

Monthly Data Summary

LIDDELL MONTHLY DATA SUMMARY MARCH 2017

LICENCE NO	2122
LICENCE HOLDER	AGL MACQUARIE
REPORTING PERIOD	MARCH 2017

A1 Licence Holder

Licence Number 2122
Licence Holder AGL MACQUARIE
Trading Name (if applicable)
ABN 18 167 859 494

A2 Premises to which Licence Applies (if applicable)

Common Name (if any) LIDDELL POWER STATION
Premises NEW ENGLAND HIGHWAY MUSWELLBROOK NSW 2333

A3 Activities to which Licence Applies

Electricity Generating Works
Coal Works

A4 Other Activities (if applicable)

Helicopter-related facilities
Chemical storage
Operation of Emergency 1.5 MW diesel generator
Operation of Gas turbine
Sewage treatment
Waste storage

A5 Fee-Based Activity Classifications

Note that the fee based activity classification is used to calculate the administrative fee.

Fee-based activity	Activity scale	Unit of measure
Coal works	> 5,000,000.00	T handled
Generation of electrical power from coal	> 4,000.00	Gwh generated

Monthly Data Summary

Discharge & Monitoring Point 7

301204 East 6416350 North

Discharge to Air

In the flue gases of unit 1 boiler labelled as "Unit 1 Boiler 1-2 Chimney Stack" on plan no. LD 800474 amended 03 and dated 6/5/2003

Month	Date of Publication	Pollutant	Unit of measure	Sampling / measurement frequency	Averaging period	Data capture %	Lowest sample value	Mean of samples	Highest sample value	EPL Limit
MARCH 2017	25/08/2015	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	386.8	573.3	816.6	1500 mg/m ³
MARCH 2017	25/08/2015		parts per million				188.5	279.3	397.8	700 ppm
MARCH 2017	25/08/2015	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	647.5	1045.6	2153.8	
MARCH 2017	25/08/2015		parts per million				226.6	365.9	753.6	600 ppm
MARCH 2017	25/08/2015	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	3.8	7.7	16.8	20%
Comments:										

Annual monitoring of discharges to air

Air emission monitoring, Boiler 1 stack emissions, shown on plan no LD800474 amended 03 and dated 6/5/2003

Month	Date of Publication	Pollutant	Unit of measure	No. of samples required by licence	Samples collected and analysed	Sample value	EPL Limit mg/m ³
Oct-16	15/11/2016	Cadmium	milligrams per cubic metre	1	1	<0.0001	1.0
Oct-16	15/11/2016	Chlorine	milligrams per cubic metre	1	1	<0.006	200
Oct-16	15/11/2016	Copper	milligrams per cubic metre	1	1	0.0180	
Oct-16	15/11/2016	Hazardous substances (Metals)	milligrams per cubic metre	1	1	≤0.021	5
Oct-16	15/11/2016	Hydrogen chloride	milligrams per cubic metre	1	1	17.0	100
Oct-16	15/11/2016	Mercury	milligrams per cubic metre	1	1	0.00017	1.0
Oct-16	15/11/2016	Nitrogen oxides	milligrams per cubic metre	1	1	1	1500
Oct-16	15/11/2016	Solid particles	milligrams per cubic metre	1	1	36.0	100
Oct-16	15/11/2016	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	0.770	100
Oct-16	15/11/2016	Sulphur dioxide	milligrams per cubic metre	1	1	770	
Oct-16	15/11/2016	Total fluoride	milligrams per cubic metre	1	1	11.0	50
Oct-16	15/11/2016	Volatile organic compounds	milligrams per cubic metre	1	1	<0.02	
Comments: Monitoring of emission from each of the 4 boilers for the substances in this table is required annually. This table contains the latest results from Boiler 1 tested 11 Oct 16.							

