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STACK PARTICULATE REPORT FOR BIRKENHEAD WORKS

Period: November 2017 – June 2018

Licensed site: Adelaide Brighton Cement, Birkenhead Works

62 Elder Road, Birkenhead, SA 5015

EPA Licence number: 1126

Date of Submission: 30 November 2018

Version Number: 1



Report Submitted by: Environmental Engineer

Certified by: Compliance Manager

I certify that to the best of my knowledge and ability all the information in this report is a true and accurate reflection of the regulatory monitoring performed.

Glossary

Term	Definition
$\mu\text{g}/\text{m}^3$	micrograms per cubic metre
mg/m^3	milligrams per cubic metre
m	metre
m^3	cubic metres
m^3/s	cubic metres per second
Nm^3	Gas volume in cubic metres at STP dry basis
Abbreviations	Definition
Air EPP	Environment Protection (Air Quality) Policy 2016
SA EPA	South Australian Environment Protection Authority
STP	Standard Temperature and Pressure (zero degrees Celsius and 101.3 kilo Pascals absolute)
TSP	Total Suspended Particulates
SPMP	Stack Particulate Management Plan

<p><u>Monitoring Objective</u></p>	<p>All stack particulate emissions events for the reporting period, where levels have exceeded the reporting thresholds:</p> <ul style="list-style-type: none"> • 100mg/Nm³ (1 hour averaging period) on Kiln Stack 4A • 60 mg/Nm³ (1 hour averaging period) on Precalciner Stack 4B <p>Particulate Emissions will be reported in a table format providing the following details:</p> <ul style="list-style-type: none"> • date, time and duration • the measured particulate concentration mg/Nm³ (STP-dry) • immediate actions taken to reduce particulate emissions • cause and corrective actions taken to prevent future reoccurrence
<p><u>Monitoring Plan</u></p>	<p>This monitoring report has been prepared in line with the objectives of the Stack Particulate Management Plan approved on 18 June 2018 by the South Australian EPA, and provides a summary of stack particulate emissions data, for the period between the commencement of the licence on the 1/11/2017 and the approval of the Stack Particulate Management Plan.</p>

One Hour Stack Particulate Reporting Events - November 2017 to June 2018

4A Stack
1 hr > 100mg/Nm³
1hr clock average

Date	Time start	Time finish	Duration (hr)	Magnitude mg/Nm ³	Cause	Immediate Actions Taken	Actions Taken to Prevent a Reoccurrence
5/12/2017	15:00	16:00	1	114	Excess build-up within the Bypass process	Checked and cleaned the Bypass system	Regular inspection and cleaning to minimise build-up Feasibility assessment to install blasters to reduce build up
5/12/2017	17:00	18:00	1	145	Excess build-up within the Bypass process	Checked and cleaned the Bypass system	Regular inspection and cleaning to minimise build-up Feasibility assessment to install blasters to reduce build up
6/12/2017	13:00	14:00	1	110	Excess build-up within the Bypass process	Checked and cleaned the Bypass system	Regular inspection and cleaning to minimise build-up Feasibility assessment to install blasters to reduce build up
9/12/2017	9:00	10:00	1	138.5	Excess build-up within the Bypass process	Checked and cleaned the Bypass system	Regular inspection and cleaning to minimise build-up Feasibility assessment to install blasters to reduce build up
15/03/2018	19:00	20:00	1	121	Ruptured airline hose to the valve that controls the water flow to the conditioning tower cooling spray system	The immediate action taken was to identify and repair the airline	The issue had not occurred before Maintian existing maintenance and inspection program
30/06/2018	3:00	4:00	1	116	Excess build-up within the Bypass process	Checked and cleaned the Bypass system	Regular inspection and cleaning to minimise build-up Feasibility assessment to install blasters to reduce build up

4B Stack

1- hr > 60mg/Nm³
 1hr clock average

Date	Time start	Time finish	Duration (hr)	Magnitude mg/Nm3	Cause	Immediate Actions Taken	Actions Taken to Prevent a Reoccurrence
9/11/2017	8:00	9:00	1	65	4B Mill was off for extended period	4B Mill restarted	Operate to process control standards
17/12/2017	22:00	23:00	1	62	4B Mill was off for extended period	4B Mill restarted	Operate to process control standards
4/02/2018	4:00 7:00 8:00 9:00	5:00 8:00 9:00 10:00	1 1 1 1	96 121 102 100	Equipment failure of 4B elevator drag chain transport system	4B calciner stream was shutdown for an internal assessment and subsequent repair of 4B elevator drag chain transport system	The issue had not occurred before. Maintain existing maintenance and inspection program
7/02/2018	13:00	14:00	1	74	4B Mill was off for extended period	4B Mill restarted	Operate to process control standards
8/02/2018	14:00	15:00	1	62	4B Mill was off for extended period	4B Mill restarted	Operate to process control standards
9/02/2018	19:00	20:00	1	124	4B Mill was off for extended period	4B Mill restarted	Operate to process control standards
11/02/2018	21:00	22:00	1	67	4B Mill was off for extended period	4B Mill restarted	Operate to process control standards
4/06/2018	7:00	8:00	1	62	4B Mill was off for extended period	4B Mill restarted	Operate to process control standards