and equipment	All plant and equipment shall be maintained in a proper and efficient manner, to ensure that dust emissions are minimised.	Maintenance schedule or when identified	Plant Maintenance Managers
Routine (baseline) dust mitigation practices			
Sealed roads	Street sweeper	Dayshift – During transfer of clay to crusher	Senior Production Supervisor
Stockpiles and exposed areas	Apply water from sprinkler to clay stockpile exposed area	During transfer of materials when required	Senior Production Supervisor
	Apply chemical dust suppressant	Apply when needed	
Spillages	Spilled materials to be cleaned immediately after they occur	Clean up immediately after spill occurs	Senior Production Supervisor
Bulk material import / export in pneumatic tankers	Ensure all 'bulk' pneumatic tankers use truck wash	All pneumatic tankers on exit	Plant Manager
Shade cloth	Ensure shade cloth is in place and in good condition	At all times, review annually	Plant Manager
Buildings	Ensure all doors are closed	At all times	Plant Manager
Routine practices to ensure implementation of TARP			
Continuous observations	Assess whether any visible dust or build-up of deposited dust is present	At all times	All staff
Meteorological Forecasts	Review of meteorological conditions	Daily	Production Shift Supervisor
Routine review of dust management and TARP	Annual review of • Dust management activities • Triggers • Opportunities for improvement	Review annually	Plant Manager / Compliance Manager
Formal site inspections	SH&E inspections by area	Quarterly	Plant Manager

8.0 Trigger Action Response Plan (TARP)

Triggers have been defined to assist ABC to meet its dust management obligations by identifying circumstances when:

- Activities onsite are generating dust outside of the normal range and may result in elevated off-site dust levels

The following two levels of trigger/response have been defined:

1. Level 1 trigger (Investigate). A level 1 trigger indicates that there may be a potential dust issue and specific investigation is warranted.
2. Level 2 trigger (Escalate). A Level 2 trigger indicates that dust concentrations are outside of the normal range and that action must be taken.

The TARP has been designed to allow proactive management of fugitive dust. Therefore, a trigger, does not indicate the presence of an off-site dust impact.

Triggers and responses have been defined for the following data sources:

- Visual observations (refer to appendix A – Visual Trigger - Photographic Guide, note this guide will be added to overtime)
- Meteorological parameters

8.1 Trigger values and responses for visual monitoring data

Visual triggers are presented in table 4 and the corresponding response/s in table 5

Table 4: Visual Triggers *

Trigger Level	Description
Normal State	Reasonable conditions in day to day operation
Level 1	Dust is leaving immediate work area indicating a change from normal that requires investigation and remedial action may be needed.
Level 2	Dust is spreading across the wider plant area with potential for strong winds to blow dust off site. Investigation and remedial action must be taken.

*Refer to Appendix A - Visual Trigger – Photographic Guide

Table 5: Responses for visual triggers

Trigger Level	Action required	Responsibility
Level 1	• Operator alerts supervisor that dust levels are elevated therefore, investigation and remedial action may be required Where applicable • Reduce material handling activity • Reduce clay crushing • Clean up or wet down material spillage as soon as practicable • Stop dust collector and repair as soon as practicable	Shift supervisor
Level 2	• Operator alerts supervisor that dust levels are elevated therefore, investigation and remedial action is needed Where applicable • Stop material handling activity • Stop clay crushing • Clean up or wet down material spillage immediately • Stop dust collector and repair as soon as practicable	Shift supervisor

8.2 Trigger values and responses for meteorological parameters

Trigger values in Table 6 are based on meteorological conditions that have the potential to generate dust. The responses that are triggered by exceeding the values in Table 6 are presented in Table 7 and are proactive based on forecast meteorological conditions.

Table 6: Trigger values for meteorological parameters

Trigger level	Trigger
Level 1	Forecast winds > 6 m/s as a 3-hour average from the facility towards receptor areas (wind direction between 90° and 180°)
Level 2	Forecast of strong winds > 8 m/s as a 3-hour average

Table 7: Actions and responses for meteorological data triggers

Trigger Level	Action required	Responsibility
Level 1	• Alert shift employees that dust potential is elevated • Assess potential for shifting operations to more favourable conditions • Reduce planned activity level • Visual observations of site every 3 hours	Shift supervisor
Level 2	• Alert shift employees that dust potential is elevated • Assess potential for shifting operations to more favourable conditions • Stop all activity in stockpile areas • Visual observations of site every 3 hours	Shift supervisor

8.3 Management of TARPs

Management of the TARPs shall be performed through ABC's environmental section of the production shift log recording system (Cintellate). This is an electronic data base that records date time and comments and can be used to report details of activated triggers and associated responses taken are recorded for subsequent reporting and analysis.

9.0 Reporting Methodology

All reports will clearly identify the EPA licence number, name and address where the licence activity is conducted, name and contact details of the person submitting the report.

9.1 Annual reporting

The following information will be included in annual reports submitted to the EPA within 4 weeks from the 31 October each year.

- a table detailing
    - date, time and trigger exceeded
    - action and response strategies implemented
- a review of all trigger values
- a review of the effectiveness of all action and response strategies and adverse trends
- a review and analysis of community complaints with the exceedance of trigger values
- opportunities for improvement in dust management

9.2 Public access

Following submission of the annual report to the EPA, the report will be made available on the ABC Community web site within seven days.