Monthly Data Summary

Discharge & Monitoring Point 8

301204 East 6416350 North

In the flue gases of unit 2 boiler labelled as "Unit 2 Boiler 1-2 Chimney Stack" on plan no LD800474 amended 03 and dated 6/5/2003

Month	Date of Publication	Pollutant	Unit of measure	Sampling / measurement frequency	Averaging period	Data capture %	Lowest sample value	Mean of samples	Highest sample value	EPL Limit
MARCH 2017	25/08/2015	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	323	481	693	1500 mg/m ³
MARCH 2017	25/08/2015		parts per million				157	234	338	700 ppm
MARCH 2017	25/08/2015	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	796	1007	1418	
MARCH 2017	25/08/2015		parts per million				279	352	496	600 ppm
MARCH 2017	25/08/2015	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	4.3	8.2	15.1	20%
Comments:										

Annual monitoring of discharges to air

Air emission monitoring, Boiler 2 stack emissions, shown on plan no LD800474 amended 03 and dated 6/5/2003

Month	Date of Publication	Pollutant	Unit of measure	No. of samples required by licence	Samples collected and analysed	Sample value	EPL Limit mg/m ³
Oct-16	15/11/2016	Cadmium	milligrams per cubic metre	1	1	<0.0002	1.0
Oct-16	15/11/2016	Chlorine	milligrams per cubic metre	1	1	<0.008	200
Oct-16	15/11/2016	Copper	milligrams per cubic metre	1	1	0.0880	
Oct-16	15/11/2016	Hazardous substances (Metals)	milligrams per cubic metre	1	1	≤0.019	5
Oct-16	15/11/2016	Hydrogen chloride	milligrams per cubic metre	1	1	18.0	100
Oct-16	15/11/2016	Mercury	milligrams per cubic metre	1	1	0.00066	1.0
Oct-16	15/11/2016	Nitrogen oxides	milligrams per cubic metre	1	1	1	1500
Oct-16	15/11/2016	Solid particles	milligrams per cubic metre	1	1	27.0	100
Oct-16	15/11/2016	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	1.300	100
Oct-16	15/11/2016	Sulphur dioxide	milligrams per cubic metre	1	1	1000	
Oct-16	15/11/2016	Total fluoride	milligrams per cubic metre	1	1	13.0	50
Oct-16	15/11/2016	Volatile organic compounds	milligrams per cubic metre	1	1	0.110	
Comments: Monitoring of emission from each of the 4 boilers for the substances in this table is required annually. This table contains the latest results from Boiler 2 tested 13 Oct 16.							

Monthly Data Summary

Discharge & Monitoring Point 9

301204 East 6416350 North

In the flue gases of unit 3 boiler labelled as "Unit 3 Boiler 3-4 Chimney Stack" on plan no LD800474 amended 03 and dated 6/5/2003

Month	Date of Publication	Pollutant	Unit of measure	Sampling / measurement frequency	Averaging period	Data capture %	Lowest sample value	Mean of samples	Highest sample value	EPL Limit
MARCH 2017	25/08/2015	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	390.1	516.1	672.6	1500 mg/m ³
MARCH 2017	25/08/2015		parts per million				190.1			251.5
MARCH 2017	25/08/2015	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	795.3	973.5	1227.2	
MARCH 2017	25/08/2015		parts per million				278.3			340.6
MARCH 2017	25/08/2015	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	1.7	6.5	15.3	20%
Comments:										

Annual monitoring of discharges to air

Air emission monitoring, Boiler 3 stack emissions, shown on plan no LD800474 amended 03 and dated 6/5/2003

Month	Date of Publication	Pollutant	Unit of measure	No. of samples required by licence	Samples collected and analysed	Sample value	EPL Limit mg/m ³
Jun-16	30/06/2016	Cadmium	milligrams per cubic metre	1	1	<0.0001	1.0
Jun-16	30/06/2016	Chlorine	milligrams per cubic metre	1	1	0.0	200
Jun-16	30/06/2016	Copper	milligrams per cubic metre	1	1	0.0007	
Jun-16	30/06/2016	Hazardous substances (Metals)	milligrams per cubic metre	1	1	<0.019	5
Jun-16	30/06/2016	Hydrogen chloride	milligrams per cubic metre	1	1	3.3	100
Jun-16	30/06/2016	Mercury	milligrams per cubic metre	1	1	0.00063	1.0
Jun-16	30/06/2016	Nitrogen oxides	milligrams per cubic metre	1	1	1	1500
Jun-16	30/06/2016	Solid particles	milligrams per cubic metre	1	1	35.0	100
Jun-16	30/06/2016	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	58.000	100
Jun-16	30/06/2016	Sulphur dioxide	milligrams per cubic metre	1	1	970	
Jun-16	30/06/2016	Total fluoride	milligrams per cubic metre	1	1	3.6	50
Jun-16	30/06/2016	Volatile organic compounds	milligrams per cubic metre	1	1	<0.03	
Comments: Monitoring of emission from each of the 4 boilers for the substances in this table is required annually. Boiler 3 was tested 7 June 2016.							

