

ENVIRONMENT IMPROVEMENT PROGRAMME

PURSUANT TO REQUIREMENTS UNDER THE

ENVIRONMENT PROTECTION ACT 1993

Document Number	1126 EIP Version 3
Document Date	31 January 2018
Licensee	Adelaide Brighton Cement Ltd (ABC)
EPA Licence Number	1126 Issued 1 November 2017
Site to which this EIP is subject	Victoria & Elder roads, Birkenhead SA 5015 CT6142/523 CT6142/522 CT6486/422 CT6411/669 CT6750/769 CT6750/770 CT6742/582 CT6742/581 CT6813/576 CT6816/537 CT6816/2 CT6841/73 CT6883/198 CT6989/732 CT6057/913 CT6057/917 CT6057/918 CT6057/920 CT6057/921 CT6057/922 CT6057/914 CT6087/695 CT6087/694 CT6087/700 CT6087/696 CT6087/697 CT6087/698 CT6087/701 CT6087/702 CT6126/858 CT6057/936 CT6057/932 CT6057/931 CT6057/929 CT6057/927 CT6057/925 CT6057/924 CT6145/889 CT6145/895 CT6148/576
Document Produced By	Adelaide Brighton Cement Ltd

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1. INTRODUCTION

1.1 Brief History

Adelaide Brighton Cement Ltd is licensed under the *Environment Protection Act 1993* to operate a cement works at Victoria Rd, Birkenhead (the Site). The following licensed activities are conducted on the Site;

- 2(3) Cement Works
- 3(4) Activities producing listed wastes
- 7(1) Bulk shipping facilities
- 7(3)c Crushing grinding and milling works (rock, ores or minerals)
- 8(2)a Fuel burning coal or wood
- 8(2)a Fuel burning not coal or wood

Adelaide Brighton is a manufacturer of cementitious products. Seven thousand tonnes of limestone is shipped to Birkenhead each day and stockpiled on the Site, then used with other raw fringe materials to make clinker. The clinker, after being processed in the pre-calcliner towers and the dry kiln process is then ground in ball mills (cement mills) with other additives to make cement and cement products. These products are transported from the plant by bulk tanker and bagged products are also distributed interstate by road and ship.

1.2 Environmental authorisation compliance

Adelaide Brighton Cement Ltd is required to develop a revised Environmental Improvement Programme (EIP) to address new actions identified by the previously EPA approved Adelaide Brighton Cement EIP entitled 'version 2, dated 28 December 2016'. The actions include:

- Noise abatement options identified in the Vipac Engineers and Scientists Report, May 2017 'Noise Abatement and Modelling Update'.

Licence condition Environmental Improvement Programme U - 720

"The Licensee must:

1. Develop and submit to the EPA a revised EIP to the satisfaction of the EPA by the 31 January 2018;
2. Undertake public consultation in the course of developing the revised EIP;
3. Ensure that the revised EIP includes, but is not limited to:

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- a. *A summary of the results of the public consultation undertaken in developing the EIP*
 - b. *Details of actions, timeframes and milestones to be undertaken by the licensee to address noise abatement options identified in the Vipac Engineers and Scientists Report, May 2017 'Noise Abatement and Modelling Update';*
 - c. *A methodology and framework for reporting to the EPA three quarterly reports and one annual report, which demonstrates progress and completion of the EIP actions*
 - d. *A methodology and framework to assess the effectiveness of the actions details in the EIP;*
 - e. *A methodology and framework for how you will be providing public access to the EIP, quarterly and annual reporting:*
4. *Implement the EIP upon approval in writing by the EPA.*

1.3 Community consultation process

In developing this EIP, Adelaide Brighton Cement Ltd (ABC) has incorporated the following community consultation process in addition to other relevant meetings and documents:

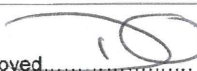
- Email communications to the Community Liaison Group (CLG) in early and mid-November 2017 detailing the new EIP licence requirements and a detailed report/presentation which included;
 - The four noise abatement projects identified in the Vipac Engineers, May 2017 Noise Abatement & modelling report
 - Methodology to assess the effectiveness of the Noise abatement projects
 - Expected completion dates and communication process
- Formal presentation at the quarterly public Community Liaison Group meeting held on 20 November 2017
- Distribution of Minutes from the quarterly CLG meeting to all the relevant parties, including the CLG and the EPA.

