



Adelaide Brighton Cement Ltd

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ANNUAL DUST MANAGEMENT REPORT FOR ANGASTON WORKS

2021 Annual Report and TARP Review

Compliance date: 30/11/2021

EPA Licence: 35

Licensed site: Adelaide Brighton Cement, Angaston Works

345 Stockwell Road, Angaston, SA 5353

Date of Submission: 30 November 2021

Version Number: 1



Glossary

Term	Definition
$\mu\text{g}/\text{m}^3$	micrograms per cubic metre
mg/m^3	milligrams per cubic metre
μm	micrometre
$^{\circ}\text{C}$	degrees Celsius
m	metre
m^3	cubic metre
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
24 hour average	Calendar day (midnight to midnight)
Abbreviations	Definition
ABC	Adelaide Brighton Cement
Air EPP	South Australian Environment Protection (Air Quality) Policy 2016
DMP	Dust Management Plan
EPA	Environment Protection Authority
SPMP	Stack Particulate Management Plan
TARP	Trigger Action Response Plan

Purpose	The purpose of the Dust Management Plan (DMP) is to minimise dust emissions from on-site activities.
Dust Management Plan	<p>This report has been prepared in compliance with the Dust Management Plan, approved 25 October 2019, by SA EPA.</p> <p>The plan is available on the ABC Angaston Community website: https:// https://www.angastoncommunity.com.au</p>
Background Information	<p>The DMP contains a Trigger Action Response Plan (TARP) to proactively manage fugitive dust emissions.</p> <p>The TARP uses two levels of trigger:</p> <p>The following two levels of trigger/response have been defined:</p> <ul style="list-style-type: none"> • Level 1 trigger (investigate) – potential for dust emissions • Level 2 trigger (escalate) – potential for dust emissions to be higher than normal and action may be required <p>Triggers and responses have been defined for:</p> <ul style="list-style-type: none"> • Visual observations • Meteorological parameters <p>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.</p> <p>Trigger levels and responses are documented in the EPA Approved DMP.</p>

<p>Reporting Objective</p>	<p>To review the effectiveness of the Trigger Action Response Plan (TARP) contained within the approved Dust Management Plan (DMP) and includes;</p> <ul style="list-style-type: none"> • A table detailing <ul style="list-style-type: none"> • 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
<p>Review of Triggers, Community complaints and Effectiveness of the TARP</p>	<p>Summary of TARP alerts and actions for the reporting period is attached (refer to appendix 1):</p> <ul style="list-style-type: none"> • A total of 57 Level 1 Meteorological trigger alerts were raised for the reporting year • A total of 122 Level 2 Meteorological trigger alerts were raised for the reporting year • No Visual Triggers were raised for the reporting year <p>Complaints:</p> <ul style="list-style-type: none"> • There was no community dust complaint for the reporting year <p>Effectiveness:</p> <ul style="list-style-type: none"> • This report confirms the current TARP is assisting in managing dust control measures to minimise offsite dust from the site <p>Opportunities for improvement in dust management:</p> <ul style="list-style-type: none"> • A web-based Dust Management Dashboard has been developed to facilitate the implementation of the Trigger Action Response Plan (TARP) that is contained in the sites DMP.

**Appendix 1
Trigger /
Response
Summary**

Date time	Level- 1 Trigger wind speed >=6m/s and 90=< wind direction <=180	Level-2 Trigger wind speed >=8m/s	Response
7/11/2020 21:00	Yes		Alert shift employees that dust potential is elevated. No carting done
11/11/2020 12:00		Yes	Alert shift employees that dust potential is elevated. No carting done
11/11/2020 15:00		Yes	Alert shift employees that dust potential is elevated. No carting done
11/11/2020 18:00		Yes	Alert shift employees that dust potential is elevated. No carting done
12/11/2020 18:00		Yes	Alert shift employees that dust potential is elevated. No carting done
15/11/2020 15:00		Yes	Alert shift employees that dust potential is elevated. No carting done
15/11/2020 18:00		Yes	Alert shift employees that dust potential is elevated. No carting done
16/11/2020 3:00		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed is low
16/11/2020 12:00		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed is low
19/11/2020 12:00		Yes	Alert shift employees that dust potential is elevated. No carting done
19/11/2020 15:00		Yes	Alert shift employees that dust potential is elevated. No carting done
28/11/2020 21:00		Yes	Alert shift employees that dust potential is elevated. No carting done
28/11/2020 0:00		Yes	Alert shift employees that dust potential is elevated. No carting done

