

# Monthly Data Summary

## LIDDELL MONTHLY DATA SUMMARY AUGUST 2017

LICENCE NO	2122
LICENCE HOLDER	AGL MACQUARIE
REPORTING PERIOD	AUGUST 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
AUGUST 2017	12/09/2017	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	305.6	568.1	749.0	1500 mg/m <sup>3</sup>
AUGUST 2017	12/09/2017		parts per million				148.9	276.8	364.9	700 ppm
AUGUST 2017	12/09/2017	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	786.9	956.2	1271.2	
AUGUST 2017	12/09/2017		parts per million				275.3	334.6	444.8	600 ppm
AUGUST 2017	12/09/2017	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	4.4	7.4	17.5	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 <sup>3</sup>
Jul-17	5/09/2017	Cadmium	milligrams per cubic metre	1	1	<0.0002	1.0
Jul-17	5/09/2017	Chlorine	milligrams per cubic metre	1	1	0.0	200
Jul-17	5/09/2017	Copper	milligrams per cubic metre	1	1	0.0029	
Jul-17	5/09/2017	Hazardous substances (Metals)	milligrams per cubic metre	1	1	≤0.014	5
Jul-17	5/09/2017	Hydrogen chloride	milligrams per cubic metre	1	1	5.7	100
Jul-17	5/09/2017	Mercury	milligrams per cubic metre	1	1	0.00140	1.0
Jul-17	5/09/2017	Nitrogen oxides	milligrams per cubic metre	1	1	1	1500
Jul-17	5/09/2017	Solid particles	milligrams per cubic metre	1	1	24.0	100
Jul-17	5/09/2017	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	1.100	100
Jul-17	5/09/2017	Sulphur dioxide	milligrams per cubic metre	1	1	1100	
Jul-17	5/09/2017	Total fluoride	milligrams per cubic metre	1	1	3.9	50
Jul-17	5/09/2017	Volatile organic compounds	milligrams per cubic metre	1	1	0.000	

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 25 July 17.

# 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
AUGUST 2017	12/09/2017	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	404	502	679	1500 mg/m <sup>3</sup>
AUGUST 2017	12/09/2017		parts per million				197	245	331	700 ppm
AUGUST 2017	12/09/2017	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	787	963	1212	
AUGUST 2017	12/09/2017		parts per million				275	337	424	600 ppm
AUGUST 2017	12/09/2017	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	4.7	7.0	15.2	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 <sup>3</sup>
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
AUGUST 2017	12/09/2017	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	276.7	486.7	661.8	1500 mg/m <sup>3</sup>
AUGUST 2017	12/09/2017		parts per million				134.8			237.1
AUGUST 2017	12/09/2017	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	733.4	921.9	1234.1	
AUGUST 2017	12/09/2017		parts per million				256.6			322.5
AUGUST 2017	12/09/2017	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	2.6	6.7	11.3	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 <sup>3</sup>
Apr-17	19/05/2017	Cadmium	milligrams per cubic metre	1	1	<0.0002	1.0
Apr-17	19/05/2017	Chlorine	milligrams per cubic metre	1	1	0.0	200
Apr-17	19/05/2017	Copper	milligrams per cubic metre	1	1	0.0790	
Apr-17	19/05/2017	Hazardous substances (Metals)	milligrams per cubic metre	1	1	≤0.02	5
Apr-17	19/05/2017	Hydrogen chloride	milligrams per cubic metre	1	1	19.0	100
Apr-17	19/05/2017	Mercury	milligrams per cubic metre	1	1	0.00079	1.0
Apr-17	19/05/2017	Nitrogen oxides	milligrams per cubic metre	1	1	1	1500
Apr-17	19/05/2017	Solid particles	milligrams per cubic metre	1	1	15.0	100
Apr-17	19/05/2017	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	1.300	100
Apr-17	19/05/2017	Sulphur dioxide	milligrams per cubic metre	1	1	980	
Apr-17	19/05/2017	Total fluoride	milligrams per cubic metre	1	1	11.0	50
Apr-17	19/05/2017	Volatile organic compounds	milligrams per cubic metre	1	1	<0.2	

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 3 tested 4 April 2017.

