

# Licence Variation

Licence - 6092



BLUESCOPE STEEL (AIS) PTY. LTD.  
ABN 19 000 019 625 ACN 000 019 625  
PO BOX 1854  
WOLLONGONG NSW 2500

Attention: Natasha Porteous

Notice Number 1623828  
File Number EF13/2639  
Date 22-Nov-2022

## NOTICE OF VARIATION OF LICENCE NO. 6092

### BACKGROUND

- A. BLUESCOPE STEEL (AIS) PTY. LTD. ("the licensee") is the holder of Environment Protection Licence No. 6092 ("the licence") issued under the *Protection of the Environment Operations Act 1997* ("the Act"). The licence authorises the carrying out of activities at FIVE ISLANDS ROAD, PORT KEMBLA, NSW, 2505 ("the premises").

#### Trial of Plastic in Cokemaking

- B. In late 2020 the licensee completed Plastic in Cokemaking Trial 1 (DOC19/646757-24).
- C. Trial 1 involved the addition of up to 1% by mass of plastic to one charge hole of a single oven. Trial results identified no observable changes to the coking process, coke quality, or fugitive emissions.
- D. The licensee believes the quantity of plastic added to the trial oven was not large enough to provide substantial quantitative results.
- E. In May 2022 the licensee submitted a Plastic in Cokemaking Trial 2 proposal involving larger quantities of polypropylene, low-density and high-density polyethylene, monitoring of fugitive emissions and gases from the coke oven, and analysis of the coke produced by Trial 2 (DOC22/1003526-1).
- F. The licensee also believes Greenhouse Gas emissions benefits may be realised in substituting coal with plastic in the oven.
- G. A draft notice containing the E9 conditions was provided to the licensee on 14 November 2022. The licensee agreed to the draft on 16 November 2022.
- H. This notice varies Special Condition E9 to permit this second trial to proceed.

#### Trial of Biochar in the PCI Plant

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- I. On 16 November 2022 the licensee submitted an updated Trial of Biochar in PCI plan (Updated Trial Plan) which included a detailed air emission testing schedule as required under Condition U6.2(3).
- J. On 18 November 2022 the licensee was provided with a draft variation of conditions U6.1 and U6.2 which had been varied to include the Updated Trial Plan and the air emissions testing schedule. On 22 November the licensee agreed to these draft conditions.
- K. This notice varies condition U6 Trial of Biochar in the PCI plant.
- L. This notice does not authorise any increase in pollution and the EPA has considered Section 45 of the Act in finalising this notice.
- M. The EPA has considered the licensee's comments in the preparation of this notice.

### VARIATION OF LICENCE NO. 6092

- 1. By this notice the EPA varies licence No. 6092. The attached licence document contains all variations that are made to the licence by this notice.
- 2. The following licence conditions have been varied:
  - Condition E9 *Plastic Material Substitution Trial at the Coke Ovens* to allow Trial 2 to proceed.
  - Condition U6 *Trial of Biochar in the PCI Plant* to reflect the updated trial plan and require the associated related air emissions testing.

.....  
**Greg Newman**  
**Unit Head**  
**Environment Protection Authority**  
(by Delegation)

### INFORMATION ABOUT THIS NOTICE

- This notice is issued under section 58(5) of the Act.
- Details provided in this notice, along with an updated version of the licence, will be available on the EPA's Public Register (<http://www.epa.nsw.gov.au/prpoeo/index.htm>) in accordance with section 308 of the Act.

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## **Appeals against this decision**

- You can appeal to the Land and Environment Court against this decision. The deadline for lodging the appeal is 21 days after you were given notice of this decision.

## **When this notice begins to operate**

- The variations to the licence specified in this notice begin to operate immediately from the date of this notice, unless another date is specified in this notice.
- If an appeal is made against this decision to vary the licence and the Land and Environment Court directs that the decision is stayed the decision does not operate until the stay ceases to have effect or the Land and Environment Court confirms the decision or the appeal is withdrawn (whichever occurs first).



# Environment Protection Licence

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Licence Details	
Number:	6092
Anniversary Date:	01-July
Licensee	
BLUESCOPE STEEL (AIS) PTY. LTD.	
PO BOX 1854	
WOLLONGONG NSW 2500	
Premises	
PORT KEMBLA STEELWORKS	
FIVE ISLANDS ROAD	
PORT KEMBLA NSW 2505	
Scheduled Activity	
Cement or lime works	
Chemical production	
Chemical storage	
Coal works	
Coke production	
Crushing, grinding or separating	
Electricity generation	
Metallurgical activities	
Mineral processing	
Railway systems activities	
Resource recovery	
Shipping in bulk	
Waste storage	

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<b><u>Fee Based Activity</u></b>	<b><u>Scale</u></b>
Agricultural fertiliser (inorganic) production	0-50000 T annual production capacity
Cement or lime handling	> 100000-500000 T annual handling capacity
Cement or lime production	> 250000-500000 T annual production capacity
Coal works	> 2000000-5000000 T annual handling capacity
Coke production	> 100000 T annual handling capacity
Crushing, grinding or separating	> 2000000 T annual processing capacity
Dangerous goods production	> 25000 T annual production capacity
General chemicals storage	> 100000 kL storage capacity
Generation of electrical power from gas	> 250-450 GWh annual generating capacity
Iron or steel production (iron ore)	> 0 T annual processing capacity
Mineral processing	> 2000000 T annual processing capacity
Railway systems activities	Any capacity
Recovery of general waste	Any general waste recovered
Recovery of waste tyres	Any waste tyres recovered
Scrap metal processing	> 500000 T annual production capacity
Shipping in bulk	> 500000 T of annual capacity to load and unload
Waste storage - other types of waste	Any other types of waste stored
Waste storage - waste tyres	> Any tyres stored

## **Contact Us**

NSW EPA

4 Parramatta Square

12 Darcy Street

PARRAMATTA NSW 2150

Phone: 131 555

Email: [info@epa.nsw.gov.au](mailto:info@epa.nsw.gov.au)

Locked Bag 5022

PARRAMATTA NSW 2124



# Environment Protection Licence

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## Information about this licence

### Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

### Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

### Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

### Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

### Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

### Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).





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The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

### Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

### Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

### This licence is issued to:

BLUESCOPE STEEL (AIS) PTY. LTD.
PO BOX 1854
WOLLONGONG NSW 2500

subject to the conditions which follow.

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## 1 Administrative Conditions

### A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Chemical production	Agricultural fertiliser (inorganic) production	0 - 50000 T annual production capacity
Cement or lime works	Cement or lime handling	> 100000 - 500000 T annual handling capacity
Cement or lime works	Cement or lime production	> 250000 - 500000 T annual production capacity
Coal works	Coal works	> 2000000 - 5000000 T annual handling capacity
Coke production	Coke production	> 100000 T annual handling capacity
Crushing, grinding or separating	Crushing, grinding or separating	> 2000000 T annual processing capacity
Chemical production	Dangerous goods production	> 25000 T annual production capacity
Chemical storage	General chemicals storage	> 100000 kL storage capacity
Electricity generation	Generation of electrical power from gas	> 250 - 450 GWh annual generating capacity
Metallurgical activities	Iron or steel production (iron ore)	> 0 T annual processing capacity
Mineral processing	Mineral processing	> 2000000 T annual processing capacity
Railway systems activities	Railway systems activities	Any capacity
Resource recovery	Recovery of general waste	Any general waste recovered
Resource recovery	Recovery of waste tyres	Any waste tyres recovered
Metallurgical activities	Scrap metal processing	> 500000 T annual production capacity
Shipping in bulk	Shipping in bulk	> 500000 T of annual capacity to load and unload
Waste storage	Waste storage - other types of waste	Any other types of waste stored
Waste storage	Waste storage - waste tyres	> tyres stored



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## A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
PORT KEMBLA STEELWORKS
FIVE ISLANDS ROAD
PORT KEMBLA
NSW 2505
SEE LOCALITY MAP TITLED "PORT KEMBLA STEELWORKS EPL 6092 ENVIRONMENTAL PROTECTION LICENCE BOUNDARY" DATED 25 AUGUST 2020, SUBMITTED TO EPA ON 25/8/2020 AS DOC20/695872.

A2.2 The premises includes the berth boxes, as shown in the condition A2.2 map and on the EPA file DOC20/695872, when the licensee occupies this area for the purposes of undertaking activities under the licence.

Note: The intent of this condition is to regulate vessel material loading and unloading from the vessel holds using cranes, grabs and other associated infrastructure. It is not intended to regulate vessel activities for which the licensee has no management control. For example, fuel management, ballast pumping, mechanical maintenance, or incidents caused by specialised vessel infrastructure operation such as the ‘Iron Chieftain’ fire.

Note: This premises includes four sections of oil pipelines:

- a) The oil pipeline running north-east from EPA licensed premises number 654 to the intersection of Flinders Street with Stockpile Road, then north, running parallel with Stockpile Road to the Overhead Shipping Bridge, then north-west, continuing parallel with Stockpile Road along the Product Berth and Discharge Berth (see Figures entitled “BHP Transport Limited Port Kembla Bunkering Pipeline Proposed Extension Options”, DOC06/60564, contained in File No 282203A2).
- b) The oil pipeline running east from Old Port Road, then north along the Outer Harbour, north-east under the harbour and then east along the Northern Breakwater to the Oil Berth (see Figure A, DOC06/56336, contained in File No 282203A2).
- c) The oil pipeline running from the “Timber Watch House” at the Port Kembla Coal Terminal along the Inner Harbour to the Old Coal Berth (see Figure B, DOC06/56336, contained in File No 282203A2).
- d) The oil pipeline running north-north-west in the Inner Harbour along from the Old Coal Berth to the Pig Launching Station at the Port Kembla Coal Terminal.

The licensee for EPA licensed premises number 654 is responsible for these pipelines and their associated infrastructure. They are also liable for any oil spills or leaks that occur from these pipelines or infrastructure.

A2.3 The premises location is shown on the map below.

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Port Kembla Steelworks Environment Protection Licence Boundary  
25 August 2020



### A3 Other activities

A3.1 This licence applies to all other activities carried on at the premises, including:

Ancillary Activity
Ceramic Works
Maintenance Service Shop
Material Recycling Facility
Ozrock Plant
Petroleum and fuel production
Pulverised Coal Injection Facility
Sewage Treatment Systems

### A4 Information supplied to the EPA

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- A4.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

- a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

## 2 Discharges to Air and Water and Applications to Land

### P1 Location of monitoring/discharge points and areas

- P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

<i>Air</i>			
EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
2	Discharge from pollutant stack	Discharge from pollutant stack	Sinter machine room dedusting stack
3	Discharge from pollutant stack	Discharge from pollutant stack	No 6 Blast Furnace stove waste gas stack - Not in operation
4	Discharge from pollutant stack	Discharge from pollutant stack	No 6 Blast furnace cast house dedusting stack - Not in operation
5	Discharge from pollutant stack	Discharge from pollutant stack	No 6 Blast furnace stock house dedusting stack - Not in operation
6	Discharge from pollutant stack	Discharge from pollutant stack	No 6 Blast furnace highline dedusting stack
7	Discharge from pollutant stack	Discharge from pollutant stack	No 5 Blast furnace stoves heating stack
8	Discharge from pollutant stack	Discharge from pollutant stack	No 5 Blast Furnace cast house dedusting stack No.1
9	Discharge from pollutant stack	Discharge from pollutant stack	No 5 Blast furnace stockhouse dedusting stack
10	Discharge from pollutant stack	Discharge from pollutant stack	No 5 Blast furnace - No 2 Slag granulator stack
11	Discharge from pollutant stack	Discharge from pollutant stack	No 5 Blast furnace - No 1 Slag granulator stack (Note: Emissions and monitoring from Point 10 are considered representative of this point).
13	Discharge from pollutant stack	Discharge from pollutant stack	No 4 Coke oven battery heating stack - Not in operation
14	Discharge from pollutant stack	Discharge from pollutant stack	No 5 Coke oven battery heating stack
15	Discharge from pollutant stack	Discharge from pollutant stack	No 6 Coke oven battery heating stack
16	Discharge from pollutant stack	Discharge from pollutant stack	No 7a Coke oven battery heating stack



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18	Discharge from pollutant stack	Discharge from pollutant stack	No 4/5 Coke oven battery quench tower stack
19	Discharge from pollutant stack	Discharge from pollutant stack	No 6 Coke oven battery quench tower stack. (Note: Emissions and monitoring from Point 18 are considered representative of this point).
20	Discharge from pollutant stack	Discharge from pollutant stack	No 7a Coke oven battery quench tower stack
21	Discharge from pollutant stack	Discharge from pollutant stack	No 7a Battery fume suppression plant No 1 stack
22	Discharge from pollutant stack	Discharge from pollutant stack	No 7a Battery fume suppression plant No 2 stack
23	Discharge from pollutant stack	Discharge from pollutant stack	Coke screen house dedusting stack
24	Discharge from pollutant stack	Discharge from pollutant stack	BOS No 1 vessel flare stack
25	Discharge from pollutant stack	Discharge from pollutant stack	BOS No 2 vessel flare stack
26	Discharge from pollutant stack	Discharge from pollutant stack	BOS No 3 vessel flare stack - Not in operation
27	Discharge from pollutant stack	Discharge from pollutant stack	BOS No 2 secondary dedusting stack 1
28	Discharge from pollutant stack	Discharge from pollutant stack	BOS No 3 secondary dedusting stack A - Not in operation
29	Discharge from pollutant stack	Discharge from pollutant stack	BOS Hot metal treatment station stack
30	Discharge from pollutant stack	Discharge from pollutant stack	Lime kiln waste heat stack
31	Discharge from pollutant stack	Discharge from pollutant stack	Lime kiln storage bins - Enacon B/H stack
32	Discharge from pollutant stack	Discharge from pollutant stack	Lime kiln storage bins - Bahco B/H stack
33	Discharge from pollutant stack	Discharge from pollutant stack	Lime kiln transfer house stack
34	Discharge from pollutant stack	Discharge from pollutant stack	Slab handling - Slab scarfing machine stack - Not in operation
35	Discharge from pollutant stack	Discharge from pollutant stack	Raw material road rail dump station stack
38	Discharge from pollutant stack	Discharge from pollutant stack	No 2 Blower station 23 boiler stack
39	Discharge from pollutant stack	Discharge from pollutant stack	No 2 Blower station 24 boiler stack
40	Discharge from pollutant stack	Discharge from pollutant stack	No 2 Blower station 25 boiler stack
42	Discharge from pollutant stack	Discharge from pollutant stack	No 5 Blast furnace BFG excess gas bleeder stack
43	Discharge from pollutant stack	Discharge from pollutant stack	No 6 Blast furnace BFG excess gas bleeder stack
44	Discharge from pollutant stack	Discharge from pollutant stack	No 1 COG (30") excess bleeder stack
45	Discharge from pollutant stack	Discharge from pollutant stack	No 2 COG (42") excess bleeder stack
46	Discharge from pollutant stack	Discharge from pollutant stack	Hydrogen reformer furnace stack
47	Discharge from pollutant stack	Discharge from pollutant stack	No. 1 walking beam furnace stack

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48	Discharge from pollutant stack	Discharge from pollutant stack	3500mm Furnace No 1 stack
49	Discharge from pollutant stack	Discharge from pollutant stack	3500mm Furnace No 2 stack
51	Discharge from pollutant stack	Discharge from pollutant stack	Abrasive Blasting and Painting Line stack - Not in operation
52	Discharge from pollutant stack	Discharge from pollutant stack	GEGA M/C Cut to length stack
76	Discharge from pollutant stack	Discharge from pollutant stack	No 4/5 Battery fume suppression stack
77	Discharge from pollutant stack	Discharge from pollutant stack	No 6 Battery fume suppression stack
90	Discharge from pollutant stack	Discharge from pollutant stack	No 5 & 6 Hammer Mills dedusting stack
91	Discharge from pollutant stack	Discharge from pollutant stack	BOS Roof vents
92	Discharge from pollutant stack	Discharge from pollutant stack	CAS Baghouse stack
93	Discharge from pollutant stack	Discharge from pollutant stack	Lime Kiln Discharge Building Baghouse stack
100	Discharge from pollutant stack	Discharge from pollutant stack	Gas Processing Sulphate Plant stack
105	Discharge from pollutant stack	Discharge from pollutant stack	PCI Hot Gas Exhaust Stack
106	Discharge from pollutant stack	Discharge from pollutant stack	PCI Facility - Stacks serving the depressurising bag filters
107	Discharge from pollutant stack	Discharge from pollutant stack	Sinter Plant Waste Gas Cleaning Plant Stack
108	Discharge from Pollutant Stack	Discharge from Pollutant Stack	Cold Ferrous Processing Plant Scrap Cutting Dust Collector Baghouse Stack - Not in operation
113	Discharge from pollutant stack	Discharge from pollutant stack	Ecocem Slag Dryer Dust Collector (Dries slag - natural gas)
115	Discharge from pollutant stack	Discharge from pollutant stack	Iron Dumping/Cutting Shed Baghouse Stack (dedust oxy/LPG scrap cutting)
117	Discharge from pollutant stack	Discharge from pollutant stack	No 2, & 3 Slab Caster Stacks (4 stacks)
118	Discharge from pollutant stack	Discharge from pollutant stack	No 5 Blast Furnace Casthouse Dedusting Stack 2
119	Discharge from pollutant stack	Discharge from pollutant stack	Gas Processing No.2 Ammonia Absorbers Stack
120	Discharge from pollutant stack	Discharge from pollutant stack	No. 2 walking beam furnace stack
127	Discharge from pollutant stack	Discharge from pollutant stack	BOS No.2 Secondary Dedusting Stack 2
128	Discharge from pollutant stack	Discharge from pollutant stack	BOS No.3 Secondary Dedusting Stack B - Not in operation
129	Discharge from pollutant stack	Discharge from pollutant stack	No 5 Blast Furnace - No 3 Slag Granulator Stack (Note: Emissions and monitoring from Point 10 are considered representative of this point).
130	Discharge from pollutant stack	Discharge from pollutant stack	Swire BOS Coolant Baghouse Stack
131	Discharge from pollutant stack	Discharge from pollutant stack	Swire Refractory Crushing Baghouse Stack
132	Discharge from pollutant stack	Discharge from pollutant stack	OzRock Rotary Kiln Drier Stack

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133	Discharge from pollutant stack	Discharge from pollutant stack	Klondy Heat Treatment
134	Discharge from pollutant stack	Discharge from pollutant stack	Foundry baghouse stack
138	Discharge from pollutant stack	Discharge from pollutant stack	Number 2 blower station - 11 boiler stack (Note: Emissions and monitoring from Points 138 or 139 are considered representative of this point).
139	Discharge from pollutant stack	Discharge from pollutant stack	Number 2 blower station - 12 boiler stack (Note: Emissions and monitoring from Points 138 or 139 are considered representative of this point).
140	Ambient Air Monitoring - HVAS, Dust Deposition, Benzene, PAH		Printing Services Building - Cnr Wattle and Flagstaff Roads, Warrawong - Not in Operation
141	Ambient Air Monitoring - HVAS, Dust Deposition, Benzene, PAH		Old Scout Hall - Flagstaff Road, Warrawong
142	Ambient Air Monitoring - HVAS		AQMS - Boundary of premises adjacent to Fitzgerald St, Cringila - not in operation
143	Ambient Air Monitoring - HVAS, Dust Deposition		Vikings Oval, Swan St, Wollongong - not in operation
144	Ambient Air Monitoring - Dust Deposition		19 Bridge St, Coniston - not in operation
145	Ambient Air Monitoring - Dust Deposition		28 Monteith St, Cringila - not in operation
146	Ambient Air Monitoring - Dust Deposition		25 Mount St, Mount St Thomas - not in operation
147	Ambient Air Monitoring - Dust Deposition		Port Kembla Marine Fuels - Flinders St, Port Kembla - not in operation
148	Ambient Air Monitoring - Dust Deposition		18 Holman St, Warrawong - not in operation
149	Ambient Air Monitoring - Dust Deposition		41 Grandview Parade, Lake Heights - not in operation
150	Ambient Air Monitoring - PAH		No.6 Jetty - Port Kembla Harbour, Port Kembla - not in operation
151	Number 3 Sinter Machine Stack	Number 3 Sinter Machine Stack	Discharge point during Sinter Plant Waste Gas Cleaning Plant Bypass
152	Ambient Air Monitoring - HVAS, Dust Deposition		Near North Gate Visitors Centre
153	Ambient Air Monitoring - HVAS		Bluescope Stainless premises, Unanderra
154		Discharge from pollutant stack	Slabmaking Scrap Coolant Plant

P1.2 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

P1.3 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

## Water and land



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EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
78	Water quality discharge from drain	Water quality discharge from drain	Recycling Area overflow drain (001)
79	Water quality discharge from drain	Water quality discharge from drain	No 2 Blower station drain (002) - 2 pipes discharging to Allans Creek adjacent to sign marked No 2 Blower Station Drain
80	Water quality discharge from drain	Water quality discharge from drain	Slab mill drain (003) - pipe discharging to waters adjacent to sign marked "Slab Mill Drain"
81	Water quality discharge from drain	Water quality discharge from drain	Plate mill cooling tower drain (004) - adjacent to sign clearly marked "Plate Mill Cooling Tower Drain"
82	Water quality discharge from drain	Water quality discharge from drain	Flat Products East No 1 drain (005) - adjacent to sign clearly marked "FP East No 1 Drain"
83	Water quality discharge from drain	Water quality discharge from drain	Flat Products East No 2 drain (006) - pipe adjacent to sign marked "FP East No 2 Drain"
84	Water quality discharge from drain	Water quality discharge from drain	Slab caster drain (007) - 2 pipes adjacent to sign marked "Slab Caster Drain"
85	Water quality discharge from drain	Water quality discharge from drain	3500mm plate mill drain (008) - pipe adjacent to sign marked "Plate Mill Drain"
86	Water quality discharge from drain	Water quality discharge from drain	North gate drain (009) - Beyond weir in GPT upstream of 3x1.5M pipes and adjacent to sign clearly marked "North Gate Drain"
87	Water quality discharge from drain	Water quality discharge from drain	No 5 Blast Furnace drain (010) - pipe adjacent to sign marked "No 5 Blast Furnace Drain"
88	Water quality discharge from drain	Water quality discharge from drain	Main drain (011) - channel adjacent to sign marked "Main Drain"
89	Water quality discharge from drain	Water quality discharge from drain	Ironmaking east drain (012) - overflow of weir adjacent to sign marked "Ironmaking East Drain"
103	Wet weather discharge	Wet weather discharge	Steelhaven West drain
135	Groundwater Quality	Groundwater Quality	Allans Creek SS4: Seep on northern side of Allans Creek opposite observation well OW3 (SS4) as shown on drawing PRP129LP001 located in file 281967A5.