Date time	Level- 1 Trigger wind speed $\geq 6\text{m/s}$ and $90 \leq$ wind direction ≤ 180	Level-2 Trigger wind speed $\geq 8\text{m/s}$	Response
1/12/2020 9:00		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed is low
1/12/2020 12:00		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed is low
1/12/2020 15:00		Yes	Alert shift employees that dust potential is elevated. No carting done
1/12/2020 18:00		Yes	Alert shift employees that dust potential is elevated. No carting done
2/12/2020 21:00	Yes		Alert shift employees that dust potential is elevated. No carting done
5/12/2020 12:00		Yes	Alert shift employees that dust potential is elevated. No carting done
5/12/2020 15:00		Yes	Alert shift employees that dust potential is elevated. No carting done
5/12/2020 18:00		Yes	Alert shift employees that dust potential is elevated. No carting done
5/12/2020 21:00		Yes	Alert shift employees that dust potential is elevated. No carting done
6/12/2020 0:00		Yes	Alert shift employees that dust potential is elevated. No carting done
6/12/2020 9:00		Yes	Alert shift employees that dust potential is elevated. No carting done
6/12/2020 12:00		Yes	Alert shift employees that dust potential is elevated. No carting done
6/12/2020 15:00		Yes	Alert shift employees that dust potential is elevated. No carting done

Date time	Level- 1 Trigger wind speed $\geq 6\text{m/s}$ and $90 < \text{wind direction} \leq 180$	Level-2 Trigger wind speed $\geq 8\text{m/s}$	Response
6/12/2020 18:00		Yes	Alert shift employees that dust potential is elevated. No carting done
6/12/2020 21:00		Yes	Alert shift employees that dust potential is elevated. No carting done
7/12/2020 9:00		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed is low
7/12/2020 12:00		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed is low
7/12/2020 15:00		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed is low
7/12/2020 18:00		Yes	Alert shift employees that dust potential is elevated. No carting done
10/12/2020 18:00	Yes		Alert shift employees that dust potential is elevated. No carting done
10/12/2020 0:00	Yes		Alert shift employees that dust potential is elevated. No carting done
11/12/2020 12:00	Yes		Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed is low
12/12/2020 3:00	Yes		Alert shift employees that dust potential is elevated. No carting done
15/12/2020 15:00	Yes		Alert shift employees that dust potential is elevated. No carting done
19/12/2020 21:00	Yes		Alert shift employees that dust potential is elevated. No carting done

Date time	Level- 1 Trigger wind speed $\geq 6\text{m/s}$ and $90 < \text{wind direction} \leq 180$	Level-2 Trigger wind speed $\geq 8\text{m/s}$	Response
24/12/2020 21:00	Yes		Alert shift employees that dust potential is elevated. No carting done
24/12/2020 0:00	Yes		Alert shift employees that dust potential is elevated. No carting done
25/12/2020 3:00	Yes		Alert shift employees that dust potential is elevated. No carting done
27/12/2020 9:00		Yes	Alert shift employees that dust potential is elevated. No carting done
27/12/2020 18:00	Yes		Alert shift employees that dust potential is elevated. No carting done
30/12/2020 21:00	Yes		Alert shift employees that dust potential is elevated. No carting done
30/12/2020 0:00	Yes		Alert shift employees that dust potential is elevated. No carting done
31/12/2020 3:00	Yes		Alert shift employees that dust potential is elevated. No carting done
31/12/2020 6:00	Yes		Alert shift employees that dust potential is elevated. No carting done
31/12/2020 9:00	Yes		Alert shift employees that dust potential is elevated. No carting done
1/01/2021 3:00	Yes		Alert shift employees that dust potential is elevated. No carting done
4/01/2021 15:00	Yes		Alert shift employees that dust potential is elevated. No carting done
4/01/2021 18:00	Yes		Alert shift employees that dust potential is elevated. No carting done
5/01/2021 3:00		Yes	Alert shift employees that dust potential is elevated. No carting done

Date time	Level- 1 Trigger wind speed >=6m/s and 90=< wind direction <=180	Level-2 Trigger wind speed >=8m/s	Response
5/01/2021 18:00	Yes		Alert shift employees that dust potential is elevated. No carting done
6/01/2021 9:00	Yes		Alert shift employees that dust potential is elevated. No carting done
6/01/2021 18:00	Yes		Alert shift employees that dust potential is elevated. No carting done
6/01/2021 0:00	Yes		Alert shift employees that dust potential is elevated. No carting done
9/01/2021 0:00	Yes		Alert shift employees that dust potential is elevated. No carting done
16/01/2021 18:00	Yes		Alert shift employees that dust potential is elevated. No carting done
25/01/2021 15:00		Yes	Alert shift employees that dust potential is elevated. No carting done
1/02/2021 18:00	Yes		Alert shift employees that dust potential is elevated. No carting done
2/02/2021 18:00	Yes		Alert shift employees that dust potential is elevated. No carting done
2/02/2021 0:00	Yes		Alert shift employees that dust potential is elevated. No carting done
3/02/2021 3:00	Yes		Alert shift employees that dust potential is elevated. No carting done
5/02/2021 12:00		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed is low
5/02/2021 15:00		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed is low