# 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
AUGUST 2017	12/09/2017	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	269.7	550.0	799.7	1500 mg/m <sup>3</sup>
AUGUST 2017	12/09/2017		parts per million				131.4	267.9	389.6	700 ppm
AUGUST 2017	12/09/2017	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	745.8	902.8	1199.0	
AUGUST 2017	12/09/2017		parts per million				260.9	315.9	419.5	600 ppm
AUGUST 2017	12/09/2017	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	3.2	7.1	11.1	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 <sup>3</sup>			
Apr-17	19/05/2017	Cadmium	milligrams per cubic metre	1	1	<0.0001	1.0			
Apr-17	19/05/2017	Chlorine	milligrams per cubic metre	1	1	0.0	200			
Apr-17	19/05/2017	Copper	milligrams per cubic metre	1	1	0.0051				
Apr-17	19/05/2017	Hazardous substances (Metals)	milligrams per cubic metre	1	1	≤0.026	5			
Apr-17	19/05/2017	Hydrogen chloride	milligrams per cubic metre	1	1	18.0	100			
Apr-17	19/05/2017	Mercury	milligrams per cubic metre	1	1	0.00330	1.0			
Apr-17	19/05/2017	Nitrogen oxides	milligrams per cubic metre	1	1	1	1500			
Apr-17	19/05/2017	Solid particles	milligrams per cubic metre	1	1	44.0	100			
Apr-17	19/05/2017	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	1.300	100			
Apr-17	19/05/2017	Sulphur dioxide	milligrams per cubic metre	1	1	1000				
Apr-17	19/05/2017	Total fluoride	milligrams per cubic metre	1	1	11.0	50			
Apr-17	19/05/2017	Volatile organic compounds	milligrams per cubic metre	1	1	<0.2				
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 6 April 2017.										

# Monthly Data Summary

## Discharge & Monitoring Point 12

Discharge to waters <301204 East 6416350 North> Update

Liddell Outfall Canal

Month	Date of Publication	Pollutant	Unit of measure	Sampling / measurement frequency	Samples collected and analysed	Lowest sample value	Mean of samples	Highest sample value	EPL Limit
AUGUST 2017	12/09/2017	Ammonia	milligrams per litre	Fortnightly	3	<0.01	0.0	0.0	-
AUGUST 2017	12/09/2017	Antimony	milligrams per litre	Fortnightly	3	0.0	0.0	0.0	
AUGUST 2017	12/09/2017	Arsenic	milligrams per litre	Fortnightly	3	0.0	0.0	0.0	-
AUGUST 2017	12/09/2017	Barium	milligrams per litre	Fortnightly	3	0.1	0.1	0.1	
AUGUST 2017	12/09/2017	Beryllium	milligrams per litre	Fortnightly	3	<0.001	0.0	<0.001	-
AUGUST 2017	12/09/2017	Boron	milligrams per litre	Fortnightly	3	1.0	1.0	1.1	
AUGUST 2017	12/09/2017	Cadmium	milligrams per litre	Fortnightly	3	<0.0001	0.0	<0.0001	-
AUGUST 2017	12/09/2017	Chlorine	milligrams per litre	Fortnightly	3	0.1	0.1	0.1	<a href="#">See Comment</a>
AUGUST 2017	12/09/2017	Chromium	milligrams per litre	Fortnightly	3	<0.01	0.0	<0.01	<a href="#">See Comment</a>
AUGUST 2017	12/09/2017	Chromium (total)	milligrams per litre	Fortnightly	3	<0.001	0.0	<0.001	
AUGUST 2017	12/09/2017	Cobalt	milligrams per litre	Fortnightly	3	<0.001	0.0	<0.001	-
AUGUST 2017	12/09/2017	Conductivity	uS/cm	Fortnightly	3	2430.0	2456.7	2510.0	
AUGUST 2017	12/09/2017	Copper	milligrams per litre	Fortnightly	3	0.0	0.0	0.0	-
AUGUST 2017	12/09/2017	Flouride	milligrams per litre	Fortnightly	3	1.1	1.2	1.2	
AUGUST 2017	12/09/2017	Lead	milligrams per litre	Fortnightly	3	<0.001	0.0	<0.001	-
AUGUST 2017	12/09/2017	Manganese	milligrams per litre	Fortnightly	3	0.0	0.0	0.0	
AUGUST 2017	12/09/2017	Mercury	milligrams per litre	Fortnightly	3	<0.0001	0.0	<0.0001	-
AUGUST 2017	12/09/2017	Methylene Blue Active Substance	milligrams per litre	Fortnightly	3	<0.1	0.1	<0.1	
AUGUST 2017	12/09/2017	Molybdenum	milligrams per litre	Fortnightly	3	0.1	0.1	0.1	-
AUGUST 2017	12/09/2017	Nickel	milligrams per litre	Fortnightly	3	0.0	0.0	0.0	
AUGUST 2017	12/09/2017	Nitrogen (total)	milligrams per litre	Fortnightly	3	0.4	0.5	0.6	-
AUGUST 2017	12/09/2017	Oil and Grease	milligrams per litre	Weekly	5	<5	2.5	<5	10
AUGUST 2017	12/09/2017	pH	pH Units	Daily	31	8.2	8.5	8.6	6.5-9.0
AUGUST 2017	12/09/2017	Phosphorus	milligrams per litre	Fortnightly	3	0.0	0.0	0.0	