P1.4 This licence permits:

- The discharge of rainwater from the premises.
- The discharge of liquid waste to groundwater via rubble drains from septic tanks and sealpots on the premises and from washing operations of roads and equipment within the premises.
- Discharges into artificial or internal drainage systems within the premises at locations upstream of the licensed discharge points.

Note: A new monitoring point, *No 4 Blast Furnace Thickener Discharge*, will be added to this licence prior to the completion of Spent Pickle Liquor Plant commissioning.



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## 3 Limit Conditions

### L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

### L2 Load limits

L2.1 The actual load of an assessable pollutant discharged from the premises during the reporting period must not exceed the load limit specified for the assessable pollutant in the table below.

Note: An assessable pollutant is a pollutant which affects the licence fee payable for the licence.

L2.2 The actual load of an assessable pollutant must be calculated in accordance with the relevant load calculation protocol.

Assessable Pollutant	Load limit (kg)
Arsenic (Air)	
Arsenic (Estuarine Water)	
Benzene (Air)	
Benzo(a)pyrene (equivalent) (Air)	
Cadmium (Estuarine Water)	
Chromium (Estuarine Water)	
Coarse Particulates (Air)	
Copper (Estuarine Water)	
Fine Particulates (Air)	
Hydrogen Sulfide (Air)	
Lead (Air)	
Lead (Estuarine Water)	
Mercury (Air)	
Mercury (Estuarine Water)	
Nitrogen Oxides (Air)	8085000.00
Oil and Grease (Estuarine Water)	
Salt (Estuarine Water)	
Selenium (Estuarine Water)	
Sulfur Oxides (Air)	

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Total PAHs (Estuarine Water)
Total Phenolics (Estuarine Water)
Total suspended solids (Estuarine Water)
Volatile organic compounds (Air)
Zinc (Estuarine Water)

Note: Where any monitoring data indicates Load Based Licensing approved Site Specific Emission Factors (SSEFs) would vary by 25%, the licensee must recalculate and resubmit the relevant SSEFs to the EPA for approval.

## L2.3 SPECIFIC MASS LOAD LIMITS FOR THE SINTER PLANT WASTE GAS CLEANING PLANT STACK (POINT 107)

L2.4 For the discharge point specified in the table below, the annual mass load of pollutant discharged at that point must not exceed the total mass limits specified for that pollutant.

Discharge Point	Pollutant	Units of Measure	Total Mass Limit	Method
107	Solid Particles	Tonnes per annum	240	Load Calculation Protocol for use by holders of NSW EPL

## L3 Concentration limits

L3.1 For each monitoring\discharge point or utilisation area specified in the table\ below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

L3.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.

L3.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\.

L3.4 Air Concentration Limits

## POINT 2

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Solid Particles	milligrams per cubic metre	50	Dry, 273, 101.3 kPa	not applicable	1 hour minimum

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## POINT 8,9

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Solid Particles	milligrams per cubic metre	50	Dry, 273, 101.3 kPa	not applicable	1 hour minimum

## POINT 30

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Solid Particles	milligrams per cubic metre	50	Dry, 273, 101.3 kPa	Not Applicable	1 hour minimum

## POINT 40

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Nitrogen Oxides	milligrams per cubic metre	600	Dry, 273, 101.3 kPa	7%	1 hour block minimum
Cadmium	milligrams per cubic metre	0.1	Dry, 273, 101.3 kPa	7%	1 hour minimum
Sulfur dioxide	milligrams per cubic metre	1250	Dry, 273, 101.3 kPa	7%	1 hour block minimum
Volatile organic compounds	milligrams per cubic metre	25	Dry, 273, 101.3 kPa	7%	1 hour block minimum
Solid Particles	milligrams per cubic metre	30	Dry, 273, 101.3 kPa	7%	1 hour minimum
Mercury	milligrams per cubic metre	0.1	Dry, 273, 101.3 kPa	7%	1 hour minimum
Carbon monoxide	milligrams per cubic metre	400	Dry, 273, 101.3 kPa	7%	1 hour block minimum
Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	1	Dry, 273, 101.3 kPa	7%	1 hour minimum

## POINT 47

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Solid Particles	milligrams per cubic metre	30	Dry, 273, 101.3 kPa	7%	1 hour minimum
Carbon monoxide	milligrams per cubic metre	400	Dry, 273, 101.3 kPa	7%	1 hour block minimum
Volatile organic compounds	milligrams per cubic metre	25	Dry, 273, 101.3 kPa	7%	2 hours minimum
Cadmium	milligrams per cubic metre	0.1	Dry, 273, 101.3 kPa	7%	1 hour minimum

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Mercury	milligrams per cubic metre	0.1	Dry, 273, 101.3 kPa	7%	1 hour minimum
Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	1	Dry, 273, 101.3 kPa	7%	1 hour minimum
Nitrogen Oxides	milligrams per cubic metre	600	Dry, 273, 101.3 kPa	7%	1 hour minimum
Sulfur dioxide	milligrams per cubic metre	1250	Dry, 273, 101.3 kPa	7%	1 hour block minimum

## POINT 105

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Nitrogen Oxides	milligrams per cubic metre	200	Dry, 273, 101.3 kPa	3%	1 hour minimum
Solid Particles	milligrams per cubic metre	20	Dry, 273, 101.3 kPa	3%	1 hour minimum

## POINT 106

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Solid Particles	milligrams per cubic metre	20	Dry, 273, 101.3 kPa	not applicable	1 hour minimum

## POINT 107

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Fine Particulates	milligrams per cubic metre	See Note 2	Dry, 273, 101.3 kPa	not applicable	1 hour minimum
Nitrogen Oxides	milligrams per cubic metre	2000	Dry, 273, 101.3 kPa	not applicable	1 hour block minimum
Dioxins & Furans	nanograms per cubic metre	0.3	Dry, 273, 101.3 kPa	15.7%	6 hours minimum
Sulfur dioxide	milligrams per cubic metre	1000	Dry, 273, 101.3 kPa	not applicable	1 hour block minimum
Solid Particles	milligrams per cubic metre	20	Dry, 273, 101.3 kPa	not applicable	1 hour minimum
Sulfuric acid mist and sulfur trioxide (as SO <sub>3</sub> )	milligrams per cubic metre	100	Dry, 273, 101.3 kPa	not applicable	1 hour minimum

## POINT 108

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Solid Particles	milligrams per cubic metre	20	Dry, 273, 101.3 kPa	not applicable	1 hour minimum

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Cadmium	milligrams per cubic metre	1	Dry, 273, 101.3 kPa	not applicable	1 hour minimum
Mercury	milligrams per cubic metre	1	Dry, 273, 101.3 kPa	not applicable	1 hour minimum
Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	5	Dry, 273, 101.3 kPa	not applicable	1 hour minimum

## POINT 113

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Nitrogen Oxides	milligrams per cubic metre	80	Dry, 273, 101.3 kPa	18%	1 hour block minimum

## POINT 118

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Solid Particles	milligrams per cubic metre	50	Dry, 273, 101.3 kPa	not applicable	1 hour minimum

## POINT 120

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	1.0	Dry, 273, 101.3 kPa	7%	1 hour minimum
Nitrogen Oxides	milligrams per cubic metre	650	Dry, 273, 101.3 kPa	7%	1 hour block minimum
Volatile organic compounds	milligrams per cubic metre	20	Dry, 273, 101.3 kPa	7%	2 hours minimum
Solid Particles	milligrams per cubic metre	30	Dry, 273, 101.3 kPa	7%	1 hour minimum
Sulfur dioxide	milligrams per cubic metre	1250	Dry, 273, 101.3 kPa	7%	1 hour block minimum
Carbon monoxide	milligrams per cubic metre	400	Dry, 273, 101.3 kPa	7%	1 hour block minimum
Mercury	milligrams per cubic metre	0.1	Dry, 273, 101.3 kPa	7%	1 hour block minimum
Cadmium	milligrams per cubic metre	0.1	Dry, 273, 101.3 kPa	7%	1 hour block minimum

## POINT 138,139

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Nitrogen Oxides	milligrams per cubic metre	200	Dry, 273, 101.3 kPa	3%	1 hour block minimum



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## L3.5 Water and/or Land Concentration Limits

### POINT 79

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Ammonia (Dry)	milligrams per litre	n/a	1.5		5
Ammonia (Wet)	milligrams per litre	n/a	n/a		5
BOD (Dry)	milligrams per litre	5	10		20
BOD (Wet)	milligrams per litre	n/a	n/a		20
Cadmium (Dry)	milligrams per litre	0.01	0.02		0.06
Cadmium (Wet)	milligrams per litre	n/a	n/a		0.06
Cyanide (Dry)	milligrams per litre	n/a	0.05		0.3
Cyanide (Wet)	milligrams per litre	n/a	n/a		0.3
Filtrable iron (Dry)	milligrams per litre	n/a	0.1		0.3
Filtrable iron (Wet)	milligrams per litre	n/a	n/a		0.3
Lead (Dry)	milligrams per litre	n/a	0.05		0.1
Lead (Wet)	milligrams per litre	n/a	n/a		0.1
Oil and grease (Dry)	milligrams per litre	n/a	10		20
Oil and grease (Wet)	milligrams per litre	n/a	n/a		50
pH (Dry)	pH	n/a	n/a		6.5-9.0
pH (Wet)	pH	n/a	n/a		6.5-9.0



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Temperature (Dry)	degrees Celsius	n/a	35	40
Temperature (Wet)	degrees Celsius	n/a	n/a	40
Total iron (Dry)	milligrams per litre	n/a	1.0	3
Total iron (Wet)	milligrams per litre	n/a	n/a	50
Total zinc (Dry)	milligrams per litre	n/a	1.0	3
Total zinc (Wet)	milligrams per litre	n/a	n/a	3
TSS (Dry)	milligrams per litre	n/a	30	50
TSS (Wet)	milligrams per litre	n/a	n/a	500

## POINT 80

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
BOD	milligrams per litre	n/a	n/a		20
Cadmium	milligrams per litre	n/a	n/a		0.05
Cadmium (Wet)	milligrams per litre	n/a	n/a		0.06
Cyanide	milligrams per litre	n/a	n/a		0.2
Lead	milligrams per litre	n/a	n/a		0.1
Oil and Grease	milligrams per litre	n/a	n/a		20
Oil and grease (Wet)	milligrams per litre	n/a	n/a		50
pH	pH	n/a	n/a		6.5-9.0
Temperature	degrees Celsius	n/a	n/a		40
TSS (Dry)	milligrams per litre	n/a	n/a		50





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TSS (Wet)	milligrams per litre	n/a	n/a	1000
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## POINT 81

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Oil and Grease	milligrams per litre	n/a	10		20
pH	pH	n/a	n/a		6.5-9.0
Temperature	degrees Celsius	n/a	30		35
Total suspended solids	milligrams per litre	n/a	30		50

## POINT 82

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Ammonia	milligrams per litre	n/a	n/a		5
BOD	milligrams per litre	n/a	n/a		30
Cadmium	milligrams per litre	n/a	n/a		0.06
Cyanide	milligrams per litre	n/a	n/a		0.3
Filterable iron	milligrams per litre	n/a	n/a		0.5
Fluoride	milligrams per litre	n/a	n/a		25
Hexavalent chromium (Dry)	milligrams per litre	n/a	n/a		0.05
Hexavalent chromium (Wet)	milligrams per litre	n/a	n/a		0.05
Lead	milligrams per litre	n/a	n/a		0.2
Lead (Wet)	milligrams per litre	n/a	n/a		1



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Mercury	micrograms per litre	n/a	n/a	1.5
Oil and Grease	milligrams per litre	n/a	n/a	20
Oil and grease (Wet)	milligrams per litre	n/a	n/a	50
pH	pH	n/a	n/a	6.5-9.0
Temperature	degrees Celsius	n/a	n/a	45
Tin	milligrams per litre	n/a	n/a	10
Total Iron	milligrams per litre	n/a	n/a	10
Total iron (Wet)	milligrams per litre	n/a	n/a	20
TSS (Dry)	milligrams per litre	n/a	n/a	70
TSS (Wet)	milligrams per litre	n/a	n/a	200

## POINT 83

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Cadmium	milligrams per litre	n/a	n/a		0.05
Cyanide	milligrams per litre	n/a	n/a		0.15
Filterable iron	milligrams per litre	n/a	n/a		0.3
Hexavalent chromium (Dry)	milligrams per litre	n/a	n/a		0.05
Hexavalent chromium (Wet)	milligrams per litre	n/a	n/a		0.5
Lead	milligrams per litre	n/a	n/a		0.1
Lead (Wet)	milligrams per litre	n/a	n/a		0.5
Oil and Grease	milligrams per litre	n/a	n/a		20



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Oil and grease (Wet)	milligrams per litre	n/a	n/a	50
pH	pH	n/a	n/a	6.5-9.0
Total Iron	milligrams per litre	n/a	n/a	3
Total iron (Wet)	milligrams per litre	n/a	n/a	10
TSS (Dry)	milligrams per litre	n/a	n/a	50
TSS (Wet)	milligrams per litre	n/a	n/a	200

## POINT 84

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
pH	pH	n/a	n/a		6.5-9.0
Total suspended solids	milligrams per litre	n/a	n/a		50

## POINT 85

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Cadmium	milligrams per litre	0.01	0.02		0.05
Cyanide	milligrams per litre	n/a	0.05		0.1
Lead	milligrams per litre	n/a	0.05		0.1
Oil and Grease	milligrams per litre	n/a	10		20
pH	pH	n/a	n/a		6.5-9.0
Temperature	degrees Celsius	n/a	30		35
Total suspended solids	milligrams per litre	n/a	30		50



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## POINT 86

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
BOD (Dry)	milligrams per litre	n/a	n/a		20
BOD (Wet)	milligrams per litre	n/a	n/a		20
Cadmium (Dry)	milligrams per litre	0.01	0.02		0.1
Cadmium (Wet)	milligrams per litre	n/a	n/a		0.1
Cyanide (Dry)	milligrams per litre	n/a	0.05		0.1
Cyanide (Wet)	milligrams per litre	n/a	n/a		0.1
Filtrable iron (Dry)	milligrams per litre	n/a	0.3		1
Filtrable iron (Wet)	milligrams per litre	n/a	n/a		1
Lead (Dry)	milligrams per litre	0.05	0.1		0.5
Lead (Wet)	milligrams per litre	n/a	n/a		0.5
Oil and grease (Dry)	milligrams per litre	n/a	10		20
Oil and grease (Wet)	milligrams per litre	n/a	n/a		50
pH (Dry)	pH	n/a	n/a		6.5-8.5
pH (Wet)	pH	n/a	n/a		6.5-9.5
Temperature (Dry)	degrees Celsius	n/a	30		35
Temperature (Wet)	degrees Celsius	n/a	n/a		35
Total iron (Dry)	milligrams per litre	n/a	3		5
Total iron (Wet)	milligrams per litre	n/a	n/a		5



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TSS (Dry)	milligrams per litre	n/a	30	50
TSS (Wet)	milligrams per litre	n/a	n/a	200

## POINT 87

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Ammonia (Dry)	milligrams per litre	n/a	7.5		10
Ammonia (Wet)	milligrams per litre	n/a	n/a		10
Cadmium (Dry)	milligrams per litre	n/a	0.1		0.15
Cadmium (Wet)	milligrams per litre	n/a	n/a		0.15
Cyanide (Dry)	milligrams per litre	n/a	0.2		0.3
Cyanide (Wet)	milligrams per litre	n/a	n/a		0.3
Filtrable iron (Dry)	milligrams per litre	n/a	0.7		1.5
Filtrable iron (Wet)	milligrams per litre	n/a	n/a		1.5
Lead (Dry)	milligrams per litre	0.05	0.3		0.5
Lead (Wet)	milligrams per litre	n/a	n/a		0.5
Mercury (Dry)	micrograms per litre	n/a	n/a		1.5
Mercury (Wet)	micrograms per litre	n/a	n/a		1.5
Oil and grease (Dry)	milligrams per litre	n/a	10		20
Oil and grease (Wet)	milligrams per litre	n/a	n/a		20
pH (Dry)	pH	n/a	n/a		6.5-11.0
pH (Wet)	pH	n/a	n/a		6.5-11.0

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Temperature (Dry)	degrees Celsius	n/a	35	40
Temperature (Wet)	degrees Celsius	n/a	n/a	40
Total chromium (Dry)	milligrams per litre	n/a	0.2	0.6
Total chromium (Wet)	milligrams per litre	n/a	n/a	0.6
Total iron (Dry)	milligrams per litre	n/a	3	7
Total iron (Wet)	milligrams per litre	n/a	n/a	100
TSS (Dry)	milligrams per litre	n/a	30	70
TSS (Wet)	milligrams per litre	n/a	n/a	500

## POINT 88

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Ammonia (Dry)	milligrams per litre	n/a	4.0		7.5
Ammonia (Wet)	milligrams per litre	n/a	n/a		7.5
Cadmium (Dry)	milligrams per litre	0.01	0.02		0.06
Cadmium (Wet)	milligrams per litre	n/a	n/a		0.06
Cyanide (Dry)	milligrams per litre	n/a	0.1		0.3
Cyanide (Wet)	milligrams per litre	n/a	n/a		0.3
Lead (Dry)	milligrams per litre	n/a	0.05		0.1
Lead (Wet)	milligrams per litre	n/a	n/a		0.1
Oil and grease (Dry)	milligrams per litre	n/a	10		20
Oil and grease (Wet)	milligrams per litre	n/a	n/a		50



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pH (Dry)	pH	n/a	n/a	6.5-9.0
pH (Wet)	pH	n/a	n/a	6.5-9.0
Phenols (Dry)	milligrams per litre	n/a	0.15	0.45
Phenols (Wet)	milligrams per litre	n/a	n/a	0.45
Temperature (Dry)	degrees Celsius	n/a	35	40
Temperature (Wet)	degrees Celsius	n/a	n/a	40
Total zinc (Dry)	milligrams per litre	n/a	1	3
Total zinc (Wet)	milligrams per litre	n/a	n/a	3
TSS (Dry)	milligrams per litre	45	70	100
TSS (Wet)	milligrams per litre	n/a	n/a	200

## POINT 89

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Ammonia (Dry)	milligrams per litre	3	5		7
Ammonia (Wet)	milligrams per litre	n/a	n/a		7
Arsenic	micrograms per litre				50
Cadmium (Dry)	milligrams per litre	0.01	0.02		0.05
Cadmium (Wet)	milligrams per litre	n/a	n/a		0.05
Chromium (total)	micrograms per litre				350
Copper	milligrams per litre				1
Cyanide (Dry)	milligrams per litre	0.08	0.15		0.2

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Cyanide (Wet)	milligrams per litre	n/a	n/a	0.2
Filtrable iron (Dry)	milligrams per litre	n/a	0.1	0.5
Filtrable iron (Wet)	milligrams per litre	n/a	n/a	0.5
Fluoride (Dry)	milligrams per litre			50
Fluoride (Wet)	milligrams per litre			50
Lead (Dry)	milligrams per litre	0.05	0.1	0.2
Lead (Wet)	milligrams per litre	n/a	n/a	0.2
Mercury (Dry)	micrograms per litre			3
Mercury (Wet)	micrograms per litre			3
Oil and grease (Dry)	milligrams per litre	n/a	10	20
Oil and grease (Wet)	milligrams per litre	n/a	n/a	20
pH (Dry)	pH	n/a	n/a	6.5-9.0
pH (Wet)	pH	n/a	n/a	6.5-9.0
Selenium	micrograms per litre			20
Temperature (Dry)	degrees Celsius	n/a	40	45
Temperature (Wet)	degrees Celsius	n/a	n/a	45
Total iron (Dry)	milligrams per litre	n/a	3	7
Total iron (Wet)	milligrams per litre	n/a	n/a	20
Total zinc (Dry)	milligrams per litre	n/a	1	3
Total zinc (Wet)	milligrams per litre	n/a	n/a	3
TSS (Dry)	milligrams per litre	n/a	n/a	100



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TSS (Wet)	milligrams per litre	n/a	n/a	200
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## POINT 103

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Oil and Grease	milligrams per litre	n/a	n/a		20
pH	pH	n/a	n/a		6.5-9.5
Total suspended solids	milligrams per litre	n/a	n/a		200

Note: The Cyanide limit at Point 80 has been temporarily increased from 0.1mg/L to 0.2mg/L for the duration of the monitoring program defined in PRP 178 - Investigation of Cyanide in the Slab Mill Drain. Following review of the final program report an appropriate Cyanide limit for Point 80 will be determined.

Note: 1. The discharge limits for Point 89 (Iron Making East Drain) are based on monitoring data available in 2001 for this Point and the estimated contribution of pollutants from the Sinter Plant Waste Gas Cleaning Plant. It is proposed that these limits will be reviewed by the EPA taking into account monitoring undertaken as part of the effluent characterisation program required by PRP 112 - SPWGCP Effluent Characterisation Program.

Note: 2. Notes relating to Discharge Point 107 – Sinter Plant Waste Gas Cleaning Plant Stack

a) In relation to particulate emissions at Point 107, the evolution of fine particulate standards may require a better characterisation and health risk assessment of the significance of its fine particulate component. A program may be developed through the licensing process to address this issue.

b) The Sinter Plant Waste Gas Cleaning Plant (WGCP) should be designed to meet a concentration of 0.1 ng/m<sup>3</sup> of gaseous and particulate phase polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF) as tetrachloro-dibenzo-dioxin (TCDD) equivalent, WHO 2005 TEF, dry 101.3 kPa, 273 K, 15.7% O<sub>2</sub> in waste gases at Point 107.

c) In relation to the dioxin limit at Point 107, testing conducted for PRPs 108 and 111 showed an average reduction in dioxins emitted to the atmosphere of 96 percent as a result of the Sinter Plant WGCP. The EPA in a letter dated 9 June 2005 (Ref: WOF 12470, WOF12466) has proposed to the licensee that upon completion of investigations aimed at reducing levels of dioxins in Sinter Plant WGCP dust that negotiations will commence with a view to reducing the dioxin limit for Point 107.