Date time	Level- 1 Trigger wind speed >=6m/s and 90=< wind direction <=180	Level-2 Trigger wind speed >=8m/s	Response
5/02/2021 18:00		Yes	Alert shift employees that dust potential is elevated. No carting done
5/02/2021 0:00		Yes	Alert shift employees that dust potential is elevated. No carting done
6/02/2021 3:00		Yes	Alert shift employees that dust potential is elevated. No carting done
6/02/2021 9:00		Yes	Alert shift employees that dust potential is elevated. No carting done
6/02/2021 15:00		Yes	Alert shift employees that dust potential is elevated. No carting done
8/02/2021 3:00	Yes		Alert shift employees that dust potential is elevated. No carting done
11/02/2021 15:00		Yes	Alert shift employees that dust potential is elevated. No carting done
14/02/2021 6:00	Yes		Alert shift employees that dust potential is elevated. No carting done
22/02/2021 0:00	Yes		Alert shift employees that dust potential is elevated. No carting done
23/02/2021 18:00	Yes		Alert shift employees that dust potential is elevated. No carting done
23/02/2021 0:00	Yes		Alert shift employees that dust potential is elevated. No carting done
24/02/2021 3:00	Yes		Alert shift employees that dust potential is elevated. No carting done
24/02/2021 18:00	Yes		Alert shift employees that dust potential is elevated. No carting done
1/03/2021 18:00	Yes		Alert shift employees that dust potential is elevated. No carting done

Date time	Level- 1 Trigger wind speed $\geq 6\text{m/s}$ and $90 < \text{wind direction} \leq 180$	Level-2 Trigger wind speed $\geq 8\text{m/s}$	Response
1/03/2021 21:00	Yes		Alert shift employees that dust potential is elevated. No carting done
2/03/2021 3:00	Yes		Alert shift employees that dust potential is elevated. No carting done
2/03/2021 21:00	Yes		Alert shift employees that dust potential is elevated. No carting done
4/03/2021 3:00	Yes		Alert shift employees that dust potential is elevated. No carting done
8/03/2021 21:00	Yes		Alert shift employees that dust potential is elevated. No carting done
9/03/2021 9:00	Yes		Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed is low
9/03/2021 21:00	Yes		Alert shift employees that dust potential is elevated. No carting done
9/03/2021 0:00	Yes		Alert shift employees that dust potential is elevated. No carting done
18/03/2021 21:00	Yes		Alert shift employees that dust potential is elevated. No carting done
19/03/2021 15:00	Yes		Alert shift employees that dust potential is elevated. No carting done
19/03/2021 18:00	Yes		Alert shift employees that dust potential is elevated. No carting done
21/03/2021 21:00	Yes		Alert shift employees that dust potential is elevated. No carting done
10/04/2021 15:00		Yes	Alert shift employees that dust potential is elevated. No carting done

Date time	Level- 1 Trigger wind speed >=6m/s and 90=< wind direction <=180	Level-2 Trigger wind speed >=8m/s	Response
14/04/2021 9:00		Yes	Alert shift employees that dust potential is elevated. No carting done
14/04/2021 12:00		Yes	Alert shift employees that dust potential is elevated. No carting done
4/05/2021 15:00	Yes		Alert shift employees that dust potential is elevated. No carting done
4/05/2021 21:00	Yes		Alert shift employees that dust potential is elevated. No carting done
10/05/2021 6:30		Yes	Alert shift employees that dust potential is elevated. No external carting done
10/05/2021 16:30		Yes	Alert shift employees that dust potential is elevated. No external carting done Assess potential for shifting operations to more favourable conditions. Visual observations of site every 3 hours.
11/05/2021 13:30	Yes		Alert shift employees that dust potential is elevated.
13/05/2021 11:30		Yes	Alert shift employees that dust potential is elevated. Assess potential for shifting operations to more favourable conditions.
24/05/2021 13:30		Yes	Alert shift employees that dust potential is elevated. Assess potential for shifting operations to more favourable conditions.
25/05/2021 6:30		Yes	Alert shift employees that dust potential is elevated. Stopped K2 carting of rejects until wind speed dropped below high level Assess potential for shifting operations to more favourable conditions.
25/05/2021 18:30		Yes	Alert shift employees that dust potential is elevated. Assess potential for shifting operations to more favourable conditions. No carting done