Monthly Data Summary

Discharge & Monitoring Point 10

301204 East 6416350 North

In the flue gases of unit 4 boiler labelled as "Unit 4 Boiler 3-4 Chimney Stack" on plan no LD800474 amended 03 and dated 6/5/2003

Month	Date of Publication	Pollutant	Unit of measure	Sampling / measurement frequency	Averaging period	Data capture %	Lowest sample value	Mean of samples	Highest sample value	EPL Limit
MARCH 2017	25/08/2015	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	221.4	484.0	669.4	1500 mg/m ³
MARCH 2017	25/08/2015		parts per million				107.9	235.8	326.2	700 ppm
MARCH 2017	25/08/2015	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	792.1	935.9	1154.1	
MARCH 2017	25/08/2015		parts per million				277.1	327.5	403.8	600 ppm
MARCH 2017	25/08/2015	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	2.0	7.2	12.6	20%
Comments:										

Annual monitoring of discharges to air

Air emission monitoring, Boiler 4 stack emissions, shown on plan no LD800474 amended 03 and dated 6/5/2003

Month	Date of Publication	Pollutant	Unit of measure	No. of samples required by licence	Samples collected and analysed	Sample value	EPL Limit mg/m ³			
Jan-16	23/02/2016	Cadmium	milligrams per cubic metre	1	1	<0.0001	1.0			
Jan-16	23/02/2016	Chlorine	milligrams per cubic metre	1	1	<0.02	200			
Jan-16	23/02/2016	Copper	milligrams per cubic metre	1	1	0.0011				
Jan-16	23/02/2016	Hazardous substances (Metals)	milligrams per cubic metre	1	1	<0.041	5			
Jan-16	23/02/2016	Hydrogen chloride	milligrams per cubic metre	1	1	11.0	100			
Jan-16	23/02/2016	Mercury	milligrams per cubic metre	1	1	0.00022	1.0			
Jan-16	23/02/2016	Nitrogen oxides	milligrams per cubic metre	1	1	850	1500			
Jan-16	23/02/2016	Solid particles	milligrams per cubic metre	1	1	58.0	100			
Jan-16	23/02/2016	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	1.100	100			
Jan-16	23/02/2016	Sulphur dioxide	milligrams per cubic metre	1	1	660				
Jan-16	23/02/2016	Total fluoride	milligrams per cubic metre	1	1	8.6	50			
Jan-16	23/02/2016	Volatile organic compounds	milligrams per cubic metre	1	1	0.088				
Comments:	Monitoring of emission from each of the 4 boilers for the substances in this table is required annually. This table contains the latest results from Boiler 4 tested 19 Jan 16.									

Monthly Data Summary

Details of Non-Compliance with Licence

Licence condition number not complied with

R4.1

Summary of particulars of the non-compliance **(NO MORE THAN 50 WORDS)**

SOx reading of 635ppm, 663.2ppm and 753.6ppm was recorded at EPL Point 7 at 1500, 1600 and 1800 hours respectively.

If required, further details on particulars of non-compliance

At the time of the event it was thought that the SOx readings were incorrect due to a fault in the CO2 monitoring used to normalise the SOx raw data.

Date(s) when the non-compliance occurred, if applicable

13-Mar-17

If applicable, registration numbers of any vehicles or the chassis number of any mobile plant involved in the non-compliance

NA

Cause of non-compliance

Coal supply containing sections of coal with sulphur content of up to 0.22% higher than average.

Action taken or that will be taken to mitigate any adverse effects of the non-compliance

It was attempted to control SOx emissions through reduced load and by engaging oil elevation guns as a substitute fuel source.

Action taken or that will be taken to prevent a recurrence of the non-compliance

Improve the reporting from Coal Suppliers to flag any potential or actual increases in Sulphur levels. Establish a rate of change in emissions through predictive trends and expected time to alarm. Improve routine maintenance on oil guns. Solenoid change outs on the Air Dampeners will be planned into preventative maintenance during Unit Outages.