1.4 Results of community consultation

No correspondence was received from the CLG membership in response to the email communications.

During the formal presentation on 20 November 2017:

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- A CLG member asked why only 4 projects were being implemented when the Vipac Engineers, May 2017 Noise Abatement & modelling report had identified 12 projects
- ABC stated that the Vipac Engineers, May 2017 Noise Abatement & modelling report had only identified and recommended 4 noise abatement projects in the conclusion of the report, and that all 4 have been included in the new EIP.

1.5 Intent

In order to reduce its environmental impact, Adelaide Brighton Cement Ltd plans to undertake projects listed in Table 1. The projects are designed to abate noise emissions and reduce stack particulate emissions.

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2. SITE MAPS

Figure 1 – Site map of ABC Birkenhead



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3. TABLE OF INTENDED APPROACH

Category	Item	Title	Action to be undertaken	Potential benefits	Timing	Comment
Action 1	1.1	Upgrade of the 4A Bypass & 4A Gas Conditioning Towers (GCT) Spray Systems	<p>Work involved includes:</p> <ul style="list-style-type: none"> • upgrading from single (water only) to dual phase (air/water) sprays; & • installing thermodynamic feed forward controls <p>These improvements will facilitate conditions for smaller droplets resulting in greater surface area and faster more efficient evaporation</p>	Reduction in stack emissions during both normal and unstable operating conditions	31/03/18	<p>Actions identified in the previous EIP entitled 'version 2, dated 28 December 2016'</p> <p>The reason for delays and proposed variation to the compliance date were formally communicated to the EPA & CLG</p>
Noise abatement options identified in the Vipac Engineers and Scientists Report, May 2017 'Noise Abatement and Modelling Update';						
Action 2a	1.2	Gas Supply train	Adelaide Brighton Cement Ltd in cooperation with the APA Group (owners of the Gas Train and surrounding equipment) will assess noise abatement options. APA selection, timing and implementation of noise abatement options (if feasible) is the sole prerogative of APA Group	Reduction in noise impacts on the adjacent residential community	30/06/18	
Action 2b	1.3	Main dust collector fan on top of the Blending silo	Design, manufacture and install an effective noise abatement solution for the main dust collector fan on top the 20,000-ton Blending silo	Reduction in noise impacts on the adjacent residential community	30/06/18	
Action 2c	1.4	4A discharge fan located on level 6 of main tower	Design, manufacture and install an effective noise abatement solution for the 4A discharge fan located on level 6 of main tower on the south side	Reduction in noise impacts on the adjacent residential community	30/06/18	
Action 2d	1.5	4B Airslide transport system top of 20,000 Blending silo	Replace the gearbox assembly on the 4B Airslide transport system located at the top of 20,000 Blending silo (adjacent main plant tower)	Reduction in noise impacts on the adjacent residential community	30/06/18	Completed Gearbox replaced in late 2017, achieving substantial noise abatement (up to 10 dBA at the source, based on internal measurements)
Action 3	1.6		Acoustic consultants will assess the reductions achieved by each of the projects listed in compliance actions 2 b, c, d and provide an updated Sound Plan 3D Noise Model	Measure and model the site noise and residential sound map reductions achieved	30/06/18	


This table of stages provides a general indication of the focus of activities at the site during the period of the EIP. This table is intended as a guide, and therefore does not define the compliance actions that are required to be

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completed by June 2018. These compliance actions are set out in the following section.