Date time	Level- 1 Trigger wind speed $\geq 6\text{m/s}$ and $90 < \text{wind direction} \leq 180$	Level-2 Trigger wind speed $\geq 8\text{m/s}$	Response
25/05/2021 22:30		Yes	Alert shift employees that dust potential is elevated. Assess potential for shifting operations to more favourable conditions No carting done
4/06/2021 13:30	Yes		Alert shift employees that dust potential is elevated. No external carting done
7/06/2021 18:30		Yes	Alert shift employees that dust potential is elevated. No external carting done
8/06/2021 0:30		Yes	Stop all activity in stockpile areas. No external carting done
8/06/2021 14:30		Yes	Assess potential for shifting operations to more favourable conditions. No external carting done
9/06/2021 12:30		Yes	Alert shift employees that dust potential is elevated. Assess potential for shifting operations to more favourable conditions. No external carting done
16/06/2021 11:30		Yes	Alert shift employees that dust potential is elevated. No external carting done
18/06/2021 13:30		Yes	Alert shift employees that dust potential is elevated. No carting done
24/06/2021 6:30		Yes	Alert shift employees that dust potential is elevated. Stopped K2 carting of rejects until wind speed dropped to lower wind speed
24/06/2021 6:30		Yes	Assess potential for shifting operations to more favourable conditions. No carting done
24/06/2021 17:30		Yes	Alert shift employees that dust potential is elevated. Assess potential for shifting operations to more favourable conditions. Stopped K2 carting of rejects until wind speed dropped to lower wind speed

Date time	Level- 1 Trigger wind speed $\geq 6\text{m/s}$ and $90 < \text{wind direction} \leq 180$	Level-2 Trigger wind speed $\geq 8\text{m/s}$	Response
2/07/2021 14:30		Yes	Alert shift employees that dust potential is elevated. Stopped carting of BL clinker & other carting activities Stop all activity in stockpile areas.
3/07/2021 15:30		Yes	Assess potential for shifting operations to more favourable conditions. Reduced BL clinker carting until wind speed slowed down
3/07/2021 15:30		Yes	Visual observations of site every 3 hours. Continue monitoring wind speed
12/07/2021 14:30		Yes	Alert shift employees that dust potential is elevated. Carting activities done when wind speed is lower Assess potential for shifting operations to more favourable conditions. Continue monitoring wind speed
14/07/2021 3:30		Yes	Stop all activity in stockpile areas. No external carting done
14/07/2021 3:30		Yes	Visual observations of site every 3 hours.
14/07/2021 15:30		Yes	Assess potential for shifting operations to more favourable conditions. No external carting done Stop all activity in stockpile areas.
15/07/2021 18:30		Yes	Stop all activity in stockpile areas. No external carting done
16/07/2021 6:30		Yes	Visual observations of site every 3 hours.
16/07/2021 18:30		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed below high levels Visual observations of site every 3 hours

Date time	Level- 1 Trigger wind speed $\geq 6\text{m/s}$ and $90 < \text{wind direction} \leq 180$	Level-2 Trigger wind speed $\geq 8\text{m/s}$	Response
17/07/2021 6:30		Yes	Assess potential for shifting operations to more favourable conditions. No carting done Stop all activity in stockpile areas.
17/07/2021 15:30		Yes	Assess potential for shifting operations to more favourable conditions. No carting done Stop all activity in stockpile areas.
20/07/2021 15:30		Yes	Assess potential for shifting operations to more favourable conditions. No external carting done
24/07/2021 6:30		Yes	Stop all activity in stockpile areas. No external uncovered carting done
24/07/2021 18:30		Yes	Assess potential for shifting operations to more favourable conditions. No external carting done
25/07/2021 6:30		Yes	Assess potential for shifting operations to more favourable conditions. No external carting done
25/07/2021 18:30		Yes	Stop all activity in stockpile areas. No external carting done
25/07/2021 23:30		Yes	Stop all activity in stockpile areas. No external carting done
26/07/2021 13:30		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed below high levels
27/07/2021 18:30		Yes	Stop all activity in stockpile areas. No external carting done
28/07/2021 6:30		Yes	Stop all activity in stockpile areas. No external carting done
28/07/2021 16:30		Yes	Stop all activity in stockpile areas. No external carting done