The current version of this Plan, as approved by the EPA will be made available on the ABC Community web site within seven days.

9.3 DMP and TARP Review

The DMP and TARP will be updated as needed, following any significant plant changes and the review undertaken as part of the annual reporting requirement.

10.0 Plan Submission

Submitted by:

Name

Position

Authorised on behalf of

ADELAIDE BRIGHTON CEMENT LTD.

Signed: .....

Dated: ...../...../.....

11.0 Plan Approval

Approved by:

.....

DELEGATE OF THE ENVIRONMENT PROTECTION AUTHORITY

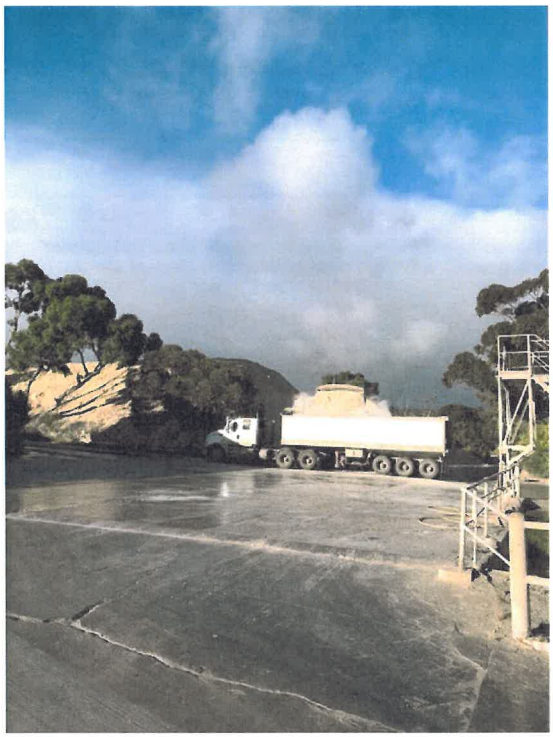
Signed: .....

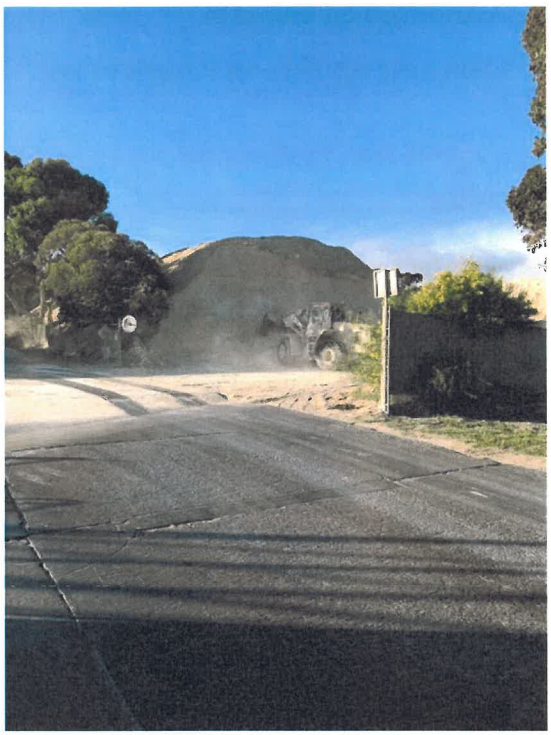
Dated: ...../...../.....

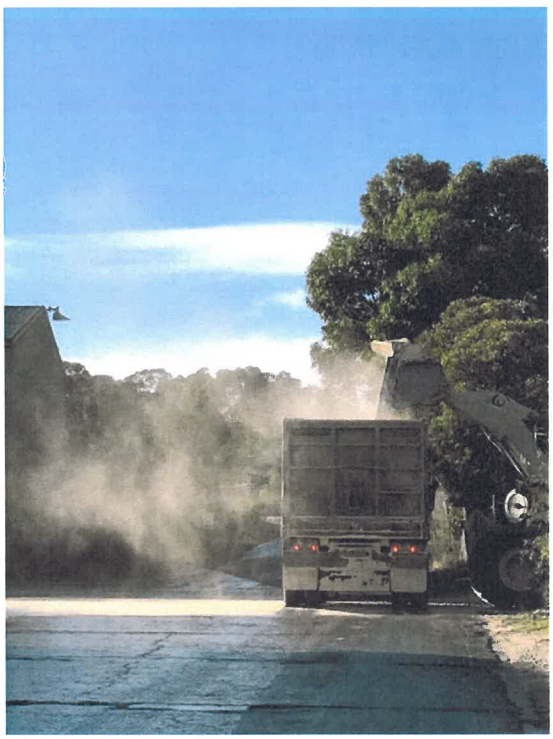
Appendix A
Visual Triggers – Photographic Guide

Normal Activity Photographs

Transfer of clay from stockpile to gantry storage – once/week activity. The localised fine dust deposition on the internal roadway during loading, is swept up after completion of the transfer.







Level 1 Visual Trigger Photographs

Photographs will be added to this section when these events occur

Level 2 Visual Trigger Photographs

Photographs will be added to this section, when these events occur