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4. EIP COMPLIANCE ACTIONS

Adelaide Brighton Cement Ltd (ABC) has committed to undertaking the following specific actions to demonstrate that it will achieve compliance with the requirements of the *Environment Protection Act 1993*. These compliance actions listed below are the tasks through which Adelaide Brighton Cement Ltd will demonstrate compliance with the conditions of licence. In requiring compliance with the Environment Improvement Programme (EIP), the Environment Protection Authority (EPA) requires that each of these compliance actions are fulfilled.

Compliance Action 1

By 31 March 2018, ABC will have completed an upgrade of the 4A Bypass and the 4A Gas Conditioning Towers (GCT) Spray System which is expected to lower particle emissions from the 4A tower during both stable and unstable operation.

Work involved includes:

- upgrading from single (water only) to dual phase (air/water) sprays; &
- installing thermodynamic feed forward controls.

These improvements will facilitate conditions for smaller droplets resulting in greater surface area and faster more efficient evaporation and is expected to result in lower particle emissions from the 4A tower.

Compliance Action 2

Adelaide Brighton Cement will undertake the following identified noise abatement works which will reduce noise emissions from the site:

(a) – By 30th June 2018 Adelaide Brighton Cement Ltd in cooperation with the APA Group (owners of the Gas Train and surrounding equipment) will have assessed noise abatement options. As ABC does not own or have control over the gas train and associated equipment, the selection, timing and implementation of noise abatement options (if feasible) is the sole prerogative of APA Group.

(b) – By 30th June 2018 Adelaide Brighton Cement Ltd will have designed, manufactured and installed an effective noise abatement solution for the main dust collector fan on top the 20,000-ton Blending silo.

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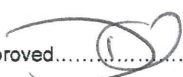
(c) – By 30th June 2018 Adelaide Brighton Cement Ltd will have designed, manufactured and installed an effective noise abatement solution for the 4A discharge fan located on level 6 of main tower on the south side.

(d) – In late 2017 Adelaide Brighton Cement Ltd achieved substantial noise abatement (up to 10 dBA at the source, based on internal measurements) on the 4B Airslide transport system located at the top of 20,000 Blending silo (adjacent main plant tower) by replacing the gearbox assembly.

Compliance Action 3

By 30th June 2018 Adelaide Brighton Cement will have independent Acoustic consultants assess the reductions achieved for each of the projects listed in compliance actions 2b, 2c and 2d and provide an updated site and residential SoundPlan 3D Noise Model impact report.

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5. COMPLIANCE ACTION GANTT CHART

Action	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
1			X			
2 a						X
2 b						X
2 c						X
2 d (completed)						
3						X

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6. Reporting and Public Access

6.1 Quarterly reporting

A quarterly report will be prepared detailing progress and completion of the EIP actions during the quarter.

A quarterly report will include where applicable:

- Details of steps taken to progress compliance actions
- Details of proposed next steps to be taken in the following quarter

A quarterly report (5 month EIP) will be submitted to the EPA, within 45 days of the end of the first quarter of 2018 (being 45 days after March 31st).

6.2 Annual reporting

An Annual report will include where applicable:

- Summary of EIP actions completed during the calendar year
- Summary of progress on EIP actions
- Measurements or modelling demonstrating the effectiveness of the EIP actions in reducing impacts of site activities

A final Annual report will be submitted to the EPA within 45 days of the end the period of the EIP, which is 45 days after 30 June 2018.

6.3 Public Access

A copy of the current version of this EIP, as approved by the EPA, will be made available on the ABC Community Web Site.

Following acceptance of the quarterly and annual EIP reports by the EPA, the reports will be made available on the ABC Community Web Site.

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7. SUBMITTED

Submitted by:

Name TU BUIPosition Operations Manager, SA

Authorised on behalf of

ADELAIDE BRIGHTON CEMENT LTD.Signed : Dated : 5 / 4 / 18• **APPROVED**

Approved by:

.....DAVID VAUGHAN (M19523).....**DELEGATE OF THE ENVIRONMENT PROTECTION
AUTHORITY**Signed : Dated : 9 / 4 / 2018Submitted TBApproved 