

# Monthly Data Summary

## LIDDELL MONTHLY DATA SUMMARY JULY 2017

LICENCE NO	2122
LICENCE HOLDER	AGL MACQUARIE
REPORTING PERIOD	JULY 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

### 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 05 and dated 24/1/2007

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
JULY 2017	11/08/2017	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	259.2	506.4	700.9	1500 mg/m <sup>3</sup>
JULY 2017	11/08/2017		parts per million				126.3	246.7	341.5	700 ppm
JULY 2017	11/08/2017	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	799.5	1021.0	1231.6	
JULY 2017	11/08/2017		parts per million				279.7	357.2	430.9	600 ppm
JULY 2017	11/08/2017	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	2.8	5.6	10.0	20%

Comments:

### Annual monitoring of discharges to air

Air emission monitoring, Boiler 1 stack emissions, shown on plan no LD800474 amended 05 and dated 24/1/2007

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	<0.0001	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. Results for the test carried out on 25 July 17 are not yet available

# Monthly Data Summary

## Discharge & Monitoring Point 8

In the flue gases of unit 2 boiler labelled as "Unit 2 Boiler 1-2 Chimney Stack" on plan no LD800474 amended 05 and dated 24/1/2007

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
JULY 2017	11/08/2017	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	290	469	648	1500 mg/m <sup>3</sup>
JULY 2017	11/08/2017		parts per million				141	228	316	700 ppm
JULY 2017	11/08/2017	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	704	978	1316	
JULY 2017	11/08/2017		parts per million				246	342	461	600 ppm
JULY 2017	11/08/2017	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	4.9	8.0	10.9	20%
Comments:										

## Annual monitoring of discharges to air

Air emission monitoring, Boiler 2 stack emissions, shown on plan no LD800474 amended 05 and dated 24/1/2007

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

In the flue gases of unit 3 boiler labelled as "Unit 3 Boiler 3-4 Chimney Stack" on plan no LD800474 amended 05 and dated 24/1/2007

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
JULY 2017	11/08/2017	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	273.6	447.7	792.6	1500 mg/m <sup>3</sup>
JULY 2017	11/08/2017		parts per million				133.3	218.1	386.2	700 ppm
JULY 2017	11/08/2017	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	784.2	976.1	1256.6	
JULY 2017	11/08/2017		parts per million				274.4	341.5	439.7	600 ppm
JULY 2017	11/08/2017	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	1.4	5.8	10.0	20%
Comments:										

## Annual monitoring of discharges to air

Air emission monitoring, Boiler 3 stack emissions, shown on plan no LD800474 amended 05 and dated 24/1/2007

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

In the flue gases of unit 4 boiler labelled as "Unit 4 Boiler 3-4 Chimney Stack" on plan no LD800474 amended 05 and dated 24/1/2007

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
JULY 2017	11/08/2017	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	352.5	565.8	828.3	1500 mg/m3
JULY 2017	11/08/2017		parts per million				171.7			275.7
JULY 2017	11/08/2017	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	784.9	969.7	1254.1	
JULY 2017	11/08/2017		parts per million				274.6			339.3
JULY 2017	11/08/2017	Opacity - Undifferentiated particles	Percent	Continuous	One hour	75.1%	2.4	5.3	9.2	20%
<b>Comments:</b>										

## Annual monitoring of discharges to air

Air emission monitoring, Boiler 4 stack emissions, shown on plan no LD800474 amended 05 and dated 24/1/2007

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	
<b>Comments:</b>	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

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
JULY 2017	11/08/2017	Ammonia	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	-
JULY 2017	11/08/2017	Antimony	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	
JULY 2017	11/08/2017	Arsenic	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	-
JULY 2017	11/08/2017	Barium	milligrams per litre	Fortnightly	2	0.1	0.1	0.1	
JULY 2017	11/08/2017	Beryllium	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	-
JULY 2017	11/08/2017	Boron	milligrams per litre	Fortnightly	2	0.9	1.0	1.0	
JULY 2017	11/08/2017	Cadmium	milligrams per litre	Fortnightly	2	<0.0001	0.0	<0.0001	-
JULY 2017	11/08/2017	Chlorine	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	<a href="#">See comment</a>
JULY 2017	11/08/2017	Chromium	milligrams per litre	Fortnightly	-	-	-	-	<a href="#">See comment</a>
JULY 2017	11/08/2017	Chromium (total)	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	
JULY 2017	11/08/2017	Cobalt	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	-
JULY 2017	11/08/2017	Conductivity	uS/cm	Fortnightly	2	2320.0	2395.0	2470.0	
JULY 2017	11/08/2017	Copper	milligrams per litre	Fortnightly	2	<0.001	0.0	0.0	-
JULY 2017	11/08/2017	Flouride	milligrams per litre	Fortnightly	2	1.2	1.2	1.2	
JULY 2017	11/08/2017	Lead	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	-
JULY 2017	11/08/2017	Manganese	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	
JULY 2017	11/08/2017	Mercury	milligrams per litre	Fortnightly	2	<0.0001	0.0	<0.0001	-
JULY 2017	11/08/2017	Methylene Blue Active Substance	milligrams per litre	Fortnightly	2	<0.1	0.1	<0.1	
JULY 2017	11/08/2017	Molybdenum	milligrams per litre	Fortnightly	2	0.1	0.1	0.1	-
JULY 2017	11/08/2017	Nickel	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	
JULY 2017	11/08/2017	Nitrogen (total)	milligrams per litre	Fortnightly	2	0.4	0.5	0.5	-
JULY 2017	11/08/2017	Oil and Grease	milligrams per litre	Weekly	4	<5	2.5	<5	
JULY 2017	11/08/2017	pH	pH Units	Daily	31	8.3	8.4	8.6	-
JULY 2017	11/08/2017	Phosphorus	milligrams per litre	Fortnightly	2	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
JULY 2017	11/08/2017	Selemium	milligrams per litre	Fortnightly	2	<0.01	0.0	<0.01	-
JULY 2017	11/08/2017	Temperature	milligrams per litre	Fortnightly	2	21.0	21.6	22.2	
JULY 2017	11/08/2017	Tin	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	-
JULY 2017	11/08/2017	Total Dissolved Solids	milligrams per litre	Fortnightly	2	1580.0	1590.0	1600.0	
JULY 2017	11/08/2017	Total Organic Carbon	milligrams per litre	Fortnightly	2	6.0	6.0	6.0	-
JULY 2017	11/08/2017	TSS	milligrams per litre	Fortnightly	2	3.0	4.0	5.0	
JULY 2017	11/08/2017	Vanadium	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	-
JULY 2017	11/08/2017	Zinc	milligrams per litre	Fortnightly	2	<0.005	0.0	<0.005	
Comments	Results for Chlorine are Total Results for Chromium (analysed as Chromium VI) were unavailable at the time of publication								