## L4 Volume and mass limits

### L4.1 POINT 78 – RECYCLING AREA OVERFLOW DRAIN

A discharge from Point 78 is permitted if the discharge occurs solely as a result of rainfall at the premises exceeding a total of 15 millimetres over any consecutive five day period.

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## L5 Waste

L5.1 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.

Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below.

Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below.

This condition does not limit any other conditions in this licence.

Code	Waste	Description	Activity	Other Limits
C100	Basic solutions or bases in solid form	Neutralisation - Drinking Water Treatment Lime Slurry for Spent Pickle Liquor Plant diverted to A&R Lime Pits	Resource recovery Waste storage	Reporting per Condition R4.1(g). Approved Lime Slurry Suppliers per EPA file DOC21/583628.
C100	Basic solutions or bases in solid form	Neutralisation - Drinking Water Treatment Lime Slurry for Spent Pickle Liquor Plant	Resource recovery Waste storage	Approved Lime Slurry Suppliers per EPA file DOC21/583628.
Z990	Not characterised	Dry recyclables generated at other BSL sites. Brought on to site for sorting and recycling.	Resource recovery	
C100	Basic solutions or bases in solid form	Neutralisation - Acetylene gas lime slurry for Spent Pickle Liquor plant diverted to A&R lime pits.	Resource recovery Waste storage	Reporting per Condition R4.1(g). Approved Lime Slurry Suppliers per EPA file DOC21/583628.
Z990	Not characterised	Drill mud for consolidation and storage.	Waste storage	45 cubic metres stored on site
C100	Basic solutions or bases in solid form	Neutralisation - Acetylene gas lime slurry for Spent Pickle Liquor plant.	Resource recovery Waste storage	Maximum volume stored 250,000 litres. Approved Lime Slurry Suppliers per EPA file DOC21/583628.
J120	Waste oil/hydrocarbons mixtures/emulsions in water	Oily water stored overnight at A&R Worth Recycling compound.	Waste storage	Storage in dedicated storage tanks at Alliance and Recycling.
N100	Containers & drums containing controlled waste residues	Consolidation of waste drums containing oil residue	Waste storage	Drums from BSL Unanderra facilities only.
B100	Acidic solutions or acids in solid form	Spent lead acid battery acid wastes	Resource recovery	For ammonium sulphate fertiliser

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				only.
NA	General or Specific exempted waste	Waste that meets all the conditions of a resource recovery exemption under Clause 92 of the Protection of the Environment Operations (Waste) Regulation 2014.	As specified in each particular resource recovery exemption	
Z990	Not characterised	Hoffman filter waste generated at BSL Springhill Works. Brought onto site for consolidation and storage.	Waste storage	Less than 5 cubic metres stored at any time.
Z990	Not characterised	Rice hull ash, solid residue from destructive distillation of rice hulls. Used as a tundish lining insulator.	Resource recovery Waste storage	
Z990	Not characterised	Slag materials that do not meet specification, solid. Returned to site for reprocessing and sale	Waste storage	
Z990	Not characterised	Paper, pulp, solid paper production residue. Used to produce briquettes for deoxidising slag in the BOS furnace.	Resource recovery Waste storage	
Z990	Not characterised	CPCM baghouse dust, solid iron bearing dust from air emission control facilities. Used to add iron units to Sinter Plant blend.	Resource recovery Waste storage	
D300	Non toxic salts	Aluminium dross, solid metallic aluminium powder. Used in the desulphurisation of liquid iron.	Resource recovery	
Z990	Not characterised	Steel shot blast, solid steel fines. Used to add iron units to Sinter Plant blend.	Resource recovery Waste storage	
J100	Waste mineral oils unfit for their original intended use	Waste hydrocarbons, liquid recycled oil. Used to increase coal bulk density prior to coking.	Resource recovery	
J120	Waste oil/hydrocarbons mixtures/emulsions in water	Aqueous solution of 1%-5% ethylene glycol and 1%-5% mineral oil, used	Resource recovery	

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		as a dust suppressant.		
Z990	Not characterised	Steel scrap, solid iron and steel. Used in the conversion of iron to steel.	Resource recovery Waste storage	
Z990	Not characterised	Waste timber packaging generated at other BSL sites. Brought onto site for recycling.	Resource recovery	
K130	Sewage sludge & residues	Sewage treatment plant waste, liquid. Used for reactivation of biological processes in sewage treatment plant.	Resource recovery	
J160	Waste tarry residues	Tar sludge material that settles out of tar (coke breeze and tar). Returned to site for reprocessing.	Resource recovery	
B100	Pickle Liquor	Spent Pickle Liquor.	Resource recovery Waste storage	No more than 600,000 L stored at any one time.
Z990	Not characterised	Millscale, solid steel fines. Used to add iron units to Sinter Plant blend	Resource recovery	
J160	Waste tarry residues	Petcoke, solid produced in the petroleum refinement process. Coal substitute added to the coal blend prior to coking, low ash content.	Resource recovery	
Z130	Inert sludges or slurries	Iron bearing sludge from waste water treatment, solid. Used to add iron units to Sinter Plant blend.	Resource recovery Waste storage	
Z990	Not characterised	Co-mingled wastes generated at other BSL sites. Brought onto site for sorting and recycling.	Resource recovery	
Z990	Not characterised	Non-ferrous metal wastes generated at other BSL site. Brought on to site for sorting and recycling.	Resource recovery	
Z990	Not characterised	Spent lead acid battery acid wastes	Resource recovery	For ammonium sulphate fertiliser only.

Note: Waste from the adjacent Springhill Works (EPL 571) is considered to be onsite for the purposes of waste tracking and the liquid waste levy (non trackable).

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## L6 Noise limits

### L6.1 CONSTRUCTION ACTIVITY NOISE LIMITS

L6.2 All construction activities for new works (ie, excluding routine maintenance works), including pile driving, jack hammering, warning sirens and similar high intensity noise sources, undertaken at the premises, and which are audible at residential premises, must be restricted to the following times:

- 7:00 am to 6:00 pm Mondays to Fridays;
- 8:00 am to 1:00 pm on Saturdays; and
- At no time on Sundays and Public Holidays.

L6.3 The hours of construction specified above may be varied by written consent of the EPA.

### L6.4 OPERATIONAL NOISE LIMITS

L6.5 For the activities specified in the table below, the noise level emitted from that activity must not exceed the noise level specified in the table:

Activity	Noise Limit LAeq(15 minute)	Noise Limit LA1 (1 minute)	Compliance Location
PCI	75		EPA approved monitoring site is nominated in plan titled "PCI Plant Noise Monitoring Locations"
Scrap Cutting	35	55 (2200 - 0700 hrs)	Most potentially affected residence
Hot Strip Mill Upgrade	35		Most potentially affected residence
Sinter Plant Waste Gas Cleaning Plant	70		EPA approved monitoring site is nominated in plan titled "Figure 4 – Layout of Proposed Sinter Plant Waste Gas Cleaning Plant" 281963A6
Number 5 Blast Furnace	35		Most potentially affected residence
Steam Assets Upgrade Project	35	55 (2200 - 0700 hrs)	Most potentially affected residence

L6.6 For the purpose of the noise measurements referred to in condition L6.5, 5dB(A) must be added to the measured level if the noise is substantially tonal and impulsive in character.

Noise monitoring must use the "FAST" response on the sound level meter.

Note: Noise impacts that may be enhanced by temperature inversions shall be addressed by:

- documenting noise complaints received to identify any higher level of impacts or patterns of temperature inversions; and
- where levels of noise complaints indicate a higher level of impact then actions to quantify and ameliorate

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any enhanced impacts under temperature inversions conditions should be developed and implemented.

## 4 Operating Conditions

### O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

### O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- a) must be maintained in a proper and efficient condition; and
- b) must be operated in a proper and efficient manner.

### O3 Dust

O3.1 Activities occurring at the premises must be carried out in such a manner that fugitive dust emissions from the activities are minimised.

O3.2 a) The licensee must develop and comply with the licensee's Environmental Management Manual "Fugitive Dust Management System" (FDMS), procedure MA-ENV-02-02 (dated 5 November 2019) or as varied with the prior written approval of the EPA). (EPA file EF13/2639). The specifics within the FDMS are to be applied in accordance with this condition.

b) For the purpose of this condition, "fugitive dust emissions" means dust emissions from a non-point source from or within any of the numbered areas detailed in the Bluescope Steel Port Kembla drawing 443942, provided by the licensee to the EPA on 7 March 2018 and filed on EPA file DOC18/144556.

c) The licensee must conduct monitoring at all sites and complete a regular survey of the nominated sites in accordance with the FDMS.

d) For the purposes of the FDMS:

i) Dust Emission Ranking (DER) is obtained by using the descriptions shown at table 7.2 and numbered photograph plates detailed in the FDMS.

Follow-up Actions

e) In the event that a DER 3 or greater, as set out in the FDMS, is observed then:

- i) Each such event must be reported in the licensee's incident reporting system, and
- ii) If the EPA requests, the licensee must demonstrate that measures were taken which complied with the FDMS to minimise those emissions.

f) Nothing in this condition affects the responsibility of the licensee to comply with condition O1.1 and

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condition O2.1.

## O3.3 TRANSPORT OF MATERIAL

- O3.4 All trucks carrying dry bulk material that are loaded on the premises must be loaded and operated so as to prevent spillage of any material from the load which generates dust.

For the purposes of this Condition "load is defined as material contained within the body/trailer/bin of the truck and on the gunnels of the truck.)

## O3.5 MATERIAL STOCKPILES – DUST AND STORMWATER CONTROLS

1. Development of any new stockpiles (permanent, temporary or emergency) must be in accordance with the BSL Risk Assessment Process (MA-ENV-03-08). Note i. and ii.

Note:

- i. All materials stockpiles must have appropriate stormwater and dust controls in place and this condition does not negate the requirements of condition O3.1.
- ii. Permanent material stockpiles approved for use by the EPA are identified on the map titled BlueScope Steel titled Number 2 Works Permanent Stockpiles Drawing Number 398702 ("the Map") (EPA file DOC21/541873).

2. The EPA must be consulted prior to the establishment of any new permanent or temporary stockpiles:
- a) to be located outside of the No 2 Works Permanent Stockpile Areas designated on the Map
  - b) if materials other than those specified on the Map are to be stored in that area

### Definitions – Stockpiles

- i. Permanent – areas dedicated to the ongoing storage of materials
- ii. Temporary – areas dedicated to the storage of materials when permanent stockpile areas reach capacity or materials require temporary storage due to delivery / shipment requirements and/or unforeseen circumstances.
- iii. Emergency – areas used to stockpile materials during plant breakdown or maintenance to ensure the continuation of supply for plant processes (e.g. conveyor outages) these stockpiles only remain until normal operations resume.

- O3.6 Stockpiles in the Alliance and Recycling Area must not exceed the height, AHD, of the North Wall.

- O3.7 Stockpiles in the Alliance and Recycling Area, Crushing and Screening Plant area must not exceed the height, AHD, of the Stockpile 7715 Berm Wall.

## O4 Processes and management

### O4.1 COKEMAKING

- O4.2 Tables 1 and 2 below set out in relation to each Coke Oven Battery the maximum number of valveboxes or goosenecks (taken together), doors, lids and leveller doors from which visible emissions of raw coke ovens gas can be emitted at any one time. These limits must not be exceeded at any time.



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## O4.3 Table 1 - Limits for Cokemaking Valveboxes/Goosenecks and Oven Lids

Coke Ovens Battery	Valveboxes/Goosenecks Limit	Valveboxes/Goosenecks %	Oven Lids Limit	Oven Lids %
5	4	6.1	4	2.0
6	5	4.9	6	2.0
7A	3	6.0	4	2.0

## O4.4 Table 2 - Limits for Cokemaking Main Doors and Leveller Doors

Coke Ovens Battery	Main Doors Total	Main Doors %	Leveller Doors Total	Leveller Doors %
5	4	3.0	3	4.5
6	6	3.0	4	4.0
7A	5	5.0	3	6.0

O4.5 The Licensee must once daily complete a survey of visible emissions from the main doors, leveller doors, lids and valve boxes/goosenecks, on all operating Coke Oven Batteries on the premises. The survey is to be carried out according to Standard Procedure SP-CB-2BATINS-105 a copy of which has been made available to the Authority from the Licensee. The daily results must be kept on a computer system and made available to any authorised officer of the Authority on request.

O4.6 Any open Coke Ovens standpipe must be ignited within 30 seconds unless there is insufficient gas evolved to sustain combustion.

O4.7 Visible emissions from charging cars installed on Numbers 5 and 6 Coke Ovens Batteries must not last more than 60 seconds for any single charge for greater than 5% of total charges for each battery per week. Charge car visible emissions of duration greater than 5 minutes will be excluded from these weekly limits and must be reported separately to the EPA at the routine Cokemaking liaison meetings.

Note: The charging cycling time for each oven shall be taken as starting from the first operation of the charger in preparing to charge the oven till the last operation by the charger sealing the oven after charging the oven.

Note: "Week" shall mean the period from any Friday to the following Thursday.

O4.8 New arisings of Coke Ovens Gas Mains Solids must be stored internally in sealed and bunded areas.

O4.9 No more than 50 tonnes of dewatered COG solids may be stored on the premises at any time.

## O4.10 ENERGY SERVICES PACKAGE BOILERS

Natural gas is the only fuel that is approved to be combusted in the No 2 Blower Station, 11 and 12 Boiler Stacks (ID 138 and 139).

## O4.11 BASIC OXYGEN STEELMAKING (BOS)



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- O4.12 There must be no more than four significant emissions of dust from the roof of the BOS building per month and no more than 15 significant emissions of dust from the roof of the BOS building during the licence reporting period.

(For the purposes of this condition "significant emission" is defined as a large, opaque red-brown emission from the BOS building which extends greater than 50m above the roof of the building).

- O4.13 There must be no more than four significant emissions of dust per month from the tipping of kish at the BOS and, there must be no more than thirty significant emissions of dust during the licence reporting period from the tipping of kish at the BOS.

(For the purposes of this condition "significant emissions" is defined as an emission of kish, visible above the BOS building or outside the BOS Slag Handling Area, which has been rated as Dust Emission Ranking (DER) 5 as prescribed in ASMS's DER Furnace Group.

- O4.14 HOT METAL POURING AT THE RECYCLING AREA

There must be no more than one significant emission per month of dust from hot metal pouring from the torpedo ladle into the refractory lined launder box.

("Significant emission" is defined as being an emission with a ASMS rating of greater than four throughout the pour of a ladle according to Standard Procedures PP-0302 copies of which have been made available to the Authority from the Licensee.)

- O4.15 SINTER PLANT INCLUDING WASTE GAS CLEANING PLANT

- O4.16 The WGCP must be operated so that there are no visible emissions from the exhaust stack (Discharge Point 107) under normal operations. Compliance with this requirement is to be assessed against compliance with the EPL limit condition for Discharge Point 107 of 20 mg/Nm<sup>3</sup> for particulate matter.

Note: Normal operation excludes the first two hours of operation following start up.

- O4.17 The WGCP must be operated with the objective of ensuring the maximum practicable operation of the regenerator and the recovery of sulphur rich gas (SRG) for treatment and reuse.

Note: In complying with the above condition the licensee must aim to achieve an operational goal of 95% availability for the regenerator and the SRG Plant.

- O4.18 The Licensee must notify the EPA of any outage of the WGCP regenerator or SRG Plant that exceeds 7 days of sinter plant operations.

- O4.19 For any SRG Plant or regenerator outage exceeding 21 days, stack testing at Discharge Point 107, M2.2 requirements must be undertaken as follows:

- a) all parameters commencing on day 22 and then;
- b) weekly for SO<sub>2</sub>;
- c) every 3 weeks for all other parameters.

Note 1: SO<sub>2</sub> monitoring is not required per (a) and (b) above if SO<sub>2</sub> is being monitored continuously by a CEMS.

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Note 2: EPA proposes to review the above condition in April 2023 in consultation with the licensee, against the suitability of the time periods, the resourcing required to collect this data, and the relevance to environmental performance.

## O4.20 ENERGY SERVICES

### O4.21 Dosing with the biocide, *Biosperse 485 Biocide* must:

- i) be undertaken in accordance with the conditions specified in the APVMA registration number – 86926
- ii) not exceed a maximum discharge concentration of 0.2 mg/L from Blower Station Drain (EPA identification number 79) or the Main Drain (EPA identification number 88);
- iii) be no longer than 24 hours and occur at a minimum frequency of 4 weeks.

If *Biosperse 485 Biocide* 750/L concentrations in the Blower Station Drain or the Main Drain exceed 0.2 mg/L, treatment must be immediately stopped with no further discharge unless 24 hours has elapsed.

Note: The *Biosperse 485 Biocide* 750/L target discharge concentration is 0.1 mg/L.

## O4.22 SCRAP CUTTING COLD FERROUS PROCESSING PLANT (CFPP) AND RECYCLING AREA SCRAP CUTTING BUILDING

### O4.23 The Scrap Cutting Facilities at the Cold Ferrous Processing Plant (CFPP) and the Recycling Area Scrap Cutting Building, must be operated to prevent visible emissions of solid particles.

## O4.24 NUMBER 5 BLAST FURNACE

### O4.25 Number 5 blast furnace thickener discharges occurring during *unstable blast furnace operations* must be diverted to a contingency storage system (which includes the Number 6 blast furnace clarifier system and Number 6 blast furnace dam), assessed and treated (where necessary), prior to discharge.

#### Definition of *Unstable Blast Furnace Operations*

An unstable furnace is defined as the period of time during which blast furnace activity, because of factors such as elevated top temperatures, elevated fuel rate or channelling, is known to cause variability in the quality of wastewater leaving the Blast Furnace, with the concentrations of some pollutants (e.g. cyanide and ammonia) potentially increasing.

Note: Note 1: The intent of this condition is to manage blast furnace wastewater during operational periods when pollutants such as cyanide and ammonia may become more concentrated.

Note 2: *Unstable blast furnace operations* may include blast furnace start up, stops, and run-down periods.

Note 3: Number 5 blast furnace thickener discharge is monitored, diverted to contingency storage, and discharged to Number 2 Blower Station Drain in accordance with procedure SP-BF5-O-G-WTM-30, *No 5 Blast Furnace CWS Water Management During Abnormal Operations* (EPA File Number DOC20/806564-1). This procedure includes diversion of thickener discharge to contingency storage, monitoring of contingency storage, confirmation of limit compliance, and discharge of stored water to No.2 Blower Station Drain. *Once operational the on-line CN analyser will be assessed for suitability with the intent of being incorporated into this procedure.*

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Note 4: The contingency storage capacity is greater than 70 hours of wastewater diversion during unstable blast furnace operation.

Note 5: Number 5 blast furnace thickener weir overflow discharges during normal operation and abnormal operation report to Number 2 blower station drain. These discharges are included in PRP1 Water discharge Assessment Program and are excluded from this licence condition.

## O5 Other operating conditions

### O5.1 DREDGING OF BERTHING BOXES

O5.2 Silt curtains must be operated and maintained at the dredging sites to minimise the egress of sediment and pollutants beyond the silt curtain, including under the lower edge unless otherwise approved by the EPA.

O5.3 There must be no spillages from the dredging operation into waters outside of the silt curtains.

O5.4 Dredge spoil may only be stockpiled at the "Alliance and Recycling Area" (21 Area) subject to the dredge spoil being stockpiled on an impervious sealed pad with a water collection and treatment facility to the satisfaction of the EPA.

## 5 Monitoring and Recording Conditions

### M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:

- a) in a legible form, or in a form that can readily be reduced to a legible form;
- b) kept for at least 4 years after the monitoring or event to which they relate took place; and
- c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- a) the date(s) on which the sample was taken;
- b) the time(s) at which the sample was collected;
- c) the point at which the sample was taken; and
- d) the name of the person who collected the sample.

