

# Monthly Data Summary

## LIDDELL MONTHLY DATA SUMMARY MAY 2020

LICENCE NO	2122
LICENCE HOLDER	AGL MACQUARIE
REPORTING PERIOD	MAY 2020

### 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
MAY 2020	9/06/2020	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	313.4	643.2	833.8	1500 mg/m <sup>3</sup>
MAY 2020	9/06/2020		parts per million				152.7			313.4
MAY 2020	9/06/2020	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	674.5	880.7	1164.8	
MAY 2020	9/06/2020		parts per million				236.0			308.1
MAY 2020	9/06/2020	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	6.3	8.3	13.2	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>
Oct-19	25/11/2019	Cadmium	milligrams per cubic metre	1	1	<0.0002	1.0
Oct-19	25/11/2019	Chlorine	milligrams per cubic metre	1	1	0.0	200
Oct-19	25/11/2019	Copper	milligrams per cubic metre	1	1	0.0017	
Oct-19	25/11/2019	Hazardous substances (Metals)	milligrams per cubic metre	1	1	≤0.012	5
Oct-19	25/11/2019	Hydrogen chloride	milligrams per cubic metre	1	1	11.0	100
Oct-19	25/11/2019	Mercury	milligrams per cubic metre	1	1	0.00059	1.0
Oct-19	25/11/2019	Nitrogen oxides	milligrams per cubic metre	1	1	680	1500
Oct-19	25/11/2019	Solid particles	milligrams per cubic metre	1	1	13.0	100
Oct-19	25/11/2019	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	0.950	100
Oct-19	25/11/2019	Sulphur dioxide	milligrams per cubic metre	1	1	830	
Oct-19	25/11/2019	Total fluoride	milligrams per cubic metre	1	1	7.7	50
Oct-19	25/11/2019	Volatile organic compounds	milligrams per cubic metre	1	1	0.670	

Comments:

Monitoring of emission from each of the 4 boilers for the substances in this table is required annually. In most years one boiler is tested each quarter. This table contains the latest results from Boiler 1.

# 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
MAY 2020	9/06/2020	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	255	532	889	1500 mg/m <sup>3</sup>
MAY 2020	9/06/2020		parts per million				124	259	433	700 ppm
MAY 2020	9/06/2020	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	629	864	1293	
MAY 2020	9/06/2020		parts per million				220	302	452	600 ppm
MAY 2020	9/06/2020	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	3.4	5.4	7.5	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>
Mar-20	1/05/2020	Cadmium	milligrams per cubic metre	1	1	<0.0002	1.0
Mar-20	1/05/2020	Chlorine	milligrams per cubic metre	1	1	0.0	200
Mar-20	1/05/2020	Copper	milligrams per cubic metre	1	1	0.0013	
Mar-20	1/05/2020	Hazardous substances (Metals)	milligrams per cubic metre	1	1	≤0.014	5
Mar-20	1/05/2020	Hydrogen chloride	milligrams per cubic metre	1	1	5.8	100
Mar-20	1/05/2020	Mercury	milligrams per cubic metre	1	1	<0.00020	1.0
Mar-20	1/05/2020	Nitrogen oxides	milligrams per cubic metre	1	1	570	1500
Mar-20	1/05/2020	Solid particles	milligrams per cubic metre	1	1	33.0	100
Mar-20	1/05/2020	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	1.400	100
Mar-20	1/05/2020	Sulphur dioxide	milligrams per cubic metre	1	1	1400	
Mar-20	1/05/2020	Total fluoride	milligrams per cubic metre	1	1	7.5	50
Mar-20	1/05/2020	Volatile organic compounds	milligrams per cubic metre	1	1	<0.04	
Comments: Monitoring of emission from each of the 4 boilers for the substances in this table is required annually. In most years one boiler is tested each quarter. This table contains the latest results from Boiler 2.							