Date time	Level- 1 Trigger wind speed $\geq 6\text{m/s}$ and $90 \leq$ wind direction ≤ 180	Level-2 Trigger wind speed $\geq 8\text{m/s}$	Response
31/07/2021 13:30		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed below high levels
2/08/2021 17:30		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed below high levels
2/08/2021 22:30		Yes	Stop all activity in stockpile areas. No external carting done
3/08/2021 14:30		Yes	Stop all activity in stockpile areas. Halted any carting until wind speed below high levels
10/08/2021 12:30		Yes	Assess potential for shifting operations to more favourable conditions. Shifted carting activities on good wind condition
11/08/2021 15:30		Yes	Assess potential for shifting operations to more favourable conditions. No external carting done
15/08/2021 16:30		Yes	Stop all activity in stockpile areas. Halted any carting until wind speed below high levels
20/08/2021 11:30		Yes	Stop all activity in stockpile areas. No external carting done
22/08/2021 18:30		Yes	Stop all activity in stockpile areas. No external carting done
23/08/2021 3:30		Yes	Stop all activity in stockpile areas. No external carting done
23/08/2021 15:30		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed below high levels
28/08/2021 12:30		Yes	Assess potential for shifting operations to more favourable conditions. Halted K3 dust carting until wind speed below high levels

Date time	Level- 1 Trigger wind speed $\geq 6\text{m/s}$ and $90 < \text{wind direction} \leq 180$	Level-2 Trigger wind speed $\geq 8\text{m/s}$	Response
31/08/2021 12:30		Yes	Assess potential for shifting operations to more favourable conditions. Carting of foundry sand done earlier before high wind forecast
2/09/2021 6:30		Yes	Stop all activity in stockpile areas. No external carting done at this time
2/09/2021 17:30		Yes	Assess potential for shifting operations to more favourable conditions. K2 carting of rejects done before high wind forecast. No more carting during this period
9/09/2021 16:30		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed below high levels
10/09/2021 15:30		Yes	Stop all activity in stockpile areas. No external carting done
11/09/2021 16:30		Yes	Stop all activity in stockpile areas. No carting done
12/09/2021 16:30		Yes	Assess potential for shifting operations to more favourable conditions. Carting of Kiln-3 ckd done before the forecasted high winds
17/09/2021 4:30		Yes	Assess potential for shifting operations to more favourable conditions. K3 ckd carting done before strong wind
17/09/2021 16:30		Yes	Stop all activity in stockpile areas. No external carting done on this day
17/09/2021 23:30		Yes	Stop all activity in stockpile areas. No external carting done
18/09/2021 16:30		Yes	Stop all activity in stockpile areas. No external carting done on this day
19/09/2021 16:30		Yes	Stop all activity in stockpile areas. No external carting done on this day

Date time	Level- 1 Trigger wind speed >=6m/s and 90=< wind direction <=180	Level-2 Trigger wind speed >=8m/s	Response
20/09/2021 3:30		Yes	Assess potential for shifting operations to more favourable conditions. Carting done when wind dropped at lower speed
20/09/2021 18:30		Yes	Stop all activity in stockpile areas. No carting at this time
23/09/2021 15:30		Yes	Assess potential for shifting operations to more favourable conditions. Clinker carting halted until weather condition improves
24/09/2021 15:30		Yes	Stop all activity in stockpile areas. No carting done
29/09/2021 10:30	Yes		Assess potential for shifting operations to more favourable conditions. No external carting done on this day
30/09/2021 18:30		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed below high levels
3/10/2021 18:30		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed below high levels
4/10/2021 6:30		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed below high levels
4/10/2021 18:30		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed below high levels
4/10/2021 21:30		Yes	Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed below high levels
10/10/2021 18:30	Yes		Alert shift employees that dust potential is elevated. No external carting done

Date time	Level- 1 Trigger wind speed $\geq 6\text{m/s}$ and $90 < \text{wind direction} \leq 180$	Level-2 Trigger wind speed $\geq 8\text{m/s}$	Response
15/10/2021 16:30		Yes	Alert shift employees that dust potential is elevated. No carting to be done
19/10/2021 9:30	Yes		Assess potential for shifting operations to more favourable conditions. Halted any carting until wind speed below high levels
20/10/2021 15:30		Yes	Stop all activity in stockpile areas. No external carting will be done
23/10/2021 15:30		Yes	Stop all activity in stockpile areas. No external carting done
27/10/2021 9:30		Yes	Stop all activity in stockpile areas. No external carting planned
28/10/2021 18:30		Yes	Stop all activity in stockpile areas. No carting done due to forecasted storm
29/10/2021 3:30		Yes	Assess potential for shifting operations to more favourable conditions. Carting of dust will be done when wind speed is low
29/10/2021 3:30		Yes	Stop all activity in stockpile areas. No carting done at this time