### M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:



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## M2.2 Air Monitoring Requirements

**POINT 2**

Pollutant	Units of measure	Frequency	Sampling Method
Opacity	percent Opacity	Continuous	Method approved in writing by the Authority
Solid Particles	milligrams per normalised cubic metre	Quarterly	TM-15

**POINT 8,9**

Pollutant	Units of measure	Frequency	Sampling Method
Solid Particles	milligrams per normalised cubic metre	Yearly	TM-15

**POINT 18**

Pollutant	Units of measure	Frequency	Sampling Method
Hydrogen Sulfide	milligrams per cubic metre	Yearly	TM-5

**POINT 30**

Pollutant	Units of measure	Frequency	Sampling Method
Solid Particles	milligrams per cubic metre	Yearly	TM-15

**POINT 40**

Pollutant	Units of measure	Frequency	Sampling Method
Cadmium	milligrams per cubic metre	Yearly	TM-12, TM-13 & TM-14
Carbon dioxide	percent	Yearly	TM-24
Carbon monoxide	milligrams per cubic metre	Yearly	TM-32
Dry gas density	kilograms per cubic metre	Yearly	TM-23
Mercury	milligrams per normalised cubic metre	Yearly	TM-12, TM-13 & TM-14
Moisture	percent	Yearly	TM-22
Molecular weight of stack gases	grams per gram mole	Yearly	TM-23
Nitrogen Oxides	milligrams per cubic metre	Yearly	TM-11
Oxygen (O2)	percent	Yearly	TM-25
Solid Particles	milligrams per cubic metre	Yearly	TM-15
Sulfur dioxide	milligrams per cubic metre	Yearly	TM-4
Temperature	degrees Celsius	Yearly	TM-2

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Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Yearly	TM-12, TM-13 & TM-14
Velocity	metres per second	Yearly	TM-2
Volumetric flowrate	cubic metres per second	Yearly	TM-2

## POINT 105

Pollutant	Units of measure	Frequency	Sampling Method
Nitrogen Oxides	milligrams per cubic metre	Yearly	TM-11
Solid Particles	milligrams per cubic metre	Yearly	TM-15

## POINT 106

Pollutant	Units of measure	Frequency	Sampling Method
Solid Particles	milligrams per cubic metre	Yearly	TM-15

## POINT 107

Pollutant	Units of measure	Frequency	Sampling Method
Arsenic	milligrams per cubic metre	Special Frequency 1	TM-12, TM-13 & TM-14
Cadmium	milligrams per cubic metre	Special Frequency 1	TM-12, TM-13 & TM-14
Carbon dioxide	percent	Special Frequency 1	TM-24
Chromium (hexavalent)	milligrams per cubic metre	Special Frequency 2	OM-4
Dioxins & Furans	nanograms per cubic metre	Special Frequency 1	TM-18
Dry gas density	kilograms per cubic metre	Special Frequency 1	TM-23
Fine Particulates	milligrams per cubic metre	Special Frequency 1	OM-5
Flow	cubic metres per second	Quarterly	TM-2
Hydrogen chloride	milligrams per cubic metre	Special Frequency 1	TM-8
Hydrogen fluoride	milligrams per cubic metre	Special Frequency 1	TM-8
Lead	milligrams per cubic metre	Special Frequency 1	TM-12, TM-13 & TM-14
Manganese	milligrams per cubic metre	Special Frequency 1	TM-12, TM-13 & TM-14
Moisture content	percent	Special Frequency 1	TM-22
Molecular weight of stack gases	grams per gram mole	Special Frequency 1	TM-23
Nickel	milligrams per cubic metre	Special Frequency 1	TM-12, TM-13 & TM-14
Nitrogen Oxides	milligrams per cubic metre	Quarterly	TM-11
Oxygen (O <sub>2</sub> )	percent	Special Frequency 1	TM-25
Solid Particles	milligrams per cubic metre	Special Frequency 1	TM-15
Sulfur dioxide	milligrams per cubic metre	Quarterly	TM-4

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Sulfuric acid mist and sulfur trioxide (as SO <sub>3</sub> )	milligrams per cubic metre	Special Frequency 1	TM-3
Temperature	degrees Celsius	Special Frequency 1	TM-2
Total Solid Particles	milligrams per cubic metre	Continuous	Method approved in writing by the Authority
Velocity	metres per second	Special Frequency 1	TM-2
Volumetric flowrate	cubic metres per second	Special Frequency 1	TM-2

## POINT 113

Pollutant	Units of measure	Frequency	Sampling Method
Nitrogen Oxides	milligrams per cubic metre	Yearly	TM-11

## POINT 118

Pollutant	Units of measure	Frequency	Sampling Method
Solid Particles	milligrams per normalised cubic metre	Yearly	TM-15

## POINT 120

Pollutant	Units of measure	Frequency	Sampling Method
Cadmium	milligrams per cubic metre	Yearly	TM-12, TM-13 & TM-14
Carbon dioxide	percent	Yearly	TM-24
Carbon monoxide	milligrams per cubic metre	Yearly	TM-32
Dry gas density	kilograms per cubic metre	Yearly	TM-23
Mercury	milligrams per cubic metre	Yearly	TM-12, TM-13 & TM-14
Moisture	percent	Yearly	TM-22
Molecular weight of stack gases	grams per gram mole	Yearly	TM-23
Nitrogen Oxides	milligrams per cubic metre	Yearly	TM-11
Oxygen (O <sub>2</sub> )	percent	Yearly	TM-25
Solid Particles	milligrams per cubic metre	Yearly	TM-15
Sulfur dioxide	milligrams per cubic metre	Yearly	TM-4
Temperature	degrees Celsius	Yearly	TM-2
Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Yearly	TM-12, TM-13 & TM-14
Velocity	metres per second	Yearly	TM-2
Volumetric flowrate	cubic metres per second	Yearly	TM-2

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**POINT 138,139**

Pollutant	Units of measure	Frequency	Sampling Method
Dry gas density	kilograms per cubic metre	Every 2 years	TM-23
Moisture content	percent	Every 2 years	TM-22
Molecular weight of stack gases	grams per gram mole	Every 2 years	TM-23
Nitrogen Oxides	milligrams per cubic metre	Every 2 years	TM-11
Oxygen (O <sub>2</sub> )	percent	Every 2 years	TM-25
Temperature	degrees Celsius	Every 2 years	TM-2
Velocity	metres per second	Every 2 years	TM-2
Volumetric flowrate	cubic metres per second	Every 2 years	TM-2

**POINT 141,152**

Pollutant	Units of measure	Frequency	Sampling Method
Benzene	parts per billion	Special Frequency 3	Method approved in writing by the Authority
Fine Particulates	milligrams per cubic metre	Continuous	Other Approved Method 1
Particulates - Deposited Matter	grams per square metre per month	Monthly	AM-19
Polycyclic aromatic hydrocarbons	nanograms per cubic metre	Special Frequency 3	Method approved in writing by the Authority

**POINT 141,152,153**

Pollutant	Units of measure	Frequency	Sampling Method
Iron	micrograms per cubic metre	Special Frequency 3	AM-15
Lead	micrograms per cubic metre	Special Frequency 3	AM-15
Total suspended particles	micrograms per cubic metre	Special Frequency 3	AM-15
Type 1 and Type 2 substances in aggregate	micrograms per cubic metre	Quarterly	TM-12, TM-13 & TM-14
Zinc	micrograms per cubic metre	Special Frequency 3	AM-15

Note: All methods are as specified in the "Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales" and all monitoring must be conducted strictly in accordance with the requirements outlined in this document.

M2.3 For the purposes of the table(s) above;

- Special Frequency 1 means "Quarterly in duplicate".
- Special Frequency 2 means "Yearly in duplicate".
- Special Frequency 3 means for a 24 hour period each six days.



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- d) Points 40, 47 and 120 - emissions must be reported under the reference conditions Dry, 273K, 101.3 kPa and 7 per cent oxygen.
- e) Point 18 - Sample collection using TM 5 must be per BSL procedure "MA-LABS-AQ-01 Section 217: Sampling For Hydrogen Sulphide From Stationary Sources Impingement Method". This procedure has been approved by the EPA.
- f) Point 18 - The EPA proposes to review the H<sub>2</sub>S monitoring data set and consider ongoing limit and monitoring conditions by June 2017. This review will be undertaken in consultation with BSL.
- g) Point 107 – The averaging period for SO<sub>2</sub> and NO<sub>x</sub> for testing purposes is one hour.
- h) Other Approved Method 1 means AM-22 or other method approved in writing by the Authority.
- i) Point 138, 139 should be read as "Point 138 or Point 139" as per the notes listed in table P1.1.
- j) Point 141 and Point 152 weather monitoring must record wind speed, wind direction, and the standard deviation of wind directions.

**Note:** In situations where routine ambient air monitoring falls on a Public Holiday, the sampling event may be undertaken on the next regular business day.

**Note:** The condition M2.2 monitoring requirements may be varied by the EPA in writing, following a written request from the licensee explaining the circumstances why a routine air monitoring event may not be undertaken.

## M2.4 Transition to the Revised Ambient Air Monitoring Network

### Aim

The transitional arrangements described in this condition;

- a) provide a period of adjustment to enable a smooth transition from the existing ambient monitoring requirements to the revised ambient air monitoring requirements and;
- b) ensure the licensee can change from the existing air monitoring network to the revised ambient air monitoring, and not be in non-compliance with EPL requirements

### Requirements

The transitional arrangements for implementation of the revised ambient air monitoring network approved by notice 1535425 are as follows:

- a) The licensee must construct, commission and operate the revised ambient air monitoring network as soon as practicable after the issue date of this notice;
- b) The licensee is not taken to be in non-compliance with the ambient air monitoring requirements of this license during a defined change over period from the existing air monitoring program to the revised air monitoring program. The defined change over period is from the date of this notice for a period of 4 weeks unless otherwise agreed in writing by the EPA;
- c) During the defined change over period, the licensee must carry out ambient air monitoring, as far as practicable, to maximise the obtaining of monitoring data required by this licence;
- d) The licensee must confirm in writing to the EPA when the revised air monitoring network is constructed, commissioned and operating per the requirements of this licence.

## M2.5 Water and/ or Land Monitoring Requirements

### POINT 78

Pollutant	Units of measure	Frequency	Sampling Method
pH (Wet)	pH	Special Frequency 6	Grab sample
TSS (Wet)	milligrams per litre	Special Frequency 6	Grab sample



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## POINT 79

Pollutant	Units of measure	Frequency	Sampling Method
Ammonia	milligrams per litre	Every 8 days	Grab sample
Cyanide	milligrams per litre	Every 8 days	Grab sample
Filterable iron	milligrams per litre	Every 8 days	Grab sample
Oil and Grease	milligrams per litre	Every 8 days	Grab sample
pH	pH	Every 8 days	Grab sample
Temperature	degrees Celsius	Every 8 days	Grab sample
Total Iron	milligrams per litre	Every 8 days	Grab sample
Total suspended solids	milligrams per litre	Every 8 days	Grab sample
Total Zinc	milligrams per litre	Every 8 days	Grab sample

## POINT 80

Pollutant	Units of measure	Frequency	Sampling Method
Cyanide	milligrams per litre	Special Frequency 10	Grab sample
pH	pH	Special Frequency 10	Grab sample

## POINT 82,83

Pollutant	Units of measure	Frequency	Sampling Method
Cyanide	milligrams per litre	Special Frequency 9	Grab sample

## POINT 85

Pollutant	Units of measure	Frequency	Sampling Method
Oil and Grease	milligrams per litre	Special Frequency 7	Grab sample
pH	pH	Special Frequency 7	Grab sample
Temperature	degrees Celsius	Special Frequency 7	Grab sample
Total suspended solids	milligrams per litre	Special Frequency 7	Grab sample

## POINT 87

Pollutant	Units of measure	Frequency	Sampling Method
Ammonia	milligrams per litre	Every 8 days	Grab sample
Cyanide	milligrams per litre	Every 8 days	Grab sample
Filterable iron	milligrams per litre	Every 8 days	Grab sample
Lead	milligrams per litre	Every 8 days	Grab sample
Mercury	micrograms per litre	Every 8 days	Grab sample
pH	pH	Every 8 days	Grab sample
Temperature	degrees Celsius	Every 8 days	Grab sample
Total Iron	milligrams per litre	Every 8 days	Grab sample

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Total suspended solids	milligrams per litre	Every 8 days	Grab sample
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## POINT 88

Pollutant	Units of measure	Frequency	Sampling Method
Ammonia	milligrams per litre	Special Frequency 7	Grab sample
Cyanide	milligrams per litre	Special Frequency 7	Grab sample
Oil and Grease	milligrams per litre	Special Frequency 7	Grab sample
pH	pH	Special Frequency 7	Grab sample
Temperature	degrees Celsius	Special Frequency 7	Grab sample
Total suspended solids	milligrams per litre	Special Frequency 7	Grab sample
Total Zinc	milligrams per litre	Special Frequency 7	Grab sample

## POINT 89

Pollutant	Units of measure	Frequency	Sampling Method
Ammonia	milligrams per litre	Special Frequency 11	Grab sample
Copper	milligrams per litre	Special Frequency 11	Grab sample
Cyanide	milligrams per litre	Special Frequency 11	Grab sample
Filterable iron	milligrams per litre	Special Frequency 11	Grab sample
Fluoride	milligrams per litre	Special Frequency 11	Grab sample
pH	pH	Special Frequency 11	Grab sample
Temperature	degrees Celsius	Special Frequency 11	Grab sample
Total Iron	milligrams per litre	Special Frequency 11	Grab sample
Total suspended solids	milligrams per litre	Special Frequency 11	Grab sample
Total Zinc	milligrams per litre	Special Frequency 11	Grab sample

## POINT 135

Pollutant	Units of measure	Frequency	Sampling Method
Ammonia	milligrams per litre	Special Frequency 8	Grab sample
pH	pH	Special Frequency 8	Grab sample
Temperature	degrees Celsius	Special Frequency 8	Grab sample

M2.6 For the purposes of the table(s) above:

- Special Frequency 6 means daily during any non-permitted discharge as defined in condition L4.1. In the event monitoring does not occur, the licensee must advise the Environment Protection Authority and provide justification of why monitoring was not undertaken.
- Special Frequency 7 means 24 representative grab samples per year. Samples must be taken a minimum of 15 days apart.
- Special Frequency 8 means three samples are to be taken annually as follows:
  - 1 sample in Licence Quarter 1
  - 1 sample in Licence Quarter 3
  - 1 sample following a rainfall event of more than 10mm in a 24 hour period (if this condition is met). This

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sample may be taken at any other time during the Licence Period

- All samples are to be taken within 2 hours either side of a low tide.

d) Special Frequency 9 means quarterly grab samples. Samples must be taken a minimum of 80 days apart.

e) Special Frequency 10 means 6 representative grab samples per year. Samples must be taken a minimum of 50 days apart.

f) Special Frequency 11 means daily during a dry weather discharge. In the event monitoring does not occur, the licensee must advise the EPA and provide justification of why monitoring was not undertaken.

**Note:** In situations where routine water sampling falls on a Public Holiday, the sampling event may be undertaken on the next regular business day.

**Note:** Prior to the end of commissioning of the Spent Pickle Liquor Project, EPA will add lead, nitrates, nitrites, phosphates, total nitrogen, and total phosphorous monitoring to the Iron Making East Drain discharge (Point 89). Point 89 monitoring requirements will also apply to the new monitoring point, *No 4 Blast Furnace Thickener discharge*, to be added prior to the completion of commissioning.

**Note:** The condition M2.5 monitoring requirements may be varied by the EPA in writing, following a written request from the licensee explaining the circumstances why a routine water sampling event may not be undertaken.

## M3 Testing methods - concentration limits

M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:

- a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
- b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
- c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

**Note:** The *Protection of the Environment Operations (Clean Air) Regulation 2021* requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

M3.2 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

## M4 Testing methods - load limits

**Note:** Division 4 of the *Protection of the Environment Operations (General) Regulation 2022* requires that monitoring of actual loads of assessable pollutants listed in L2.2 must be carried out in accordance with the relevant load calculation protocol set out for the fee-based activity classification listed in the Administrative Conditions of this licence.

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## **M5 Environmental monitoring**

M5.1 The licensee is required to install and maintain a rainfall depth measuring device.

M5.2 Rainfall at the premises must be measured and recorded in millimetres per 24 hour period, at the same time each day.

Note: The rainfall monitoring data collected in compliance with M4 can be used to determine compliance with L3.5.

## **M6 Recording of pollution complaints**

M6.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M6.2 The record must include details of the following:

- a) the date and time of the complaint;
- b) the method by which the complaint was made;
- c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- d) the nature of the complaint;
- e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- f) if no action was taken by the licensee, the reasons why no action was taken.

M6.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M6.4 The record must be produced to any authorised officer of the EPA who asks to see them.

## **M7 Telephone complaints line**

M7.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M7.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M7.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.

## **M8 Requirement to monitor volume or mass**

M8.1 For each discharge point or utilisation area specified below, the licensee must monitor:

- a) the volume of liquids discharged to water or applied to the area;
- b) the mass of solids applied to the area;
- c) the mass of pollutants emitted to the air;

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at the frequency and using the method and units of measure, specified below.

## POINT 78

Frequency	Unit of Measure	Sampling Method
Daily	kilolitres per day	Weir structure and level sensor

## POINT 79

Frequency	Unit of Measure	Sampling Method
Daily	kilolitres per day	Ultrasonic flow meter

## POINT 80

Frequency	Unit of Measure	Sampling Method
Daily	kilolitres per day	Weir structure and level sensor

## POINT 82

Frequency	Unit of Measure	Sampling Method
Daily	kilolitres per day	Level sensor and continuous logger

## POINT 83

Frequency	Unit of Measure	Sampling Method
Daily	kilolitres per day	Weir structure and level sensor

## POINT 85

Frequency	Unit of Measure	Sampling Method
Daily	kilolitres per day	Ultrasonic flow meter

## POINT 87

Frequency	Unit of Measure	Sampling Method
Daily	kilolitres per day	Weir structure and level sensor

## POINT 88

Frequency	Unit of Measure	Sampling Method
Daily	kilolitres per day	Level sensor and continuous logger

## POINT 89

Frequency	Unit of Measure	Sampling Method
Daily	kilolitres per day	Weir structure and level sensor

### M8.2 POINT 107 – Sinter Plant Waste Gas Cleaning Plant Stack Mass Load Monitoring

*The following pollutants shall have their mass load determined at Point 107:*

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Pollutant	Unit of Measure
Fine Particulates	Tonnes/annum
Coarse Particulates	Tonnes/annum
Sulphur oxides	Tonnes/annum
Volatile organic compounds	Tonnes/annum
Nitrogen oxides	Tonnes/annum
Benzo(a)pyrene	Tonnes/annum
Benzene	Tonnes/annum

## M8.3 POINT 89 – Ironmaking East Drain Mass Load Monitoring

*The following pollutants shall have their mass load determined at Point 89:*

Pollutant	Unit of Measure
Total suspended solids	Tonnes/annum
Total zinc	Tonnes/annum

Note: The above conditions relating to mass load monitoring of emissions from Point 107 and 89 originated from the SMERP.

## M9 Other monitoring and recording conditions

### M9.1 AVAILABILITY OF EQUIPMENT FOR ALL MONITORING REQUIRED BY THIS LICENCE

All continuous monitoring equipment must be operated and maintained with the aim of achieving 100% availability in each licence year. Where a monitoring device does not achieve 95% availability, the licensee will report reasons and corrective actions taken to the EPA annually.

#### *Coke Ovens Daily Emission Survey required by Operating Conditions of this Licence:*

For the Coke Ovens daily visible emissions survey, results shall be obtained in accordance with O4 at all times, apart from times when the surveys can not be carried out due to circumstances beyond the licensee's control.

### M9.2 VIDEO RECORDING OF SITE AIR EMISSIONS

The licensee must operate and maintain video surveillance cameras capable of continuously monitoring and recording emissions from the licensed premises as detailed in the table below.

Operating Area	Location	View	Date Storage Capacity
Cokemaking	No.4 Coke Ovens Battery bunker	No.5 Coke Ovens Battery oven tops	Three months
Cokemaking	No.6 Coke Ovens Battery West bunker	No.6 Coke Ovens Battery oven tops	Three months
Cokemaking	No.7 Coke Ovens Battery bunker	No.7 Coke Ovens Battery oven tops	Three months
Cokemaking	No.4 Coke Ovens Battery bunker	All waste heat stacks and quencher stacks	Three months

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Slabmaking	B-02 Switch Room	Looking east over BOS slag pits and access road	Three months
Slabmaking	B-02 Switch Room	Looking north over Rubble Pit	Three months
Slabmaking	East of BOS Control Rooms	Looking north over kish pots	Three months
Slabmaking	Woodpecker Platform	Looking north over Torpedo Slag Raking and Neck Dressing Station	Three months
Ironmaking - No.5 Blast Furnace	Coke Ovens Gas pipeline	No.5 Blast Furnaces cast house rooves	Three months
Sitewide	Administration Building	Cokemaking, Ironmaking, Sinter Plant and Slabmaking	Three months
Steelmaking	Allans Creek adjacent to the junction of Allans Creek Road and Iron Ore Road	BOS waste gas flare stacks	Three months
Slabmaking	#1 BOS waste gas flare stacks	BOS Roof Emission	Three months of infra-red still pictures from each alarm event.
Recycling Area	Recycling Area Roundabout	ASMS Crushing & Screening	Three months
Recycling Area	Recycling Area Roundabout	ASMS Metal Recovery	Three months
Recycling Area	ASMS Maintenance Building	Crushing & Screening	Three months
Recycling Area	ASMS Maintenance Building	Metal Recovery	Three months
Recycling Area	North Wall	Southwest over BPA2 & MRP	Three months
Recycling Area	North Wall	Southeast over BPA1 & BPA3	Three months
Recycling Area	Recycling Area Roundabout	North over 21A & 21B (program tour)	Three months

## M9.3 AMBIENT DUST MONITORING

The licensee must operate and maintain ambient dust monitors capable of continuously monitoring and recording particulate emissions from the licensed premises as detailed in the table below.

Operating Area	Location	Equipment	Install Date
Alliance and Recycling Area	North-eastern end of area near north end of SCE Road	TES 7200F Fixed Dust Monitoring System	2017
Alliance and Recycling Area	Near roundabout on Recycling Road	TES 7200F Fixed Dust Monitoring System	2017
Alliance and Recycling Area	Southern end of area on south side of Allans Creek	TES 7200F Fixed Dust Monitoring System	2019

Note: The number and locations of air monitors is likely to change over time based on operational and environmental factors.

## 6 Reporting Conditions

### R1 Annual return documents



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R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,
5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

R1.3 Where this licence is transferred from the licensee to a new licensee:

- a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
- b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:

- a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
- b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 Where the licensee is unable to complete a part of the Annual Return by the due date because the licensee was unable to calculate the actual load of a pollutant due to circumstances beyond the licensee's control, the licensee must notify the EPA in writing as soon as practicable, and in any event not later than the due date. The notification must specify:

- a) the assessable pollutants for which the actual load could not be calculated; and
- b) the relevant circumstances that were beyond the control of the licensee.

R1.7 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.8 Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints



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Summary must be signed by:

- a) the licence holder; or
- b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

## R2 Notification of environmental harm

**Note:** The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which they became aware of the incident.

## R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:

- a) where this licence applies to premises, an event has occurred at the premises; or
  - b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
- and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:

- a) the cause, time and duration of the event;
- b) the type, volume and concentration of every pollutant discharged as a result of the event;
- c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
- d) 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;
- e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
- f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
- g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

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## R4 Other reporting conditions

R4.1 When the Annual Return is provided to the EPA, the licensee must also provide an *'Annual Monitoring Report'*.

Note: This report must provide the information that was previously provided quarterly under conditions R4, R4.1, R4.2 and R4.3.

The *'Annual Monitoring Report'* must be presented in a format agreed with the EPA and comprise:

a) data from any monitoring required by the conditions of this licence, grouped under the headings M2 *'Requirement to monitor concentration of pollutants discharged'*, M4 *'Environmental Monitoring'*, M5 *'Weather Monitoring'*, M8 *'Requirement to monitor volume or mass'*, M9 *'Other Monitoring and Recording Condition'*, and Special Condition E1 *'Approval for Alternative Standard of concentration for Hydrogen Sulphide Emissions'*.

b) data from any monitoring required by Conditions: *'O4.10 -BOS Roof Emissions'*, *'O4.13 BOS Kish Tipping'*, *'O4.14 Hot Metal Pouring'*, *'O4.17 - SRG Venting'*, and *'O4.19 Biosperse 485 Biocide'*.

c) other monitoring data required by this licence as requested by the EPA

d) any additional data as requested by the EPA

e) reasons for any non-compliance/s and omitted results, together with actions taken to prevent a recurrence of any non-compliance or omitted results.

f) data from any new source coal(s) used in the Pulverised Coal Injection (PCI) facility over the previous reporting year. This data must include laboratory analysis of primary physical and chemical characteristics of the new source coal(s) to show they are consistent with other approved PCI coals. That is, moisture content, ash, volatile matter, fixed carbon, total sulphur, phosphorous, calorific value and trace metal concentrations (POEO Clean Air Regulation, Type I and Type II substances).

g) For Lime Slurry Diverted to Alliance and Recycling Lime Pits:

i) The licensee must report to EPA in the Annual Return the total volume of lime slurry diverted to the Alliance and Recycling Lime Pits.

ii) The information must include a graph showing a comparison of the previous years.