# 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
MAY 2020	9/06/2020	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	249.5	446.1	562.9	1500 mg/m <sup>3</sup>
MAY 2020	9/06/2020		parts per million				121.5			217.3
MAY 2020	9/06/2020	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	711.4	928.2	1088.0	
MAY 2020	9/06/2020		parts per million				248.9			324.8
MAY 2020	9/06/2020	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	1.2	5.9	12.3	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>
Mar-19	9/05/2019	Cadmium	milligrams per cubic metre	1	1	<0.0002	1.0
Mar-19	9/05/2019	Chlorine	milligrams per cubic metre	1	1	0.1	200
Mar-19	9/05/2019	Copper	milligrams per cubic metre	1	1	0.0009	
Mar-19	9/05/2019	Hazardous substances (Metals)	milligrams per cubic metre	1	1	≤0.013	5
Mar-19	9/05/2019	Hydrogen chloride	milligrams per cubic metre	1	1	25.0	100
Mar-19	9/05/2019	Mercury	milligrams per cubic metre	1	1	0.00043	1.0
Mar-19	9/05/2019	Nitrogen oxides	milligrams per cubic metre	1	1	690	1500
Mar-19	9/05/2019	Solid particles	milligrams per cubic metre	1	1	9.7	100
Mar-19	9/05/2019	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	1.600	100
Mar-19	9/05/2019	Sulphur dioxide	milligrams per cubic metre	1	1	1100	
Mar-19	9/05/2019	Total fluoride	milligrams per cubic metre	1	1	13.0	50
Mar-19	9/05/2019	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. In most years one boiler is tested each quarter. This table contains the latest results from Boiler 3.

# 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
MAY 2020	9/06/2020	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	393.7	615.6	1151.2	1500 mg/m3
MAY 2020	9/06/2020		parts per million				191.8			299.9
MAY 2020	9/06/2020	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	702.5	930.0	1398.7	
MAY 2020	9/06/2020		parts per million				245.8			325.4
MAY 2020	9/06/2020	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	3.4	6.5	10.8	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>			
Oct-19	29/10/2019	Cadmium	milligrams per cubic metre	1	1	<0.0002	1.0			
Oct-19	29/10/2019	Chlorine	milligrams per cubic metre	1	1	0.0	200			
Oct-19	29/10/2019	Copper	milligrams per cubic metre	1	1	0.0015				
Oct-19	29/10/2019	Hazardous substances (Metals)	milligrams per cubic metre	1	1	≤0.014	5			
Oct-19	29/10/2019	Hydrogen chloride	milligrams per cubic metre	1	1	16.0	100			
Oct-19	29/10/2019	Mercury	milligrams per cubic metre	1	1	0.00077	1.0			
Oct-19	29/10/2019	Nitrogen oxides	milligrams per cubic metre	1	1	790	1500			
Oct-19	29/10/2019	Solid particles	milligrams per cubic metre	1	1	41.0	100			
Oct-19	29/10/2019	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	1.700	100			
Oct-19	29/10/2019	Sulphur dioxide	milligrams per cubic metre	1	1	950				
Oct-19	29/10/2019	Total fluoride	milligrams per cubic metre	1	1	8.8	50			
Oct-19	29/10/2019	Volatile organic compounds	milligrams per cubic metre	1	1	0.089				
Comments:		Monitoring of emission from each of the 4 boilers for the substances in this table is required annually. In most years one boiler is tested each quarter. This table contains the latest results from Boiler 4.								

# 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
MAY 2020	9/06/2020	Ammonia	milligrams per litre	Fortnightly	2	<0.01	0.0075	0.01	-
MAY 2020	9/06/2020	Antimony	milligrams per litre	Fortnightly	2	0.008	0.008	0.008	
MAY 2020	9/06/2020	Arsenic	milligrams per litre	Fortnightly	2	0.007	0.008	0.009	-
MAY 2020	9/06/2020	Barium	milligrams per litre	Fortnightly	2	0.101	0.1055	0.11	
MAY 2020	9/06/2020	Beryllium	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
MAY 2020	9/06/2020	Boron	milligrams per litre	Fortnightly	2	1.2	1.245	1.29	
MAY 2020	9/06/2020	Cadmium	milligrams per litre	Fortnightly	2	<0.0001	0.00005	<0.0001	-
MAY 2020	9/06/2020	Chlorine	milligrams per litre	Fortnightly	2	0.04	0.11	0.18	
MAY 2020	9/06/2020	Chromium	milligrams per litre	Fortnightly	2	<0.01	0.005	<0.01	-
MAY 2020	9/06/2020	Chromium (total)	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	
MAY 2020	9/06/2020	Cobalt	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
MAY 2020	9/06/2020	Conductivity	uS/cm	Fortnightly	2	2760.0	2785.0	2810.0	
MAY 2020	9/06/2020	Copper	milligrams per litre	Fortnightly	2	0.003	0.0035	0.004	-
MAY 2020	9/06/2020	Flouride	milligrams per litre	Fortnightly	2	1.19	1.345	1.5	
MAY 2020	9/06/2020	Lead	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
MAY 2020	9/06/2020	Manganese	milligrams per litre	Fortnightly	2	0.006	0.0065	0.007	
MAY 2020	9/06/2020	Mercury	milligrams per litre	Fortnightly	2	<0.0001	0.00005	<0.0001	-
MAY 2020	9/06/2020	Methylene Blue Active Substance	milligrams per litre	Fortnightly	2	<0.1	0.05	<0.1	
MAY 2020	9/06/2020	Molybdenum	milligrams per litre	Fortnightly	2	0.116	0.1185	0.121	-
MAY 2020	9/06/2020	Nickel	milligrams per litre	Fortnightly	2	0.005	0.005	0.005	
MAY 2020	9/06/2020	Nitrogen (total)	milligrams per litre	Fortnightly	2	0.4	0.5	0.6	-
MAY 2020	9/06/2020	Oil and Grease	milligrams per litre	Weekly	4	<5	2.5	<5	
MAY 2020	9/06/2020	pH	pH Units	Daily	31	8.5	8.6	8.7	-
MAY 2020	9/06/2020	Phosphorus	milligrams per litre	Fortnightly	2	0.02	0.03	0.04	