# Monthly Data Summary

Discharge & Monitoring Point 13									
Discharge to waters									
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
JULY 2017	11/08/2017	Ammonia	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	-
JULY 2017	11/08/2017	Antimony	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	
JULY 2017	11/08/2017	Arsenic	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	-
JULY 2017	11/08/2017	Barium	milligrams per litre	Fortnightly	2	0.1	0.1	0.1	
JULY 2017	11/08/2017	Beryllium	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	-
JULY 2017	11/08/2017	Boron	milligrams per litre	Fortnightly	2	0.9	1.0	1.0	
JULY 2017	11/08/2017	Cadmium	milligrams per litre	Fortnightly	2	<0.0001	0.0	<0.0001	-
JULY 2017	11/08/2017	Chlorine	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	<a href="#">See comment</a>
JULY 2017	11/08/2017	Chromium	milligrams per litre	Fortnightly	-	-	-	-	<a href="#">See comment</a>
JULY 2017	11/08/2017	Chromium (total)	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	
JULY 2017	11/08/2017	Cobalt	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	-
JULY 2017	11/08/2017	Conductivity	uS/cm	Fortnightly	2	2320.0	2395.0	2470.0	
JULY 2017	11/08/2017	Copper	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	-
JULY 2017	11/08/2017	Flouride	milligrams per litre	Fortnightly	2	1.2	1.2	1.2	
JULY 2017	11/08/2017	Lead	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	-
JULY 2017	11/08/2017	Manganese	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	
JULY 2017	11/08/2017	Mercury	milligrams per litre	Fortnightly	2	<0.0001	0.0	<0.0001	-
JULY 2017	11/08/2017	Methylene Blue Active Substance	milligrams per litre	Fortnightly	2	<0.1	0.1	<0.1	
JULY 2017	11/08/2017	Molybdenum	milligrams per litre	Fortnightly	2	0.1	0.1	0.1	-
JULY 2017	11/08/2017	Nickel	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	
JULY 2017	11/08/2017	Nitrogen (total)	milligrams per litre	Fortnightly	2	0.4	0.5	0.5	-
JULY 2017	11/08/2017	Oil and Grease	milligrams per litre	Weekly	4	<5	2.5	<5	
JULY 2017	11/08/2017	pH	pH Units	Daily	31	7.9	8.4	8.6	-



# 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
JULY 2017	11/08/2017	Phosphorus	milligrams per litre	Fortnightly	2	0.0	0.0	0.1	
JULY 2017	11/08/2017	Selenium	milligrams per litre	Fortnightly	2	<0.01	0.0	<0.01	-
JULY 2017	11/08/2017	Temperature	milligrams per litre	Fortnightly	2	17.5	18.3	19.1	
JULY 2017	11/08/2017	Tin	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	-
JULY 2017	11/08/2017	Total Dissolved Solids	milligrams per litre	Fortnightly	2	1550.0	1575.0	1600.0	
JULY 2017	11/08/2017	Total Organic Carbon	milligrams per litre	Fortnightly	2	6.0	6.5	7.0	-
JULY 2017	11/08/2017	TSS	milligrams per litre	Fortnightly	2	2.0	5.0	8.0	
JULY 2017	11/08/2017	Vanadium	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	-
JULY 2017	11/08/2017	Zinc	milligrams per litre	Fortnightly	2	<0.005	0.0	<0.005	
Comments	Results for Chlorine are Total Results for Chromium (analysed as Chromium VI) were unavailable at the time of publication								

# Monthly Data Summary

## Compliance with Licence

Licence condition number not complied with

Nil

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

N/A

If required, further details on particulars of non-compliance

N/A

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

N/A

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

N/A

Cause of non-compliance

N/A

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

N/A

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