## R4.2 Publication of Fine Particle and Weather Monitoring Data

By 1 June 2016 monitoring data from ambient fine particle monitoring (TEOMs (PM10)) and weather stations must be available in real time on a publically accessible web site in a format approved by the EPA.

Note: In establishing the web site, the licensee should consider the publishing requirements listed in EPA Requirements For Publishing Pollution Monitoring Data

## R4.3 Ambient Air Monitoring Network Report

When the Annual Return is provided to the EPA, the licensee must also provide an *'Ambient Air Monitoring Network Report'*. The report must include the following information for the relevant reporting period:

a) summarised or graphically presented ambient air quality monitoring results assessed against relevant air quality standards and criteria;

b) comparison of licensee air quality data against other air quality data (e.g.OEH stations / ANSTO

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- monitoring);
- c) presentation of long term trends;
- d) a narrative of a-c above, and
- e) a quality assurance statement.

## R4.4 Ambient Air Monitoring Network Reviews

- a) By 1 December 2016 the licensee must submit a review of the Ambient Air Monitoring Network.
- i) The review must assess all elements of the program including the number of monitors, locations, adequacy of the instrumentation to undertake the monitoring, the availability of more contemporary monitoring / analytical methods, monitoring frequency, pollutants monitored, and also propose a review frequency.
- ii) In reviewing the pollutants monitored the process must include but may not be limited to:
  - a. the inclusion of PM<sub>2.5</sub> and sulphur oxides into the network;
  - b. the premises contribution to the total pollutant load to the local air shed using contemporary emissions inventories (e.g. the NSW EPA emissions inventory database and the National Pollutant Inventory); and
  - c. other monitoring undertaken in the Port Kembla area (including e.g. ANSTO, Dustrak, OEH monitoring station).
- b) By 1 December 2018, the licensee must submit an Independent Peer Review of the Ambient Air Monitoring Network. The review must be undertaken by an independent, suitably qualified & experienced third party approved by the EPA. The scope of the peer review and the reviewer must be approved by the EPA in advance. The peer review must assess the items listed in (i) and (ii) above and include comments, recommendations, and a statement on the adequacy of the review.

Submitted 30 November 2018 (DOC18/925169-1)

## R4.5 Reporting Colour of Water Discharge

A change of colour in any waters does not need to be reported as a non-compliance. Whenever the licensee detects an abnormal colour change, a sample should be taken and analysed for the parameters applying at the discharge point to determine if there has been a licence breach. If a licence breach is not revealed by the analysis of the sample then there is no need to report it in the Statement of Compliance.

## 7 General Conditions

### G1 Copy of licence kept at the premises or plant

- G1.1 A copy of this licence must be kept at the premises to which the licence applies.
- G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.
- G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

### G2 Other general conditions

- G2.1 Completed pollution studies and reduction programs

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PRP Number	Title	Completion Date	Completed
1a	Coke ovens wastewater treatment plant	Dec-91	Yes
2a	Install de-kish facility	Sep-91	Yes
3a	Wastewater collection system for No1 and 2 ET lines	Jun-91	Yes
4a	Installation of truckwash facilities	Dec-91	Yes
5a	Install Hoogovens charging machines	Dec-93	Yes
6a	No 5 cast house dedusting facility	Jun-91	Yes
7a	Coke stockpile water spray system	Dec-91	Yes
8a	21 area fume collection and filtration system	May-91	Yes
1	Coal washeries water treatment plant	Jun-92	Yes
2	Investigation of coke ovens by products vapour recovery system	Jun-92	Yes
3	Automatically controlled spray system at no 4 coal stockpile area	Dec-92	Yes
4	Investigation of control of coke pushing and quenching emissions	Dec-93	Yes
5	Control system for No4, 5, 6 coke ovens battery	Dec-98	Yes
6	Install stormwater pollution control at coal storage areas	Dec-95	Yes
7	Install spillage controls at coke ovens by-products area	Jun-96	Yes
8	Hoogovens charging machines installation at 3, 4, 6 batteries	Jun-94	Yes
9	Automatically operated dust controls at F50, F51, F55, F24, and F27 conveyors	Jun-92	Yes
10	Install lime slaking and hosing system at No 4 blast furnace	Dec-92	Yes
11	Install recirculated closed water system at No 5 slag granulator	Jun-92	Yes
12	Install stormwater pollution controls at raw materials handling yards	Jun-94	Yes

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13	No 2 and 4 blast furnace air and water pollution programs	Dec-92	Yes
14	Lime kiln bag filtration system	Jun-93	Yes
15	Dust collection and filtration system installation at No 5 blast furnace stockhouse	Jun-96	Yes
16	Hot strip mill oil / water separators	Jun-92	Yes
17	Continuous pH monitoring at Continuous annealing / electrofinning lines	Jun-92	Yes
18	Monitoring equipment upgrade at electrofinning lines	Dec-92	Yes
19	Installation of bunding, pumping and drainage works in Tin Mill area	Dec-93	Yes
20	Installation of 21 area truck wash	Dec-91	Yes
21	Comprehensive hydrological and groundwater study at 21 area	Dec-92	Yes
22	Comprehensive hydrological and groundwater study proposal at 21 area	Dec-91	Yes
23	Proposal to prevent iron dumping	Dec-92	Yes
24	Sealing and landscaping of unsealed plant areas	Dec-96	Yes
25	Completion of a proposal for sealing and landscaping of unsealed plant areas	Dec-92	Yes
26	Installation of an oil spill and collection system at North Gate Drain	Jun-92	Yes
27	Requirement to cease land disposal of oily waste	Dec-92	Yes
28	Connection of all sewage to water board sewage system	Dec-93	Yes
29	Wastewater treatment of all waste acids, alkalis, chromium bearing wastewaters and waste oils.	Dec-93	Yes
30	Investigation of offensive noise sources from premises	Dec-93	Yes
31	Proposal for a system to minimise slag odours during transport to 21 Area	Jun-93	Yes
32	Investigations for future treatment and reuse of the discharge from 21 Area	Jun-93	Yes

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33	Investigation of improved denitrification from the Coke Ovens wastewater treatment plant	Dec-93	Yes
34	Review of PAH monitoring to establish criteria for future monitoring program	Jun-93	Yes
35	Investigation of sources and treatment options of cyanide, ammonia, and phenol containing wastewater to Main Drain	Jun-93	Yes
36	Investigations to control chromium discharges into the Slab Caster Drain	May-93	Yes
37	Report of achievable emissions reductions from coke ovens monitoring program	Jun-93	Yes
38	Investigation of operational measures to obtain 32% opacity from sinter plant stack	Feb-93	Yes
39	Investigations to decommission halon fire fighting systems	Jun-93	Yes
40	Submission of a report to ensure compliance with condition 67	Jun-93	Yes
41	Investigate and submit a report on methods to desilt Main Drain so NFR levels do not exceed 50 mg/L	Jun-93	Yes
42	Installation of flow equalisation tanks for COG compression plant effluent prior to treatment in the coke ovens wastewater treatment plant.	Jun-93	Yes
43	Installation of 4th and 5th kish pot spraying position.	Sep-93	Yes
44	Investigation of sources and implementation of methods to achieve 80 mg/L NFR in Ironmaking east drain	Feb-94	Yes
45	Proposal of a study to investigate levels of NFR, oil and grease, and flow from all licensed discharge points	Mar-94	Yes
46	Investigation of technologies to contain treat, or otherwise dispose of hydrogen cyanide from the ammonia absorber circulating tanks other than venting to atmosphere.	Apr-95	Yes

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47	Installation of water reuse tanks to prevent discharges to Main Drain	Jan-95	Yes
48	Investigate installation of savealls for No 3 ore loader to prevent spillage.	Feb-95	Yes
49	Investigate and report of all effluent streams that could be diverted to Water Reuse Tanks at the industrial water system	Jan-95	Yes
50	Report on conversion to salt water granulation at No 2 blast furnace	Feb-96	Yes
51	Conduct an indicative health risk assessment of coke ovens batteries and associated by-product operations.	Sep-96	Yes
52	Investigate quality of slab caster water treatment plant sludges and assess their suitability for reuse.	Dec-96	Yes
53	Upgrade of Sinter Plant	Dec-02	Yes
54	Gas Cleaning System at No 5 Blast Furnace	Dec-01	Yes
55	Hydrogen Sulfide Emissions from No 5 Blast Furnace	Dec-98	Yes
56	Jet Condenser Water Cooling System	Dec-99	Yes
57	Emission Reductions Program for Gas Processing	Dec-98	Yes
58	Upgrade Basic Oxygen Steelmaking (BOS) Off Gas (OG) System	Dec-01	Yes
59	No PRP allocated	Not Applicable	Not Applicable
60	Water Cooling System at Temper Mill, Tin Mill, ET Lines	Jun-00	Yes
61	Eliminate Discharge of Untreated Rinse Waters	Dec-01	Yes
62	Coke Ovens Charger Car Coal Hoppers	Aug-99	Yes
63	Hot Metal Pouring Pits monitoring and reporting system	Not available	Yes
64	Initial Dilution Zone for each licensed drain discharge	Not available	Yes
65	Monitoring program for licensed drain discharges	Not available	Yes
66	Liquid wastes passing to groundwater via rubble drains	Not available	Yes

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67	Coke Oven Batteries charger cars monitoring and reporting system	Aug-00	Yes
68	Trial alternative charging philosophy	Apr-00	Yes
69	Investigation of improved hole alignment	Nov-00	Yes
70	Carbon Growth, Oven filling and charger emissions relationships	Mar-01	Yes
71	Coal Properties, Charging process and Charger emissions relationships	Sep-00	Yes
72	Analyse coal hopper sealing mechanisms	Sep-00	Yes
73	Fugitive dust control Mechanisms	Jun-00	Yes
73	Fugitive dust control Mechanisms	Jun-00	Yes
74	Baghouse Dedusting System at No 5 Blast Furnace	Jun-00	Yes
75	Boiler Light-up Process Upgrade – No 1 Power House Stacks	Dec-00	Yes
76	Install replacement to Jet Condensers at Gas Processing Plant	Mar-02	Yes
77	Liquid wastes passing to groundwater via rubble drains – Monitoring Program	Jul-01	Yes
78	Blank off No 2 Electrolytic Tinning Line Sump	Dec-01	Yes
79	Dust Issues – Haulage of Coal on the Kemira Valley Line	Nov-01	Yes
80	Install Stage 2A Emission Reduction Program at Gas Processing	Not available	Yes
80	Install Stage 2A Emission Reduction Program at Gas Processing	Not available	Yes
81	Install Stage 2B Emission Reduction Program at Gas Processing	Not available	Yes
82	Monitoring and Reporting of Emissions from Gas Processing	Dec-01	Yes
83	Requirements for liquid wastes passing to groundwater via rubble drains	Not available	Yes
84	Characterise Emissions from Coke Ovens and Gas Processing	Sep-05	Yes



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85	Reduction in Point Source Benzene Emission	Oct-12	Yes
86	Fugitive Emission Reduction: Light Oil Plant	Dec-04	Yes
87	Fugitive Emission reduction: Rest of Gas Processing	Dec-06	Deleted
88	Coke Ovens Fugitive Emission Standards - Reduction in limits	Jan-06	Yes
89	Coke Ovens Waste Heat Stack Emission Assessment and Reduction	Jan-05	Yes
90	Prepare a Report on Air Emission Points and Stack Testing Facilities	June-03	Yes
91	Prepare and Implement a Stack Testing Program	Dec-03	Yes
92	Management of Hot Metal Dumping to Minimize Kish Emissions	Dec-03	Yes
93	Performance Audit of Dust Generation	Jun-04	Yes
94	Dust Control for Area 21	Jun-04	Yes
95	Video Surveillance Monitoring Program installed at Coke Making	Sep-03	Yes
96	Toxicity Testing of No. 2 Blower station Drain	Dec-06	Yes
97	Investigate Contaminants in Main Drain	-	-
98	Stormwater Pollution Control – Licensed Discharge Points	Jun-05	Yes
99	Stormwater Pollution Control Plan	Jul-05	Yes
100	Noise Investigation and Abatement	Jul-11	Yes
101	Scrap Cutting – manufacturer's Performance Guarantees	Aug-03	Yes
102	Scrap Cutting Plant and Equipment Design Parameters	Aug-03	Yes
103	Scrap Cutting Contingency Management Planning	Prior to Operation	Yes
104	SMERP Investigations for the Provision of instantaneous monitoring of Dioxin and solid particulates	Mar-04	Yes
105	SMERP Noise Monitoring of Sinter Machine Emission Reduction Plant (SMERP)	Apr-04	Yes
106	SMERP – Mass Emission Monitoring Program	Dec-07	Yes

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107	SMERP – Blowdown Water Reuse Strategy	Dec-09	Yes
108	SMERP Sinter Plant Electrostatic Precipitator (ESP) Outlet Dust Load Monitoring Program	Dec-04	Yes
109	SMERP – Dioxin Pathway Monitoring Program	Dec-09	Yes
110	SMERP Sulphur Rich Gas Management Integrity Program	Oct-04	Yes
111	SMERP Compliance Monitoring Program	Dec-04	Yes
112	SMERP Effluent Characterisation Program	Jul-11	Yes
113	SMERP – Radionuclide Monitoring Program	Dec-09	Yes
114	SMERP – Waste Management Program	Jun-07	Yes
115	Investigate: Installation of flow straightening devices in the No 5 Blast Furnace Granulator Stack(s) to allow H <sub>2</sub> S stack monitoring to be carried out in accordance with standard methods	Jun-04	Yes
116	Installation of flow straightening devices in No 5 Blast Furnace Granulator Stack(s) to allow Hydrogen Sulphide Monitoring to be carried out in accordance with the “Approved Methods for the sampling and Analysis of Air Pollutants in NSW”	Dec-04	Yes
117	Coke Making Risk assessment Study – to reduce the frequency of environmental incidents	Dec-05	Yes
118	Hot Strip Mill Transfer of the blowdown discharge point from the North Gate Drain to the Slab Mill Drain	Oct-04	Yes
119	Hot Strip Mill Blowdown Water Quality Improvement and Monitoring Program	May-05	Yes
120	Hot Strip Mill Blowdown Water Treatment Assessment	May-05	Yes
121	33 kV Electrical Protection Upgrade	Dec-05	Yes
122	Investigation into the storage and reuse of dredge spoil	Jul-05	Yes

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123	Briquetting BOS Filter Cake Bleed Waste	Plant not commissioned	Deleted
124	No 25 Boiler (No 2 Blower Station) and Walking Beam Furnace Post Commissioning Air Emissions Report	Nov-07	Yes
125	33 kV Protection Upgrade	-	-
126	Air pollution control upgrade to the neck dressing area	Oct-05	Yes
127	Coal Driers – Noise Compliance monitoring	Coal driers not commissioned	Deleted
127	Feasibility Study of Treating Sinter Cooler waste Gas in the Sinter Room Dedusting System	Nov-10	Yes
128	Coal Driers – Investigations into Instantaneous Monitoring of Solid Particulates from Stacks	Coal driers not commissioned	Deleted
128	Assessment of Sinter Room Dedusting System Performance as an Outcome of the Sinter Plant Upgrade.	Sep-10	Yes
129	Ground Water Remediation Plan for the south-eastern part of the Recycling Area (21 Area)	June-09	Yes
130	Noise Assessment of the Ore Preparation Plant Upgrade including the Sinter Plant Upgrade	Dec-09	Yes
131	Site Air Emissions Modelling	March - 15	Yes
132	Improved Dust Controls Area North of BOS	Jun - 13	Yes
133	Transport Related Dust and Runoff	-	-
134	Stockpile Related Dust and Runoff	Feb - 13	Yes
135	Recycling Area Revegetation	Sept-11	Yes
136	Minimise Drag Out of Sediments onto Springhill Road	Sep-10	Yes
137	Video Surveillance	May-15	Yes
138	Chemical Characterisation of Quencher Towers	-	-
139	Coke Ovens Batteries Fugitive Emission Limit reductions	Feb-08	Yes
140	BaP Levels	-	-

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141	Slag Granulation Improvements at the No.5 Blast Furnace to Reduce Hydrogen Sulphide Emissions	Dec-09	Yes
142	Investigation of site NOx emission and reduction options.	Aug-09	Yes
143	Investigations into Reuse and/or treatment of CORB	-	-
144	Investigate Main Drain Dam Installation	Jun-09	Yes
145	Review and Upgrade Site Liquid Chemical Storage	Jul-10	Yes
146	Harbour Flora and Fauna	Jun-12	Yes
147	Stormwater First Flush	Jul-11	Yes
148	Improve SW Controls to Reduce Suspended Solids Loads to Harbour	Sep-13	Yes
149	Coke Ovens Gas Mains Solids Management Plan	Mar-14	Yes
150	Elimination of Existing Septic Soak Away Treatment Systems that Present an Unacceptable Environmental Risk	Sep-09	Yes
151	Elimination of Gas Main Seal Pot Discharges that Present an Unacceptable Environmental Risk	Jun-11	Yes
152	Green and Gold Bell Frog Management Plan	Nov-11	Yes
153	Assess Air Emissions	Aug-11	Yes
154	Number Five Blast Furnace Noise Verification	Dec-09	Yes
155	Air Emissions Performance Verification	Sep-11	Yes
156	Number 6 Blast Furnace Granulator	Cancelled	Cancelled
157	Iron Pouring Pit Emissions	Dec-11	Yes
158	Flaring Emission Factors and Best Available Techniques		
159	BOS Emissions Monitoring	Jun-13	Yes
160	Priority Site Contamination Actions	Sept-12	Yes
161	Installation of Improved Drainage in Iron Pouring Pit(s) in the Recycling Area	Oct-12	Yes
162	Installation of fixed discharge pipe at dust ponds.	Aug-12	Yes

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163	Verification of BOS Roof Monitoring Method	May-14	Yes
164	Steel Furnace Slag Dust Suppression Works	Oct-13	Yes
165	Dust Monitoring and Adaptive Management Plans	May-19	Yes
166	Particulate Matter Control - Best Practice	Jan-19	Yes
167	Re-profile Steel making Slag Stockpile (0-20 mm SFS)	Dec-15	Yes
168	Implement Improved Dust Controls at Granulated Blast Furnace Slag Stockpile	Oct-14	Yes
169	Stockpiled Material Environmental Risk Assessment		
170	Prioritised Stockpile Management Plan		
171	Clean Machine Program	July - 14	Yes
172	Evaluation of continuous monitoring at the Sinter Plant		
173	Changes to Coke Ovens Gas Seal Pot Configuration	March -15	Yes
175	(Pollution Study) Diversion of Iron Ore Road Drain	Feb - 15	Yes
176	(EIP) IMED Drainage Diversion Project	Aug - 17	Yes
177	Review of COG Isolation Procedures	Aug - 17	Yes
178	Investigation of Cyanide in the Slab Mill Drain	Oct - 18	Yes

Note: PRPs 1a to 8a were completed in the first Five Year PRP Program.

Note: The Licensee may at any time apply to the Authority for an alteration to the undertakings or works or omission of any of the same and/or an extension of any relevant completion date.

The Authority will notify the Licensee in writing of its decision.

"Completed" means work completed.

## 8 Pollution Studies and Reduction Programs

### U1 PRP 170 - Prioritised Stockpile Management Plan

#### U1.1 Background

A wide range of materials are stockpiled in the A&R area including raw materials, process and waste products. Quarterly volumetric surveys carried out by the licensee show that stockpiled quantities of some materials have increased significantly over the last 12 months.

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The EPA is concerned about the environmental and legacy issues presented by the increasing volumes of materials stored at A&R. The licensee has undertaken a *Stockpiled Material Environmental Risk Assessment* which has ranked stockpiled materials, based on their environmental risk.

## Aim

The aim of this PRP is to establish a management plan for all stockpiled materials based on their risk. The management options may include but not be limited to: covering individual stockpiles, moving stockpiles to internal storage, re-profiling, vegetating, removing stockpiles from A&R, relocating stockpiles within A&R, introducing more fixed sprays or water carts, implementation of specific stockpile management options, or status quo arrangements.

## Requirements

By 17 July 2020 the licensee must present a written Prioritised Management Plan for A&R Stockpiles to the EPA.

The Prioritised Management Plan must address all A&R materials. The plan must present the management option/s and the timeline to achieve the identified management options for all A&R stockpiles.

## Completion Date: 17 July 2020

Note: EPA may add further conditions for the implementation of the plan and the future management of these materials to EPL via PRP or Special Condition.

## U2 PRP 180 - Expanded Dust Suppression System at the Crushing and Screening Plant

### U2.1 Background

The southern area of the Alliance and Recycling (A&R) Area manages blast furnace slag. The material is prone to dust emissions during strong winds. The contracted party working on the licensed premises, Australian Steel Mill Services, has committed to upgrade the dust suppression system in the area.

## Aim

To improve the coverage and effectiveness of the existing dust suppression system at the Crushing and Screening plant.

## Requirements

1. By 31 March 2020 the licensee must submit a report to the EPA incorporating the project scope, engineering designs and specifications, coverage configuration, and estimated costs for an expanded dust suppression system.
2. The designs / specifications must include the relevant parameters to ensure coverage of the area (e.g. for water sprays: water pressure, nozzle selections, gun height, and water supply pipework).
3. The areas of coverage must include the northern end of Crushing and Screening Plant.
4. The system must incorporate links between real-time weather data and the dust suppression system.

COMPLETE: BSL response to EPA 31.03.2020 (DOC20/260433-1) and EPA response to BSL 27.05.2020

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(DOC20/381003)

By 31 December 2020 the licensee must have installed the system.

**Due Date:** 31 December 2020

## U3 PRP 181 - Seal Pot System Risk Assessment

### U3.1 Background

As part of a response to 2 seal pot incidents near the Number 5 Blast Furnace (#5BF) in June 2019, the licensee must undertake a risk assessment for potential seal pot system discharges of condensate and assess the feasibility of addressing risks through works or other improvements.