# Monthly Data Summary

Month	Date of Publication	Pollutant	Unit of measure	Sampling / measurement frequency	Samples collected and analysed	Lowest sample value	Mean of samples	Highest sample value	EPL Limit
AUGUST 2017	12/09/2017	Selemium	milligrams per litre	Fortnightly	3	<0.01	0.0	<0.01	-
AUGUST 2017	12/09/2017	Temperature	milligrams per litre	Fortnightly	3	19.4	20.7	22.0	
AUGUST 2017	12/09/2017	Tin	milligrams per litre	Fortnightly	3	<0.001	0.0	<0.001	-
AUGUST 2017	12/09/2017	Total Dissolved Solids	milligrams per litre	Fortnightly	3	1370.0	1480.0	1560.0	
AUGUST 2017	12/09/2017	Total Organic Carbon	milligrams per litre	Fortnightly	3	6.0	6.7	7.0	-
AUGUST 2017	12/09/2017	TSS	milligrams per litre	Fortnightly	3	2.0	3.0	4.0	
AUGUST 2017	12/09/2017	Vanadium	milligrams per litre	Fortnightly	3	0.0	0.0	0.0	-
AUGUST 2017	12/09/2017	Zinc	milligrams per litre	Fortnightly	3	<0.005	0.0	<0.005	
Comments	The 'Chlorine' result recorded here are 'Chlorine (total)'. The 'Chromium' result recorded here is 'Chromium (VI)'								