In 2017 the licensee completed a premises-wide risk assessment for coke ovens gas water seals. Water seals are used to isolate Blast Furnace Gas (BFG) and Coke Ovens Gas (COG). Seal pots are used to manage gas condensate and facilitate periodic collection from the seal pot or from an associated collection tank.

#### Aim

The aim of this PRP is to:

Part A - assess both the environmental risk and the feasibility of mitigation works for seal pots across the Steelworks.

Part B - implement a works program to install mitigation works at the premises.

#### Requirements

Part A: Risk Assessment and Feasibility Assessment

By 13 March 2020, the licensee will provide a written report to the EPA that describes an assessment of the COG and BFG seal pots across Port Kembla Steelworks. The review will include but will not be limited to the following:

1. Identify all seal pots currently in use across the premises.
2. Rank the seal pots in terms of their environmental risk.
3. Investigate and report on the feasibility of the alternate devices / systems / procedures that could be used at the premises to reduce this risk.
4. Generate a prioritised feasibility ranking of the improvement options for all seal pots based on 2 and 3 above.

**Due Date:** 13 March 2020 (Complete DOC20/728812-1)

Part B: Works Program Implementation

Unless otherwise agreed in writing by the EPA,

- i. By 30 July each year, the licensee must submit an annual PRP 181 Implementation Progress Report which reports on the implemented works against the Approved Works Program.

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ii. By 30 July 2024 the licensee must complete the implementation of the Approved Works Program (EPA file number DOC20/728812).

**Due Date:** 30 July 2024

## **U4 PRP 182 - Wastewater Assessment Program For Number 2 Blower Station Drain**

### **U4.1 Background**

This PRP was in part developed in response to a series of incidents in July 2019 where several days of unstable blast furnace operations generated large volumes of wastewater which exceeded retention and treatment system capacities at the premises. The result was a series of uncontrolled discharges from the blast furnace thickener at both the Number 2 Blower Station Drain (2BS Drain) and the Number 5 Blast Furnace Drain. Of particular concern is that during abnormal blast furnace operations, the wastewater generated potentially has elevated levels of ammonia and cyanide.

The 2BS drain is the largest discharging drain on the Premises. The drain handles process water discharges from multiple sources including the blast furnace (thickener discharges, blow down, & overflows), Sinter Plant, and Spent Pickle Liquor plant. This process water is combined with large amounts of cooling water as well as wet weather stormwater flows prior to discharging in Allans Creek and Port Kembla Inner Harbour.

The licensee relies on the large volumes of cooling water to dilute some high concentration pollutants in the 2BS drain. This is not an appropriate management measure and does not constitute best practice. EPA also believes the existing licence limits and discharge points are dated and may no longer be fit for purpose.

This PRP requires an investigation of pollutant discharges to the 2BS drain to identify the sources and quantify the pollutants entering, and ultimately discharging from the drain. This will include pollutant concentrations and loading. These pollutant discharges must be assessed against relevant, contemporary environmental criteria. Possible PRP outcomes may include monitoring changes (frequencies and locations), retention or revision of concentration limits, load limits for specific pollutants, or changes to discharge points locations.

### **U4.2 a – Source Identification and Monitoring Data Gap Analysis Report**

The licensee must submit a report to the EPA which identifies:

Part 1 - all inflow sources to the 2BS drain and;

Part 2 - the gaps in inflow sources existing monitoring data sets with regard to pollutant analytes, operational scenarios, and limits of reporting.

Part 1. Inflow source identification must include:

- a. a narrative on the source of the inflow (e.g. process water, primary cooling water, return cooling water, stormwater, flows from incidents, contingency storage discharges),
- b. the volume of inflow
- c. the consistency of the flow (constant or periodic or variable),
- d. the operational scenarios relevant for each inflow e.g. overflowing, wet weather, operational etc
- e. the anticipated pollutants (including temperature),
- f. whether the inflow point is licensed,
- g. the pollutants monitored and the monitoring frequency at each inflow point for each operating scenario.



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h. The locations marked on a catchment map.

Part 2. A gap analysis must also be included in the report to inform later parts of this PRP. This analysis must:

i. draw from the ANZG 2018 toxicant guideline (95th % ile levels), to list and justify the inclusion or exclusion of pollutants from this assessment for all inflow sources;

Note: This list should be developed with consideration of Part b (a) of this PRP.

j. undertake a comparison of included pollutants against existing monitoring data sets for all sources and all operating scenarios to be assessed;

k. undertake a comparison of limits of reporting for the exiting data set against guideline levels;

l. include a description of which existing monitoring data can be utilised in the assessment and what additional monitoring data must be collected by sampling.

The report should also include recommendation on timing for Part 1(b) of this condition.

**Due date:** 30 November 2020

## U4.3 b – Characterisation: Surface Water Discharge Characterisation Assessment Methodology

The licensee must characterise each of the inflows to the 2BS Drain. That is, the Licensee must engage a suitably qualified and experienced person(s) to prepare and implement a Surface Water Discharge Characterisation Assessment Methodology.

Note: Some of these requirements will be informed through the completion of PRP 182.

Unless otherwise agreed in writing by the EPA, the Surface Water Discharge Characterisation Assessment Methodology must include, at a minimum:

a) Identification of all the potential pollutants which may be present in a discharge from the 2BS drain that pose a risk of non-trivial harm to human health or the environment. The list of analytes and sampling methodology is to be developed in consultation with the EPA, through PRP 182(a) of this PRP.

Note: pollutants with current licence limits or monitoring conditions must be included.

b) Water sampling and analysis:

- i. Sampling of discharges both at the drain discharge and at the points of inflow entry to the drain
- ii. The sampling program must include an adequate number of sampling events to capture the full range of operational scenarios, including average or typical through to worst case scenarios.
- iii. The sampling program must include sampling of each independent discharge events until a minimum of five events have been sampled.
- iv. Sampling and analysis for each analyte must be in accordance with the 'Approved Methods for the Sampling and Analysis of Water Pollutants in NSW' (2004).
- v. The level of reporting for concentrations of pollutants must be sensitive enough to detect pollutants at levels related to their environmental risk and the ANZG 2018 toxicant guideline value (where available) while having regard to the best available analytical practical quantification limits using available technology.
- c) Characterisation of discharge volumes at each point of entry to the 2BS drain and at the discharge points.
- d) Assessment of the potential impact of discharges on the environmental values of the receiving waters with reference to the concentrations and loads of pollutants discharged, available dilution, relevant ANZG (2018) and levels of aquatic ecosystem protection defined in these guidelines (95th %ile).
- e) Where a ANZG (2018) trigger value is not available for a pollutant risk should be assessed against relevant international water quality guidelines or references.

**Due date:** 30 June 2021

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## U4.4 c - Implementation of Assessment Methodology

Upon agreement with the EPA to the drafted assessment methodology, the licensee must implement the characterisation assessment and submit a report to the EPA by an agreed date.

**Due date:** To be determined based on #2BS Drain Surface Water Discharge Characterisation Assessment.

## U5 PRP 183 - Blast Furnace Gas Condensate Toxicity Assessment

### U5.1 Aim

Undertake a toxicity assessment for Blast Furnace Gas Condensate (BFGC).

#### Requirements

Toxicity Assessment Methodology

Unless otherwise agreed in writing by the EPA, the licensee must develop and submit methodologies to the EPA to which account for a range of blast furnace operating scenarios to:

1. characterise the BFGC produced and
2. assess the toxicity of the BFGC.

#### 1. BFGC Characterisation Study

The methodology must include a sampling program including the proposed analytes to be monitored to characterise the chemical composition produced during the following operational scenarios:

1. Routine operations with BFGC collected at the blast furnace (considered to be most concentrated material)
2. Unstable operation with BFGC collected at the blast furnace
3. Routine operations with BFGC collected from a number of seal pots (composite sample)
4. Unstable operations with composite seal pot sample.

The program must be approved by the EPA prior to implementation and must include specific sampling locations for the above operating scenarios.

**Due Date:** 7 September 2020 (Complete DOC20/724522-3)

An analysis report of the characterisation must be submitted to the EPA by 30 June 2021.

**Due Date:** 30 November 2021 (Complete DOC21/1057651-3)

### U5.2 2. BFGC Toxicity Assessment

The methodology must:

- propose the operational scenarios to be assessed based on the characterisation study;
- be designed to assess acute and chronic (sub-lethal) toxicity testing of BFGC and the discharges to 2BS drain using a minimum of five species from four taxonomic groups;
- include the proposed analytes to be monitored as part of the sampling / assessment;
- incorporate regionally relevant species where practical;
- show specific sampling locations for the selected operating scenarios.

EPA anticipates the:

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a. Acute toxicity testing would include fish testing – for example, 96 hour. Species and test duration to be confirmed

b. Chronic toxicity testing would include:

- i. Algal testing using a 72 hour growth inhibition test with species to be confirmed.
- ii. Bivalve and/or sea urchin larval development test. Species and test duration to be confirmed.

The program must be approved by the EPA prior to implementation.

**Due Date:** To be determined following BEGC Characterisation Study

Upon agreement with the EPA to the drafted methodology the licensee must implement the program and submit a report to the EPA by the due date.

**Due Date:** To be determined following appointment of consultant

## U6 PRP 184 (EIP) - Trial of Biochar in the PCI Plant

### U6.1 Environmental Improvement Program (EIP) - Greenhouse Gas Emission Reduction Investigation – Trial of Biochar in the Pulverised Coal Injection Plant

#### Background

Raw materials for iron making, including sinter, coke and flux (limestone) are charged into the top of the Blast Furnace. Hot blast air is injected through tuyeres at the base of the furnace. As chemical reactions take place in the furnace, a mixture of carbon monoxide (CO), hydrogen (H<sub>2</sub>) and other gases are generated. The blast furnace process produces the majority of the carbon dioxide emissions at the Port Kembla Steelworks site.

BSL have made a number of changes to Blast Furnace operation over the years. In 2002 the Pulverised Coal Injection (PCI) plant commenced operation. The PCI plant injects pulverised coal directly into the blast furnace tuyeres replacing coke as a raw material and improving blast furnace productivity.

'Biochar' is produced when wood-based biomass undergoes a pyrolysis process. In this trial, it is proposed to replace some of the coal injected by the PCI Plant in to the Blast Furnace, with biochar. The biochar serves as a substitute raw material (for coal) and also provides an associated fuel benefit. The result of using biochar will be to reduce net CO<sub>2</sub> emissions from Blast Furnace operations, and to decrease fossil fuel consumption.

The licensee proposes to undertake a number of trials (proposed 4 trials) utilising up to 1,000 tonnes of biochar over a number of days (proposed 4 days). These initial trials will primarily evaluate materials handling and assess any other constraints of using biochar in the PCI production process, and determine if any process changes are required to enable biochar use in this way. The licensee has advised the trial is likely to commence in early 2023.

#### Aim

To undertake preliminary materials handling trials at the PCI Plant and Number 5 Blast Furnace to:

1. assess handling, drying and grinding characteristics of biochar for PCI use; and

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2. assess any changes to blast furnace performance when using biochar combined with PCI coal.

## U6.2 Requirements

1. The licensee must undertake the trial as listed in the BSL *Biochar Use at BlueScope Steel Port Kembla* dated 10 September 2021 (the Trial Plan) held on EPA file DOC21/797992, with the amendments listed in the Biochar Trial Plan Update dated 16 November 2022 held on EPA file DOC22/1019970.
2. The licensee must notify the EPA and the BSL Community Consultative Committee in advance of the trial start date, and the EPA at the completion of the trial.
3. The licensee must undertake air emissions testing as listed in the Air Emissions Testing Schedule provided by BSL on 16 November 2022 and held on EPA file DOC22/1019970.
4. At the completion of the trial the licensee must submit a report on:
  - a) The results per the elements listed in the Trial Plan;
  - b) Details on any changes recorded, or potential changes to carbon emissions from the iron making process;
  - c) A raw material comparison provided by the biochar as compared to PCI coal. That is the carbon quantity provided by both materials; and
  - d) A fuel value comparison provided by the biochar compared to PCI coal. That is the calorific value of both materials.

**Due Date:** Within 1 month of the completion of the trial

Notes: For the purposes of the above trial, 'Biochar' is wood-based biomass which has undergone pyrolysis.

Any proposed changes to the biochar supplier or constituents from those listed in the trial plan must be reported to EPA in advance of the trial.

Any further trial proposals involving larger quantities of biochar must be supported by an assessment of potential blast furnace air emissions monitoring.

## 9 Special Conditions

### E1 Approval for Alternative Standard of Concentration for Hydrogen Sulphide Emissions

- E1.1 The EPA grants the occupier an approval under clause 7A of the Clean Air (Plant and Equipment) Regulation 1997 to use an alternative standard of concentration for hydrogen sulphide emissions from the processes carried out at the slag granulators located at the Number Five Blast Furnace and the Number Six Blast Furnace at the premises. This approval is subject to the following conditions:

- 1) This approval applies from 27 September 2001.

Provided that the occupier complies with the conditions of this approval, the occupier is exempt from the hydrogen sulphide emissions limit prescribed by clause 7 of the Clean Air (Plant and Equipment) Regulation 1997 in relation to the processes.

Failure to comply with the terms of this approval may constitute an offence, including against section 128 of the Protection of the Environment Operations Act 1997. Maximum penalty for an offence against section 128:

- a) in the case of a corporation - \$250,000 with, in the case of a continuing offence, a further penalty not exceeding \$120,000 for each day the offence continues; or

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b) in the case of an individual - \$120,000 with, in the case of a continuing offence, a further penalty not exceeding \$60,000 for each day the offence continues.

Note: This approval may be amended or revoked by the EPA by means of a written notice given to the occupier.

## E1.2 LIMIT CONDITIONS

For each monitoring/discharge point or utilisation area specified in the tables below (by point number), the mass rate of a pollutant discharged at that point, must not exceed the mass rate limits specified for that pollutant in the table.

Discharge Point	Pollutant	Unit of Measure	100% Limit	Averaging Period
Discharge Point 10, No.5 Blast Furnace, No.2 Slag Granulator	Hydrogen sulphide	g/s	1.2	Block average (Minimum of 15 minutes).
Discharge Point 11, No.5 Blast Furnace, No.1 Slag Granulator	Hydrogen sulphide	g/s	1.2	Block average (Minimum of 15 minutes).
Discharge Point 129, No.5 Blast Furnace, No.3 Slag Granulator	Hydrogen sulphide	g/s	1.2	Block average (Minimum of 15 minutes).

Note: Sampling at discharge point 10 is representative of emissions from discharge point 11 and discharge point 129.

Note: Unless otherwise agreed in writing by the EPA, granulator air emissions must be monitored per conditions E1.3 – E.1.6 below.

## E1.3 REQUIREMENT TO MONITOR MASS RATE OF POLLUTANT DISCHARGE

For each monitoring/discharge point specified below (by point number), the occupier must monitor (by sampling and obtaining results by analysis) the mass rate of discharge of each pollutant and parameter specified. The occupier must use the sampling method, units of measure and sample at the frequency, specified opposite in the other columns:

Discharge Point	Pollutant	Unit of Measure	Method	Frequency
10	Hydrogen sulphide	g/s	TM-5	Quarterly
10	Velocity	m/s	TM-2	Quarterly
10	Volumetric flow rate	m <sup>3</sup> /s	TM-2	Quarterly
10	Temperature	K	TM-2	Quarterly
10	Moisture	%	TM-22	Quarterly
10	Dry gas density of stack gases	kg/m <sup>3</sup>	TM-23	Quarterly

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10	Molecular weight of stack gases	g/g.mole	TM-23	Quarterly
10	Selection of sampling positions	-	TM-1	-

## E1.4 FAN SPEEDS

During granulation, the cooling tower fan speed must be set to high speed.

**Note:** The fan may be infrequently run at low speed to undertake engineering and / or process checks.

## E1.5 STACK TESTING DURING NORMAL OPERATION

Casting parameters during stack testing of LDP10 must be representative of normal operating conditions.

## E1.6 REQUIREMENT TO KEEP RECORDS

The licensee must record the following details in relation to slag granulation during stack testing and provide the information to the EPA upon request:

- Start time for Drill out, Slag start, Abort and Gun time
- Cast abort reason
- Average and maximum slag flow as measured by the belt weigher
- Hot metal temperature
- Cooling water temperature for the start, average and maximum for the cast
- The average and maximum hot water temperature
- Cooling water flow rate, pump speed and blowing box pressure
- Cooling tower fan speed
- Start and finish time of stack testing.

The information must be provided in electronic format to any EPA request. The information (a) to (g) above for all casts on each of the 3 granulators must be recorded and made available to the EPA upon request.

## E2 Other Monitoring Conditions

### E2.1 Review of Coke Screenhouse Dedusting Stack Emissions Performance

#### Background

The licence does not currently require routine monitoring at the Coke Screenhouse Dedusting Stack (Point 23). The licensee does undertake routine monitoring for Load Based Licensing reporting. Historically Point 23 has ranked highly for particulate matter emissions versus other emissions sources at the premises. A stack test undertaken following a wet scrubber modification in April 2018 showed a significant reduction in these emissions. In 2018, to confirm the ongoing emissions performance of Point 23, EPA required a period of routine stack testing, a review of the collected data, and a submission from the licensee on future licensing on Point 23.

In December 2021 the licensee submitted a monitoring program report (DOC21/1105002). Between 2019 -2021 the licensee monitored biannual PM10 and TSP samples. Emissions were substantially lower than historical results but showed some variation. The EPA, in consultation with the licensee, agree to continue the monitoring at a reduced frequency, i.e. annual sampling for 5 years.

#### Requirements

- The licensee must undertake stack testing for total solid particles and particulate matter less than 10



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microns in size, once a year for 5 years (5 stack tests).

2. Following the completion of the stack testing program the licensee must submit the monitoring data to EPA along with a discussion of the results and a recommendation for ongoing licensing at Point 23. On the basis of the emissions data set and the recommendation, EPA will discuss future licensing requirements at Point 23 with BSL.

**DueDate: 31 December 2026**

## E3 Contaminated Lands Conditions

### E3.1 Contamination Monitoring and Assessment Program

#### Background

The licensee has undertaken a number of land contamination assessment programs in the past incorporating groundwater and soil monitoring. These programs include investigations associated with EPL special condition E2 (resulting in the E2 Report submitted in 2015) and a more recent major voluntary investigation across multiple premises owned by the licensee in 2013 - 2014. Identified areas of contamination include 4 areas identified in the E2 Report and an area at the southern end of the Alliance and Recycling Area.

An extensive soil and groundwater monitoring network has been established within the premises and across other premises owned by the licensee (see note 1).

The aim of this condition is to:

- undertake routine monitoring and assessment across the existing monitoring network including areas of identified contamination;
- identify opportunities for improving / expanding the coverage of the existing monitoring network across the premises;

Note 1: It is intended that the licensee implement monitoring programs consistent with this condition for the Springhill Works (EPL 571) and CRM (EPL 397) licensed premises.

#### Requirements

Unless otherwise agreed to in writing by the EPA, the licensee must address the following requirements:

##### 1. Ongoing Monitoring and Assessment Program.

The licensee must develop a monitoring program based on the existing monitoring network. The program will specify the analytes to be sampled and the monitoring frequency, taking into account, amongst other things, the nature and degree of risk at various locations across the premises.

The licensee must assess the monitoring results against relevant criteria and for change against historical results.

Note 2: The analytes considered must include Poly-Fluoroalkyl Substance (PFAS).

Slab Mill Drain - Cyanide sampling must also be undertaken for rainfall events of 30 mm or more in a 24 hour period (note). Samples are to be collected at the Lower Slab Mill Drain sampling point, previously utilised in PRP 178. The sampling frequency during each rainfall event will be variable with the intention of identifying

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the link between heavy rainfall events and cyanide in the Slab Mill Drain.

The licensee must assess the monitoring results against relevant criteria, licence limits, and historical results recorded from adjacent groundwater monitoring bores.

## 2. Maintenance of Network

Implement an inspection and maintenance program for monitoring wells and pits.

## 3. Installation of New Monitoring Locations

The licensee must, on an annual basis, evaluate the installation of additional wells or pits to improve the coverage of the existing monitoring network for assessment of both soil and groundwater contamination. The evaluation will be risk-based and must be discussed with the EPA as part of the consultation required by condition 4.

Note 3: The evaluation must consider the BSL berth boxes.

## 4. Remediation Feasibility Assessment

Where warranted based on the nature and degree of the risk and the operational status of the premises, the licensee must evaluate whether there are feasible opportunities to carry out remediation works to reduce the risk of identified contamination.

Note 4: The licensee should engage suitably qualified contamination professional to provide independent advice where appropriate.

## Due Date

The licensee and EPA will meet annually to discuss a summary of results from the previous year and proposed actions for the next year. The outcomes of this meeting will be summarised in the document titled, "*Contamination Assessment – Bluescope Sites at Port Kembla and Other Sites Notified in NSW*" which is kept on EPA file DOC18/103853.

## E3.2 Contamination Assessment Program – Alliance and Recycling Area

### Background

During a voluntary investigation carried out in 2013, the licensee identified elevated concentrations of benzene in a localised area of the Alliance and Recycling Area, near the intersection of ASMS Road and the Springhill Overpass Road. Active remediation of the benzene contamination was undertaken at the site between 3 June 2015 and 1 December 2016 in accordance with a Remediation Action Plan (RAP). Given that elevated concentrations of benzene remained at the completion of active remediation, further groundwater monitoring will be undertaken in accordance with this condition. Additional remediation works may be required, subject to the results of the monitoring required by this condition.

### Requirements

#### *Groundwater Monitoring*

Unless otherwise agreed to in writing by the EPA, the licensee will carry out monitoring and sampling as set out in this condition and will submit the results to the EPA by 31 December each year until 2020.



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- 1) Annual groundwater monitoring of 11 monitoring wells (OW12S, OW1S, OW9S, OW13S, OW11S, OW10S, OW14S, OW8S, OW15S, OW17S and OW1D).
- 2) Annual pore water sampling at 5 pore water sample locations (PW07, PW07A, PW07/B, PW05 and PW08).
- 3) Annual sampling at two surface water sample locations (SW06/L and SW07/L).
- 4) All samples (groundwater, pore water and surface water) to be analysed for benzene, toluene, ethylbenzene, xylenes (BTEX).