# Monthly Data Summary

Comments									
<b>Discharge &amp; Monitoring Point 13</b>									
Discharge to waters <301204 East 6416350 North> Update									
Liddell Oil and Grit Trap									
Month	Date of Publication	Pollutant	Unit of measure	Sampling / measurement frequency	Samples collected and analysed	Lowest sample value	Mean of samples	Highest sample value	EPL Limit
AUGUST 2017	12/09/2017	Ammonia	milligrams per litre	Fortnightly	3	<0.01	0.4	1.1	-
AUGUST 2017	12/09/2017	Antimony	milligrams per litre	Fortnightly	3	0.0	0.0	0.0	
AUGUST 2017	12/09/2017	Arsenic	milligrams per litre	Fortnightly	3	0.0	0.0	0.0	-
AUGUST 2017	12/09/2017	Barium	milligrams per litre	Fortnightly	3	0.1	0.1	0.1	
AUGUST 2017	12/09/2017	Beryllium	milligrams per litre	Fortnightly	3	<0.001	0.0	<0.001	-
AUGUST 2017	12/09/2017	Boron	milligrams per litre	Fortnightly	3	1.0	1.0	1.0	
AUGUST 2017	12/09/2017	Cadmium	milligrams per litre	Fortnightly	3	<0.0001	0.0	<0.0001	-
AUGUST 2017	12/09/2017	Chlorine	milligrams per litre	Fortnightly	3	0.0	0.0	0.0	<a href="#">See Comment</a>
AUGUST 2017	12/09/2017	Chromium	milligrams per litre	Fortnightly	3	<0.01	0.0	<0.01	<a href="#">See Comment</a>
AUGUST 2017	12/09/2017	Chromium (total)	milligrams per litre	Fortnightly	3	<0.001	0.0	<0.001	
AUGUST 2017	12/09/2017	Cobalt	milligrams per litre	Fortnightly	3	<0.001	0.0	<0.001	-
AUGUST 2017	12/09/2017	Conductivity	uS/cm	Fortnightly	3	2380.0	2396.7	2410.0	
AUGUST 2017	12/09/2017	Copper	milligrams per litre	Fortnightly	3	0.0	0.0	0.0	-
AUGUST 2017	12/09/2017	Flouride	milligrams per litre	Fortnightly	3	1.1	1.2	1.4	
AUGUST 2017	12/09/2017	Lead	milligrams per litre	Fortnightly	3	<0.001	0.0	<0.001	-
AUGUST 2017	12/09/2017	Manganese	milligrams per litre	Fortnightly	3	0.0	0.0	0.0	
AUGUST 2017	12/09/2017	Mercury	milligrams per litre	Fortnightly	3	<0.0001	0.0	<0.0001	-
AUGUST 2017	12/09/2017	Methylene Blue Active Substance	milligrams per litre	Fortnightly	3	<0.1	0.1	<0.1	
AUGUST 2017	12/09/2017	Molybdenum	milligrams per litre	Fortnightly	3	0.1	0.1	0.1	-
AUGUST 2017	12/09/2017	Nickel	milligrams per litre	Fortnightly	3	0.0	0.0	0.0	
AUGUST 2017	12/09/2017	Nitrogen (total)	milligrams per litre	Fortnightly	3	0.4	0.8	1.5	-
AUGUST 2017	12/09/2017	Oil and Grease	milligrams per litre	Weekly	5	<5	2.5	<5	10
AUGUST 2017	12/09/2017	pH	pH Units	Daily	31	7.7	8.5	8.6	6.5-9.0



# Monthly Data Summary

Month	Date of Publication	Pollutant	Unit of measure	Sampling / measurement frequency	Samples collected and analysed	Lowest sample value	Mean of samples	Highest sample value	EPL Limit
AUGUST 2017	12/09/2017	Phosphorus	milligrams per litre	Fortnightly	3	0.0	0.0	0.0	
AUGUST 2017	12/09/2017	Selenium	milligrams per litre	Fortnightly	3	<0.01	0.0	<0.01	-
AUGUST 2017	12/09/2017	Temperature	milligrams per litre	Fortnightly	3	15.5	17.1	17.9	
AUGUST 2017	12/09/2017	Tin	milligrams per litre	Fortnightly	3	<0.001	0.0	<0.001	-
AUGUST 2017	12/09/2017	Total Dissolved Solids	milligrams per litre	Fortnightly	3	1450.0	1516.7	1610.0	
AUGUST 2017	12/09/2017	Total Organic Carbon	milligrams per litre	Fortnightly	3	6.0	6.7	7.0	-
AUGUST 2017	12/09/2017	TSS	milligrams per litre	Fortnightly	3	2.0	3.3	5.0	
AUGUST 2017	12/09/2017	Vanadium	milligrams per litre	Fortnightly	3	0.0	0.0	0.0	-
AUGUST 2017	12/09/2017	Zinc	milligrams per litre	Fortnightly	3	<0.005	0.0	<0.005	
Comments	The 'Chlorine' result recorded here are 'Chlorine (total)'. The 'Chromium' result recorded here is 'Chromium (VI)'								

# Monthly Data Summary

## Compliance with Licence

Licence condition number not complied with

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

If required, further details on particulars of non-compliance

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

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

Cause of non-compliance

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

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