## Review

By 31 December 2020, a Groundwater Monitoring Program Review Report must be submitted to the EPA. The report must include but may not be limited to:

- 5) All monitoring data and program findings to date
- 6) A discussion regarding any further delineation or data gaps that exist in the monitoring network
- 7) The adequacy of the existing monitoring procedures
- 8) A detailed summary on the extent of the plumes monitored by the Program through text and figures
- 9) Summarising relevant hydro-geological parameters (e.g. groundwater flow direction, gradient, estimated plume boundaries)
- 10) Recommendations for any modification to the monitoring program

**Due Date: 31 December 2020**

## E4 Special Dictionary

E4.1 In this licence, unless the contrary is indicated, the terms below have the following meanings:

Term	Meaning
Abort Time	time slag is diverted away from the granulator to the pit.
Approval	approved in writing by the EPA or as specified in a condition in a licence.
Belt weigher	the device used to continuously measure the flow rate of slag from the granulator.
Blowing box pressure	water pressure in the granulation head.
Dry weather conditions	weather conditions in which less than ten millimetres of rain falls within a 24 hour period.
g/m <sup>3</sup>	grams per cubic metre
Gun Up Time	time the blast furnace is plugged up at the end of the cast.
Hot metal temperature	temperature of the molten iron in the blast furnace main trough.

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LA10(15 minutes)	the sound pressure level that is exceeded for ten per cent of the time when measured over a 15-minute period.
Noisy activities	those activities which may exceed the construction noise goals including pile driving, jack hammering, explosive blasting, warning sirens and similar high intensity sources.
NOx	Nitrogen Oxide.
PRP	Pollution Reduction Program detailed in EPL.
PCI	Pulverised Coal Injection
Quarterly report	1st quarter – July, August, September 2nd quarter – October, November, December 3rd quarter – January, February, March 4th quarter – April, May, June
Rainwater	is defined as water originating as moisture falling in drops from clouds.
Recycling Area	is the area of the premises formerly known as “21 Area” or “Area 21”
Slag start	time the slag first enters the slag granulator.
SO <sub>2</sub>	Sulfur Dioxide.
Start time for Drill Out	time the blast furnace is drilled out to start a cast.
Wet weather conditions	weather conditions in which ten or more millimetres of rain falls within a 24 hour period.

## E5 Sinter Machine Short Term Bypass Arrangements

### E5.1 Background

To facilitate the ongoing safe and effective operation of the Waste Gas Cleaning Plant (WGCP) serving the Sinter Plant, the following conditions permit emissions from the Sinter Plant to bypass the WGCP following treatment in the electrostatic precipitators. The bypass would occur for limited periods of time in the following circumstances:

- (a) for a proactive response to plant control data/indicators or emergency shutdown; or
- (b) for preventative maintenance.

### E5.2 Requirements

Unless otherwise agreed in writing by the EPA, the licensee must comply with the following conditions whenever the bypass occurs.

### E5.3 Notification and Approval

1. Immediately after the licensee becomes aware of any WGCP bypass, which is not approved for preventative maintenance, the licensee must notify the EPA and provide all relevant information about it.
2. The licensee must provide written details of the notification to the EPA within 7 days of the date on which the WGCP bypass occurred.
3. The licensee must obtain approval in writing from the EPA prior to any preventative maintenance activities that require WGCP bypass.

## Location of monitoring/discharge points and areas

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- E5.4 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

EPA Identification Number	Type of Monitoring Point	Type of Discharge Point	Location Description
151	Discharge from pollution stack	Discharge from pollution stack	#3 Sinter Machine Stack

## Concentration limits

- E5.5 For each monitoring/discharge point or utilisation area specified in the table below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

### POINT 151

Pollutant	Unit of measures	100 percentile concentration limit	Reference conditions & Oxygen correction	Averaging period
Nitrogen Oxides	milligrams per cubic metre	2000	Dry, 273K, 101.3kPa	1 hour block minimum
Dioxins and Furans	nanograms per cubic metre	0.3	Dry, 273K, 101.3kPa, 15.7% O <sub>2</sub>	2 hour block minimum
Sulphur Dioxide	milligrams per cubic metre	1000	Dry, 273K, 101.3kPa	1 hour block minimum
Solid Particles	milligrams per cubic metre	20	Dry, 273K, 101.3kPa	1 hour block minimum
Sulfuric acid mist and sulfur trioxide (as SO <sub>3</sub> )	milligrams per cubic metre	100	Dry, 273K, 101.3kPa	1 hour block minimum

- Note: 1. The combined emissions of air impurities from point 151 must be determined in accordance with TM-38, calculated using data collected concurrently at sampling locations 3A and 3B.
2. The *Dioxins and Furans* sampling time must be the longer of either 2 hours or the time required to achieve a method detection limit of 0.02 ng/m<sup>3</sup>

## Requirement to monitor concentration of pollutants discharged

- E5.6 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

### POINT 151

Pollutant	Unit of measure	Frequency	Sampling method
Carbon Dioxide	Percent	Weekly	TM-24

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Dioxins and Furans	nanograms per cubic metre	Special Frequency 12	TM-18
Dry Gas Density	kilograms per cubic metre	Daily during testing	TM-23
Flow	cubic metres per second	Daily during testing	TM-2
Hydrogen Chloride	milligrams per cubic metre	Weekly	TM-8
Hydrogen Fluoride	milligrams per cubic metre	Weekly	TM-8
Moisture content	Percent	Daily during testing	TM-22
Molecular weight of stack gases	grams per gram mole	Daily during testing	TM-23
Nitrogen Oxides	milligrams per cubic metre	Weekly	TM-11
Oxygen (O <sub>2</sub> )	Percent	Daily during testing	TM-25
Solid Particles	milligrams per cubic metre	Weekly	TM-15
Sulfuric acid mist and sulphur trioxide (as SO <sub>3</sub> )	milligrams per cubic metre	Weekly	TM-3
Sulphur dioxide	milligrams per cubic metre	Weekly	TM-4
Temperature	degrees Celsius	Daily during testing	TM-2
Velocity	metres per second	Daily during testing	TM-2
Volumetric flowrate	cubic metres per second	Daily during testing	TM-2
Solid Particles	milligrams per cubic metre	Continuous	See Note 3
Type 1 substances	milligrams per cubic metre	Weekly	TM-12, TM-13 & TM-14
Type 2 substances	milligrams per cubic metre	Weekly	TM-12, TM-13 & TM-14

Note: 1. Special Frequency 12 means "Daily at the commencement of the bypass and one sample every 2 days following confirmation that the first 3 daily sample results are less than the licence limit."

2. Due to the increased Dioxin and Furan monitoring frequency, non-isokinetic testing of the following gases using the specified methods is approved for the June 2021 bypass:

- Hydrogen Chloride and Hydrogen Fluoride - USEPA Method 26 or equivalent.
- Sulfur Dioxide and Sulfuric Acid Mist and Sulfur Trioxide (as SO<sub>3</sub>) - USEPA Conditional Test Method 13 (USEPA Method 8A) or 13A or equivalent.

3. Continuous monitoring of Solid Particles is required under this licence as listed in the table above. The results of this monitoring are not required for compliance assessment purposes. The results of this monitoring are used by the licensee for operational control purposes.

4. *Type 1 substance* means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements.

5. *Type 2 substance* means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements.

6. Limits for Type 1 and Type 2 substances are specified in the Protection of the Environment Operations (Clean Air) Regulation 2021.

## E5.7 Operation

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1. The duration of the WGCP bypass must be minimised as far as practicable.
2. The licensee must notify the EPA in writing as soon as practicable if the duration of the bypass is likely to exceed:
  - a) 28 days for a proactive response or emergency shutdown; and
  - b) 10 weeks for any preventative maintenance.

## E5.8 Duty to Minimise or Prevent Air Pollution

During any bypass the licensee must carry on any activity or operate any plant by such practicable means as may be necessary to prevent or minimise air pollution. These practicable means may include, but not necessarily be limited to:

- a) Dealing with materials in a proper and efficient manner at all times.
- b) Maintaining and operating plant and equipment in a proper and efficient manner.
- c) Reductions in the nature and quantity of materials processed that could result in the discharge of substances likely to cause harm to the environment.
- d) Restrictions on the throughput (tonnes/per hour) of materials processed by the Sinter Plant.

## E5.9 Timely Public Access to Air Quality Data

The licensee must operate a web based service to ensure the community has access to timely, relevant and meaningful continuous emission monitoring data for the Sinter Machine Short Term Operational Arrangements. This must include but not be limited to continuous particle monitoring at the following locations:

- (a) In stack at point 151.
- (b) Ambient air quality.

This service must be developed in consultation with the EPA.

## E5.10 Requirement to record bypasses of the WGCP

The licensee must record the following details in relation to each bypass of the WGCP and provide the information to the EPA upon request:

- a) The reason for the bypass;
- b) The start time and date; and
- c) The finish time and date.

## E5.11 Review of Air Emissions Model

### Background

The current site emissions model was developed by ENVIRON over the period from 2008 to 2011. The model, methods and consultants were approved by the EPA and the work undertaken successfully as part of PRP 131. Having a standard approved model has allowed consistent assessment over time of changes in air emissions and impacts associated with operational changes and incidents. The current model allows any combination of plant to be modelled, including 6 Blast Furnace and other plant that has been shut down. New plant can simply be added.

Following the recent use of the model during the 2020 Sinter Plant Bypass, the EPA has highlighted the possible need for some updates, including current plant configuration, supporting data, and generation of model outputs consistent with contemporary guidelines and criteria.

### Aim

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To review the existing *BSL Air Emissions Site Wide Model*.

## Requirements

1 The licensee must undertake a review of the Air Emissions Site Wide Model and identify all updates required to be made to the model to ensure;

- a) all point and fugitive emission sources are reflective of the current operations
- b) the emissions inventory is reflective of contemporary emissions data
- c) any adopted emission factors are current and consistent with industry standard the background air quality data is based on contemporary ambient air monitoring data
- d) the simulated production scenarios are reflective of current and likely future operations
- e) the adopted meteorologic data is both spatially and temporally representative
- f) all nearby sensitive receivers have been considered

The report must incorporate a peer review by a suitably qualified and experienced professional that has been approved by the EPA.

Following submission of this report, the EPA will discuss the model update timing with the licensee

All assessment procedures and must be consistent with the EPA's Approved Method for the Modelling and Assessment of Air Pollutants in NSW (2017)

**Due Date:** 26 February 2021

Note: BlueScope plans to update the air emissions model as part of the No 6 Reline project. This update is currently expected to occur in late 2021.

## E5.12 Feasibility Assessment for Continuous Emissions Monitoring System (CEMS) (Sulfur Dioxide)

### Background

In spite of ongoing efforts by BSL, the Sulfur Rich Gas (SRG) plant experiences periodic outages which can lead to extended down times. SRG availability was around 80% in 2018 and 60% for 2019. While this has not presented an emissions limit compliance issue, it does increase emissions of sulfur oxides. The current licence quarterly stack testing provides limited information on emissions rates, particularly on any short term changes in SO<sub>2</sub> emissions when the SRG plant is on or off line. Other real time monitoring systems installed following the fire in 2014 have proven useful in tracking plant performance and adjusting operating parameters. Additionally if the WGCP regenerator is off line, real time sulfur dioxide (SO<sub>2</sub>) monitoring may provide additional, real time information on the condition of the WGCP char.

An SO<sub>2</sub> CEMS system was investigated and trialled at the sinter plant some time ago. EPA believes there is value in reassessing the feasibility of implementing continuous emissions SO<sub>2</sub> monitoring to account for these changes in emissions in real time, and thus will require a feasibility assessment.

As part of this assessment process, in late 2021 the licensee proposed to also undertake a continuous

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monitoring program to assess the effect on SO<sub>2</sub> emissions to changing plant conditions. This proposed assessment program component has been added as Part 3 of this condition.

## Aim

To undertake a feasibility assessment for implementing a continuous method for measuring sulfur dioxide (SO<sub>2</sub>) emissions from the Sinter Plant Waste Gas Cleaning Plant Stack.

## Requirements

The licensee must prepare and submit a feasibility study report which assesses the feasibility of installing and operating a monitoring system capable of measuring sulfur dioxide (SO<sub>2</sub>) emissions on the outlet of the Sinter Plant Waste Gas Cleaning Plant Stack on a continuous basis.

The proposed system must be capable of being correlated against a reference method in accordance with US EPA Performance Specification 2. As a minimum, the report must:

- a) be prepared in consultation with a suitably qualified and experienced air monitoring practitioner who has demonstrated experience in the installation and operation of SO<sub>2</sub> monitoring systems at large industrial plant;
- b) include a statement about the general feasibility of installing a SO<sub>2</sub> CEMS;
- c) evaluate potential monitoring options based on site specific factors including, but not limited to:
  - i. process and stack conditions,
  - ii. sulfur dioxide concentration range, and
  - iii. reliability and life cycle cost.
- d) evaluate potential installation locations capable of achieving a representative measurement.

Part 1. By 30 October 2021 the licensee must submit to the EPA a proposed methodology for undertaking the feasibility assessment of continuous SO<sub>2</sub> monitoring at EPL Point 107 as required under 1 above. The proposed methodology must generate a prioritised feasibility ranking of the measurement options.

**Due Date: 30 October 2021 (Complete DOC21/951274)**

E5.13 Part 2. The licensee must submit the results of a continuous monitoring program which:

1. Includes 6 months of monitoring. Gaps for gases van usage elsewhere on site are acceptable but must be clearly explained in the final report;
2. Lists monitoring parameters. Parameters must include temperature and oxygen monitored concurrently with SO<sub>2</sub>;
3. Accounts for a range of process and stack conditions including variations in Sinter Plant and WGCP operation e.g. SRG outages, line stops, restarts, regenerator outages;
4. Result in the inclusion of the monitoring results in the final report. The continuous monitoring program results must include or be supported by a:
  - a) comparison of SO<sub>2</sub> levels (and other parameters) accounting for 1 and 3 above and a discussion on changes in processes and subsequent emissions
  - b) presentation of an SO<sub>2</sub> emissions range (for normal and other operations)
  - c) narrative on any operational changes to minimise SO<sub>2</sub> emissions
  - d) discussion on operational control based on SO<sub>2</sub> monitoring data.
  - e) description of the procedure to estimate stack moisture in the absence of CEMS monitor
  - f) discussion on the variability of iso-kinetic moisture results including consideration of the historic data set.

**Due Date: 16 December 2022**



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E5.14 Part 3. The licensee must undertake the feasibility assessment per the approved methodology and submit a report of the assessment findings to the EPA by the due date below.

Where it is considered not feasible to install a SO<sub>2</sub> CEMS, the Report must:

- a) provide a detailed explanation and robust justification of why installation and operation of an SO<sub>2</sub> CEMS is not feasible; and
- b) detail proposed alternative monitoring and reporting options that ensure ongoing representativeness of SO<sub>2</sub> emission monitoring and reporting at the premises. Alternative options must have suitable temporal resolution to ensure all significant emission variability is accounted for.

Note: Following submission of the report EPA will meet with the licensee to discuss the findings and possible installation of a monitor or monitoring system.

**Due Date: on hold pending consideration of Part 2 (above) results**

## E6 Spent Pickle Liquor Plant Conditions

E6.1 By one month prior to the commencement of operation of the Spent Pickle Liquor (SPL) plant, the Proponent must submit a draft Water Quality Verification Program (Program) to the EPA.

a. The Program must be designed to:

- i. confirm that the pollutants, pollutant concentrations, and pollutant loads in the SPL discharge match those presented to the EPA as part of the Development Assessment process (the predicted discharge);
- ii. assess acute and chronic (sub-lethal) toxicity testing of the discharges from Point 89.

The program must be approved by the EPA prior to implementation.

Note: EPA anticipates the:

Acute toxicity testing would include:

- Fish testing – for example, 96 hour. Species and test duration to be confirmed.
- Crustacean testing – for example, prawn. Species and test duration to be confirmed.

Chronic toxicity testing would include:

- Algal testing – for example, micro or macro algae. 72 hour growth inhibition test with species to be confirmed.
- Bivalve or sea urchin larval development test. Species and test duration to be confirmed.

b. At the conclusion of the monitoring, if the program identifies:

- i. pollutant/s discharges in excess of the predicted discharge quality (concentration or load) then BSL must install plant or implement measures to achieve the predicted discharge quality or
- ii. the wastewater is acutely toxic then BSL must install plant or implement measures to remove the toxicity or
- iii. that the discharge is chronically toxic then BSL must assess what additional practicable measures could



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be implemented, clearly indicate who could implement these measures, when these measures could be implemented, and how the effectiveness of these measures could be confirmed and reported to the EPA.

Note 1: The above Verification Program may be varied in writing by the EPA.

## E7 Sinter Plant Waste Reuse Trials (ACU)

### E7.1 Background

The licensee proposes to undertake trials in relation to the reuse of Sinter Plant Waste Gas Cleaning Plant activated char undersized (ACU) back to the Sinter Plant. The objective of the trials is to collect accurate and reliable information on the reuse of the ACU and demonstrate that the environment and human health are protected at all times.

### Requirements

Unless otherwise agreed in writing by the EPA, the licensee must comply with the following conditions.

- E7.2 The licensee must submit an ACU trial proposal and obtain approval in writing from the EPA prior to commencing the trial.
- E7.3 The licensee must undertake the trial as outlined in the Proposal unless otherwise agreed in writing by the EPA.
- E7.4 The licensee must comply with all conditions of this licence during any ACU trial. This includes, but is not limited to, *Limit Conditions, Maintenance of Plant and Equipment, and Notification of Environmental Harm*.
- E7.5 During any trial the licensee must retain and test / classify the following materials prior to discharge, release, or appropriate management or disposal: all Sulphur Rich Gas Plant reject waste water, filter cake generated at the Springhill waste water treatment plant, ACU generated during the trial, and Sinter Plant electrostatic precipitator dust.
- E7.6 Following the completion of the ACU trial the licensee must submit a written report to the EPA. The report must include but may not be limited to:
  - a) confirmation that monitoring results are below licence limits and Health Risk Assessment criteria;
  - b) A comparison / validation of the proposal predictions against the trial monitoring results or findings for the char composition, waste or output stream composition, mass balance / partitioning modelling assessment, and air emissions modelling;
  - c) A mass balance generated from the trial over a defined time period;
  - d) An assessment on the fate of dioxins, radionuclides and metals emissions and discharges. This should include outlining any change in emissions and discharges from typical operations;
  - e) An assessment on the possible “cycling up” of pollutants in emissions and discharges to the environment and in the other output streams generated through trial;
  - f) An assessment of the quantities of: ACU used in the trial, the second generation ACU produced, and the other output streams generated;
  - g) An assessment of the potential changes to waste classifications (i.e. Electrostatic precipitator dust and ACU generated during the trial),
  - h) A discussion on any changes to sinter quality, and
  - i) A summary of the cost/benefit analysis for ACU reuse.

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- E7.7 During any ACU trial the licensee must carry on any activity or operate any plant by such practicable means as may be necessary to prevent or minimise air pollution. These practicable means may include, but not necessarily be limited to:
- a) Dealing with materials in a proper and efficient manner at all times.
  - b) Maintaining and operating plant and equipment in a proper and efficient manner.
  - c) Reduction in the nature and quantity of materials processed that could result in the discharge of substances likely to cause harm to the environment.
  - d) Restrictions on the throughput (tonnes per hours) of materials processed by the Sinter Plant.
  - e) Limiting the number of variables which effect the emission characterisation and the composition of the process outputs. Where variables cannot be limited they should be quantified.

## E8 Sinter Plant Waste Reuse Trials (EP Dust)

### E8.1 Background

Prior to 2003 dust collected in the Sinter Plant Electrostatic Precipitators (EP dust) was returned to the sinter plant strand. In 2003 blockages of Waste Gas Cleaning Plant (WGCP) adsorbers was attributed to a type of iron ore (Whyalla Blended Fines) used in the sinter blend as well as ageing EPs. EP dust was diverted from the strand, disposed of off site as a waste until 2011, and then stockpiled in the Alliance and Recycling area. The current stockpile is around 34,000 tonnes. This stockpile represents a dust source in this part of the premises. In 2011 Whyalla Blended Fines iron ore was replaced with other ores and also the EPs have been upgraded.

EP dust is around 50% iron and the licensee has submitted a proposal to undertake trials to recommence reusing the material on the sinter strand (EPA reference DOC21/1139354). That is, a return to pre 2003 practices. The objective of the trials is to collect accurate and reliable information on this process and demonstrate that the environment and human health are protected at all times.

Stage 1 of the trial will be to return new arisings of EP dust to the sinter strand. That is around 10 tonnes per day of new arisings will be added to the 13,000 tonnes of raw materials.

Stage 2 of the trial will be adding 20 tonnes of stockpiled EP dust, plus 10 tonnes of new arisings to the sinter strand.

### Requirements

Unless otherwise agreed in writing by the EPA, the licensee must comply with the following conditions.

The licensee must undertake the trial as outlined in the Proposal (DOC21/1139354) unless otherwise specified in these condition.

The licensee must comply with all licence conditions during any EP dust trial.

### E8.2 Monitoring must be undertaken per the table below:

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Sampling	Pollutant	Frequency
Stack (pt 107)	Type I and II substances	1 per bed
Stack (pt 107)	Solid Particles	1 per bed
Stack (pt 107)	Fine particles	1 per bed
Stack (pt 107)	Dioxins & Furans	Stage 1 - 1 test, Stage 2 - monthly (3 tests)
Stack (pt 107)	Nitrogen oxides	Stage 1 - 1 test, Stage 2 - monthly (3)
Stack (pt 107)	Sulphur Dioxide	Stage 1 - 1 test, Stage 2 - monthly (3)
Stack (pt 107)	Sulphur Trioxide	Stage 1 - 1 test, Stage 2 - monthly (3)
ACU arisings	Type I and II substances	Monthly composite
ACU arisings	Dioxins & Furans	Monthly composite
ACU arisings	Chlorides	Monthly composite
EP Dust arisings	Type I and II substances	Bedly composite
EP Dust arisings	Dioxins & Furans	Bedly composite
EP Dust arisings	Chlorides	Bedly composite

## E8.3 Stage 1 Report

By 2 months following the completion of the Stage 1 trial, the licensee must submit a preliminary report incorporating the results of the sampling undertaken to date. All test data must be submitted in an Excel spreadsheet attachment to the report.

## Stage 2 Report

Following the completion of the stage 2 trial, the licensee must submit a trial report to the EPA. The report must include but may not be limited to:

- confirmation that monitoring results are below licence limits;
- a description of any changes in emissions and discharges from typical operations
- a comparison of the trial monitoring results against previous trials.
- details of changes to EP dust, ACU, and waste gas composition. If significant changes are identified in the waste gas stream, air emissions modelling of the changes to air emissions characteristics may be requested;
- A discussion on the possible “cycling up” of pollutants in emissions and discharges to the environment and in the other output streams generated through trial;
- A general discussion on any changes to sinter quality. (EPA understands the sensitivities of presenting BSL product information), and
- A summary of the cost/benefit analysis for EP dust reuse.

During any trial the licensee must carry on any activity or operate any plant by such practicable means as may be necessary to prevent or minimise air pollution.

Note: As an outcome of these trials the EPA may propose additional licence conditions in discussion with the licensee.

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## E9 Greenhouse Gas Emission Reduction Investigation - Coke Ovens Plastics Substitution

### E9.1 Background

Coal (carbon source) is “coked” in the coke ovens. Coke is a key ingredient in the iron making process. During the coking cycle, gas driven off the coal (Coke Ovens Gas - COG) is collected in a gas handling system. These gases are cleaned, some components separated, and the remaining gas distributed throughout the works and used as a fuel. Fugitive emissions periodically occur from some parts of the oven and are monitored by the licensee per the requirements of licence condition O4.5.

The licensee completed "Plastics in Cokemaking Trial 1" in 2020 (DOC19/646575-24). Trial 1 involved the addition of up to 1% by mass of plastic to one charge hole of a single oven. Trial results identified no observable changes to the coking process, coke quality, or fugitive emissions. Pressure measurements were within normal ranges. While one issue was identified in transferring plastic in to the oven, the quantity of plastic addition was not large enough to properly evaluate the effects to the entire oven or give many substantial quantitative results.

The proposed Plastic in Cokemaking Trial 2 (DOC22/1003526-1) involves larger quantities of polyethylene and polypropylene plastic and is designed to give more representative results. The Trial 2 proposal includes:

- using externally sourced polyethylene and polypropylene,
- a fugitive emissions survey (per condition O4.5 *Coke Ovens Emissions Survey Procedure Number SP-CB-2BATINS-105*) of all sources from the trial oven at a 1-hour frequency,
- continuously monitoring the gas pressure during the coking cycle at the oven door and standpipe throughout the entire coking cycle,
- monitoring refractory condition at the end of the coking cycle,
- gas sampling from the standpipe for a range of compounds approved by the EPA (DOC19/646575-38),
- an analysis of coke quality produced from the trial oven as a result of stage 4 of this trial,
- adding plastic to 3 charge holes instead of 1 charge hole,
- up to a maximum of 1% plastic addition to the coal blend charged to the oven.

The licensee also believes greenhouse gas emissions reductions may be realised from substituting coal with plastic. The trial will evaluate these potential benefits and provide a clear explanation of any Greenhouse benefits from these trials in the final report.

### E9.2 Requirements

EPA approves the Plastic in Cokemaking Trial 2 per the submitted proposal (DOC22/1003526-1) .

During the Trial the licensee must:

- Undertake community consultation in advance of the commencement date.
- Adhere to the Trial 2 proposal (DOC22/1003526-1).
- Use polypropylene (PP), low-density polyethylene (LDPE) and high-density polyethylene (HDPE) plastic blend.
- Undertake gas sampling as approved by the EPA (DOC19/646575-38).

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- Conduct a fugitive emissions survey (per licence condition O4.5 Coke Ovens Emissions Survey Procedure Number SP-CB-2BATINS-105) of all sources from the trial oven at a 1 hour frequency
- Comply with licence conditions at all times
- Complete a post-trial report to the EPA within 6 months of the trial completion incorporating the above information as well as a discussion on sampling and assessment of coke produced prior to, during and following a trial with larger quantities of plastic addition.

## E9.3 Duty to Minimise or Prevent Air Pollution

During any plastic substitution trial the licensee must carry on any activity or operate any plant by such practicable means as may be necessary to prevent or minimise air pollution. These practicable means may include, but not necessarily be limited to:

- a) Dealing with materials in a proper and efficient manner at all times.
- b) Maintaining and operating plant and equipment in a proper and efficient manner.
- c) Reductions in the nature and quantity of materials processed that could result in the discharge of substances likely to cause harm to the environment.

## E10 Stockpile Conditions

### E10.1 Granulate Stockpile Management

#### Background:

Granulate stockpile (7715) is presently an inactive stockpile which acts as a berm or wind break in westerly winds. Currently this stockpile is periodically treated with a binding agent (Gluon), however the stockpile generates dust in strong winds.

Based on the PRP 166 calculation methodology, the stockpile was ranked the third largest dust source at A&R, generating controlled emissions of 818 kg of TSP per year.

The licensee has advised that due to limited slag availability, stockpile 7715 is forecast to be consumed by the end of 2020.

#### Requirements:

Unless otherwise agreed in writing by the EPA:

1. By 31 July 2020 the licensee must:

- a) advise the EPA on the consumption rate and forecast of stockpile number 7715;

Complete: 30/7/2020 (DOC20/615620), and

- b) if the stockpile is forecast to have not been consumed by 30 June 2020, submit plans to the EPA which detail the capping and vegetating of the stockpile.

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## Amendment

On 30 July 2020 the licensee submitted information on capping and revegetating the stockpile. EPA requires further detail in a revised plan as listed below.

## 2. Revised Capping and Revegetation Plan

By 30 October 2020 the licensee must submit a Revised Capping and Revegetation Plan (Plan) for review and approval by the EPA.

## 3. Outcomes

The completed Capping and Revegetation program must achieve the following outcomes within the agreed area:

- i. established vegetation on a stable surface, and;
- ii. a functioning berm and wind break.

Note: The agreed area is marked on the map on EPA file DOC20/615620-2

## 4. Plan Components

The plan must:

- i. be prepared by a suitably qualified professional. Accreditation and qualifications must be listed;
- ii. include details of temporary and ongoing land use across the stockpile area;
- iii. identify potential future modifications to the stockpile area;
- iv. include details on the necessary geotechnical / surface stabilisation and landform establishment required prior to planting vegetation;
- v. include details on vegetation planning and establishment:
  - selection of appropriate vegetation type / species,
  - soil / substrate preparation,
  - establishment activities, and
  - ongoing maintenance of the vegetation.

Complete (DOC20/989272, 2/12/2020)

5. By the Due Date stockpile number 7715 must have been capped and vegetated per the approved plan.

**Due Date: 30 September 2021 (Complete DOC21/893422)**

## 6. Maintenance, Monitoring and Reporting Contract

By 15 November 2021 the licensee must provide evidence of a contract with a suitably qualified landscape professional to implement the Maintenance, Monitoring and Reporting components of the approved plan.

**Due Date:** 15 November 2021

## 7. Maintenance, Monitoring and Reporting Implementation

The licensee must implement the *Maintenance Program* (Section 4) and *Monitoring and Reporting Program* (Section 5) as listed in the approved Plan for a 3 year period.

The 6 monthly reports referenced in the Plan must be submitted to the EPA upon their completion.

The 6th update report must be a final report.

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Note: The first report is due on 30 April 2022.

**Due Date:** 31 October 2024 (final report)

## E11 Waste Management Trials

### E11.1 Dry Coke Ovens Gas Mains Solids Recycling Trial

#### Background

Coke ovens gas (COG) is driven off the coal during coking. The gas is collected, cleaned, and circulated throughout the steelworks via a gas distribution system for use as a fuel.

There are 3 types of COG Condensate/Solids generated from the circulating gas:

1. Condensate is produced from the cooling gas and collected in seal pots;
2. Gas Mains washout is generated from cleanouts of operational COG mains and contains entrained COG solids;
3. Dry COG solids comes from the build up and accumulation of material inside of decommissioned mains.

Currently, both condensate and gas main washout material (liquid) are processed through the Gas Processing Plant.

Historically, dry COG solids has been disposed of off-site as a hazardous waste. The licensee has proposed a trial of processing slurried dry COG solids through a modified gas processing circuit (EPA file reference SF20/42905). The proposed trial is of limited scale using 600 kg of stored COG solids.

The licensee considers that:

1. the carbon content of the COG solids offers a raw material substitution benefit in place of coal in the coke ovens;
2. the material has a fuel value so offers some alternate fuel benefits; and
3. recycling the material will save on waste disposal costs

#### Aim

To assess any environmental impacts and benefits from the recycling of gas mains COG solids through the gas processing recycling circuit.

### E11.2 Requirements

1. The licensee must undertake the trial as listed in the BSL document, *Proposed COG Solids Recycling Trial – Gas Processing February 2021* held on EPA file SF20/42905.
2. The licensee must notify the EPA and the BSL Community Consultative Committee in advance of the trial date.
3. At the completion of the trial the licensee must submit a report on the trial results to the EPA. The report must incorporate, but may not be limited to, the following broad considerations on the justification and benefits of the proposed COG solids handling:



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- I. A site-wide description of the size and quantities of the COG (washouts / condensate / solids) generation at the premises.
- II. The mass of COG Solids which would be processed via the Gas Processing on an annual basis. For context, this should be compared with the typical total mass of material processed through the plant (inputs and outputs).
- III. The benefits of recycling the material e.g. raw material substitution, alternate fuel use, cost savings, environmental.
- IV. The overall risk associated with the proposal. Is there expected to be a material change in emissions to air or water. Can a risk assessment and / or a mass balance, be undertaken.
- V. The output streams the COG solids residuals will report to. e.g. tar dispatch, coal beds, flushing liquor to 7A battery
- VI. The approximate concentration of COG Solids, relative to coal (per tonne basis).
- VII. For any COG solids in the coal bed material, what is there expected fate through the coke ovens process. That is will they be retained in the coke material or re-volatilised and re-cycled through the gas processing circuit.
- VIII. The waste disposal quantities and costs avoided.



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## Dictionary

### General Dictionary

<b>3DGM [in relation to a concentration limit]</b>	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
<b>Act</b>	Means the Protection of the Environment Operations Act 1997
<b>activity</b>	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
<b>actual load</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>AM</b>	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>AMG</b>	Australian Map Grid
<b>anniversary date</b>	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
<b>annual return</b>	Is defined in R1.1
<b>Approved Methods Publication</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>assessable pollutants</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>BOD</b>	Means biochemical oxygen demand
<b>CEM</b>	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>COD</b>	Means chemical oxygen demand
<b>composite sample</b>	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
<b>cond.</b>	Means conductivity
<b>environment</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>environment protection legislation</b>	Has the same meaning as in the Protection of the Environment Administration Act 1991
<b>EPA</b>	Means Environment Protection Authority of New South Wales.
<b>fee-based activity classification</b>	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
<b>general solid waste (non-putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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<b>flow weighted composite sample</b>	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
<b>general solid waste (putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>grab sample</b>	Means a single sample taken at a point at a single time
<b>hazardous waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>licensee</b>	Means the licence holder described at the front of this licence
<b>load calculation protocol</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>local authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>material harm</b>	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
<b>MBAS</b>	Means methylene blue active substances
<b>Minister</b>	Means the Minister administering the Protection of the Environment Operations Act 1997
<b>mobile plant</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>motor vehicle</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>O&amp;G</b>	Means oil and grease
<b>percentile [in relation to a concentration limit of a sample]</b>	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
<b>plant</b>	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
<b>pollution of waters [or water pollution]</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>premises</b>	Means the premises described in condition A2.1
<b>public authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>regional office</b>	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
<b>reporting period</b>	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
<b>restricted solid waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>scheduled activity</b>	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
<b>special waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>TM</b>	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .



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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste
Wellhead	Has the same meaning as in Schedule 1 to the Protection of the Environment Operations (General) Regulation 2021.

Ms Debbie Maddison

Environment Protection Authority

(By Delegation)

Date of this edition: 04-August-2000

# Environment Protection Licence

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## End Notes

- 1 Licence varied by notice 1001218, issued on 18-Aug-2000, which came into effect on 08-Sep-2000.
- 2 Licence varied by notice 1002985, issued on 31-Jan-2001, which came into effect on 22-Feb-2001.
- 3 Licence varied by notice 1004533, issued on 23-Feb-2001, which came into effect on 23-Feb-2001.
- 4 Licence varied by notice 1004573, issued on 12-Apr-2001, which came into effect on 07-May-2001.
- 5 Licence varied by notice 1009240, issued on 27-Jun-2001, which came into effect on 22-Jul-2001.
- 6 Licence varied by notice 1010880, issued on 31-Aug-2001, which came into effect on 31-Aug-2001.
- 7 Licence varied by notice 1011167, issued on 10-Sep-2001, which came into effect on 19-Sep-2001.
- 8 Licence varied by notice 1011573, issued on 19-Oct-2001, which came into effect on 24-Oct-2001.
- 9 Licence varied by notice 1014538, issued on 30-Jan-2002, which came into effect on 24-Feb-2002.
- 10 Licence varied by notice 1018925, issued on 03-Sep-2002, which came into effect on 19-Sep-2002.
- 11 Licence varied by notice 1023370, issued on 12-Feb-2003, which came into effect on 12-Feb-2003.
- 12 Licence varied by notice 1024963, issued on 24-Feb-2003, which came into effect on 26-Feb-2003.
- 13 Licence varied by notice 1027082, issued on 08-May-2003, which came into effect on 12-May-2003.
- 14 Licence varied by notice 1028119, issued on 02-Jul-2003, which came into effect on 02-Jul-2003.
- 15 Licence varied by notice 1030269, issued on 22-Sep-2003, which came into effect on 17-Oct-2003.
- 16 Licence varied by notice 1032539, issued on 12-Dec-2003, which came into effect on 18-Dec-2003.
- 17 Licence varied by notice 1035695, issued on 30-Mar-2004, which came into effect on 05-Apr-2004.
- 18 Licence varied by notice 1036177, issued on 03-Jun-2004, which came into effect on 10-Jun-2004.

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- |    |  |
|----|--|
| 19 | Licence varied by notice 1040598, issued on 14-Oct-2004, which came into effect on 08-Nov-2004.                  |
| 20 | Licence varied by notice 1042203, issued on 17-Jan-2005, which came into effect on 20-Jan-2005.                  |
| 21 | Licence varied by notice 1043923, issued on 24-Mar-2005, which came into effect on 01-Apr-2005.                  |
| 22 | Licence varied by notice 1046181, issued on 11-Aug-2005, which came into effect on 18-Aug-2005.                  |
| 23 | Licence varied by notice 1051147, issued on 06-Feb-2006, which came into effect on 03-Mar-2006.                  |
| 24 | Licence varied by notice 1057546, issued on 30-Jun-2006, which came into effect on 30-Jun-2006.                  |
| 25 | Licence varied by notice 1064132, issued on 27-Jun-2007, which came into effect on 27-Jun-2007.                  |
| 26 | Licence varied by notice 1075844, issued on 04-Dec-2007, which came into effect on 04-Dec-2007.                  |
| 27 | Licence varied by notice 1080877, issued on 06-Dec-2007, which came into effect on 06-Dec-2007.                  |
| 28 | Licence varied by notice 1081089, issued on 20-Dec-2007, which came into effect on 20-Dec-2007.                  |
| 29 | Licence varied by notice 1082401, issued on 05-Feb-2008, which came into effect on 05-Feb-2008.                  |
| 30 | Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date> |
| 31 | Licence varied by notice 1084625, issued on 20-Feb-2009, which came into effect on 20-Feb-2009.                  |
| 32 | Licence varied by notice 1104047, issued on 12-Aug-2009, which came into effect on 12-Aug-2009.                  |
| 33 | Licence varied by notice 1104986, issued on 28-Aug-2009, which came into effect on 28-Aug-2009.                  |
| 34 | Licence varied by notice 1106465, issued on 15-Sep-2009, which came into effect on 15-Sep-2009.                  |
| 35 | Licence varied by notice 1106796, issued on 29-Sep-2009, which came into effect on 29-Sep-2009.                  |
| 36 | Licence varied by notice 1108359, issued on 23-Nov-2009, which came into effect on 23-Nov-2009.                  |
| 37 | Licence varied by notice 1109845, issued on 17-Dec-2009, which came into effect on 17-Dec-2009.                  |

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38	Licence varied by notice 1110309, issued on 19-Mar-2010, which came into effect on 19-Mar-2010.
39	Licence varied by notice 1112569, issued on 26-Mar-2010, which came into effect on 26-Mar-2010.
40	Licence varied by notice 1113045, issued on 22-Jun-2010, which came into effect on 22-Jun-2010.
41	Licence fee period changed by notice 1116120 approved on .
42	Licence varied by notice 1118039, issued on 24-Aug-2010, which came into effect on 24-Aug-2010.
43	Licence varied by notice 1119656, issued on 08-Nov-2010, which came into effect on 08-Nov-2010.
44	Licence varied by notice 1121339, issued on 03-Dec-2010, which came into effect on 03-Dec-2010.
45	Licence varied by notice 1124776, issued on 18-Mar-2011, which came into effect on 18-Mar-2011.
46	Licence varied by notice 1126501, issued on 31-Mar-2011, which came into effect on 31-Mar-2011.
47	Licence varied by notice 1127428, issued on 28-Jun-2011, which came into effect on 28-Jun-2011.
48	Licence varied by notice 1130393, issued on 12-Jul-2011, which came into effect on 12-Jul-2011.
49	Licence varied by notice 1501202 issued on 22-Sep-2011
50	Licence varied by notice 1502091 issued on 19-Oct-2011
51	Licence varied by notice 1503242 issued on 23-Dec-2011
52	Licence varied by notice 1503781 issued on 25-Jan-2012
53	Licence varied by notice 1504484 issued on 24-Feb-2012
54	Licence varied by notice 1504602 issued on 24-Feb-2012
55	Licence varied by notice 1504620 issued on 02-Mar-2012
56	Licence varied by notice 1504806 issued on 13-Mar-2012
57	Licence varied by notice 1504992 issued on 03-Apr-2012
58	Licence varied by notice 1505662 issued on 16-May-2012
59	Licence varied by notice 1506247 issued on 31-May-2012
60	Licence varied by notice 1506570 issued on 28-Jun-2012
61	Licence varied by notice 1507238 issued on 16-Aug-2012



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62	Licence varied by notice	1508380 issued on 27-Sep-2012
63	Licence varied by notice	1509332 issued on 02-Nov-2012
64	Licence varied by notice	1510677 issued on 20-Feb-2013
65	Licence varied by notice	1512478 issued on 18-Jun-2013
66	Licence varied by notice	1515889 issued on 17-Sep-2013
67	Licence varied by notice	1518208 issued on 19-Nov-2013
68	Licence varied by notice	1519339 issued on 15-Jan-2014
69	Licence varied by notice	1519826 issued on 31-Jan-2014
70	Licence varied by notice	1520829 issued on 27-Mar-2014
71	Licence varied by notice	1521480 issued on 30-Jun-2014
72	Licence varied by notice	1523501 issued on 08-Aug-2014
73	Licence varied by notice	1524150 issued on 11-Aug-2014
74	Licence varied by notice	1525198 issued on 16-Oct-2014
75	Licence varied by notice	1525765 issued on 22-Oct-2014
76	Licence varied by notice	1525974 issued on 31-Oct-2014
77	Licence varied by notice	1527272 issued on 15-Dec-2014
78	Licence varied by notice	1527798 issued on 15-Jan-2015
79	Licence varied by notice	1527901 issued on 16-Mar-2015
80	Licence varied by notice	1529609 issued on 06-May-2015
81	Licence varied by notice	1530821 issued on 22-May-2015
82	Licence varied by notice	1531444 issued on 30-Jun-2015
83	Licence varied by notice	1532319 issued on 18-Sep-2015
84	Licence varied by notice	1535425 issued on 13-Nov-2015
85	Licence format updated on 20-Nov-2015	
86	Licence varied by notice	1536840 issued on 01-Feb-2016
87	Licence varied by notice	1538753 issued on 18-Mar-2016
88	Licence varied by notice	1541145 issued on 06-Jun-2016
89	Licence varied by notice	1541649 issued on 17-Jun-2016
90	Licence varied by notice	1543946 issued on 25-Aug-2016
91	Licence varied by notice	1545794 issued on 24-Nov-2016



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92	Licence varied by notice	1547444 issued on 12-Jan-2017
93	Licence varied by notice	1549779 issued on 28-Feb-2017
94	Licence varied by notice	1550419 issued on 23-Mar-2017
95	Licence varied by notice	1551875 issued on 09-May-2017
96	Licence varied by notice	1554553 issued on 01-Aug-2017
97	Licence varied by notice	1557497 issued on 09-Nov-2017
98	Licence varied by notice	1558668 issued on 16-Nov-2017
99	Licence varied by notice	1559323 issued on 11-Dec-2017
100	Licence varied by notice	1562263 issued on 01-Mar-2018
101	Licence varied by notice	1563755 issued on 16-Apr-2018
102	Licence varied by notice	1564617 issued on 10-May-2018
103	Licence varied by notice	1569709 issued on 04-Dec-2018
104	Licence varied by notice	1578553 issued on 03-May-2019
105	Licence varied by notice	1585528 issued on 26-Nov-2019
106	Licence varied by notice	1589226 issued on 10-Dec-2019
107	Licence varied by notice	1591782 issued on 21-Feb-2020
108	Licence varied by notice	1592507 issued on 05-Mar-2020
109	Licence varied by notice	1593337 issued on 30-Mar-2020
110	Licence varied by notice	1593913 issued on 21-Apr-2020
111	Licence varied by notice	1595324 issued on 03-Sep-2020
112	Licence varied by notice	1600035 issued on 16-Sep-2020
113	Licence varied by notice	1600475 issued on 18-Sep-2020
114	Licence varied by notice	1601211 issued on 06-Oct-2020
115	Licence varied by notice	1601385 issued on 16-Oct-2020
116	Licence varied by notice	1604362 issued on 05-Feb-2021
117	Licence varied by notice	1606469 issued on 25-Feb-2021
118	Licence varied by notice	1608104 issued on 27-Apr-2021
119	Licence varied by notice	1609126 issued on 03-Jun-2021
120	Licence varied by notice	1609925 issued on 30-Jun-2021
121	Licence varied by notice	1610578 issued on 14-Jul-2021





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122	Licence varied by notice	1610998 issued on 15-Aug-2021
123	Licence varied by notice	1612949 issued on 29-Sep-2021
124	Licence varied by notice	1613120 issued on 25-Oct-2021
125	Licence varied by notice	1614191 issued on 11-Nov-2021
126	Licence varied by notice	1617483 issued on 28-Mar-2022
127	Licence varied by notice	1619052 issued on 24-May-2022