# 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
MAY 2020	9/06/2020	Selenium	milligrams per litre	Fortnightly	2	<0.01	0.005	<0.01	-
MAY 2020	9/06/2020	Sulfur	milligrams per litre	Fortnightly	2	580	605	630	
MAY 2020	9/06/2020	Temperature	milligrams per litre	Fortnightly	2	21.6	23.65	25.7	
MAY 2020	9/06/2020	Tin	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
MAY 2020	9/06/2020	Total Dissolved Solids	milligrams per litre	Fortnightly	2	1780	1795	1810	
MAY 2020	9/06/2020	Total Organic Carbon	milligrams per litre	Fortnightly	2	7	8	9	-
MAY 2020	9/06/2020	TSS	milligrams per litre	Fortnightly	2	4	4	4	
MAY 2020	9/06/2020	Vanadium	milligrams per litre	Fortnightly	2	0.01	0.015	0.02	-
MAY 2020	9/06/2020	Zinc	milligrams per litre	Fortnightly	2	<0.005	0.00475	0.007	
Comments									

# 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
MAY 2020	9/06/2020	Ammonia	milligrams per litre	Fortnightly	2	0.01	0.015	0.02	-
MAY 2020	9/06/2020	Antimony	milligrams per litre	Fortnightly	2	0.007	0.007	0.007	
MAY 2020	9/06/2020	Arsenic	milligrams per litre	Fortnightly	2	0.006	0.007	0.008	-
MAY 2020	9/06/2020	Barium	milligrams per litre	Fortnightly	2	0.098	0.101	0.104	
MAY 2020	9/06/2020	Beryllium	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
MAY 2020	9/06/2020	Boron	milligrams per litre	Fortnightly	2	1.16	1.19	1.22	
MAY 2020	9/06/2020	Cadmium	milligrams per litre	Fortnightly	2	<0.0001	0.00005	<0.0001	-
MAY 2020	9/06/2020	Chlorine	milligrams per litre	Fortnightly	2	0.04	0.055	0.07	
MAY 2020	9/06/2020	Chromium	milligrams per litre	Fortnightly	2	<0.01	0.005	<0.01	-
MAY 2020	9/06/2020	Chromium (total)	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	
MAY 2020	9/06/2020	Cobalt	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
MAY 2020	9/06/2020	Conductivity	uS/cm	Fortnightly	2	2630.0	2635.0	2640.0	
MAY 2020	9/06/2020	Copper	milligrams per litre	Fortnightly	2	0.004	0.004	0.004	-
MAY 2020	9/06/2020	Flouride	milligrams per litre	Fortnightly	2	1.44	1.62	1.8	
MAY 2020	9/06/2020	Lead	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
MAY 2020	9/06/2020	Manganese	milligrams per litre	Fortnightly	2	0.007	0.007	0.007	
MAY 2020	9/06/2020	Mercury	milligrams per litre	Fortnightly	2	<0.0001	0.00005	<0.0001	-
MAY 2020	9/06/2020	Methylene Blue Active Substance	milligrams per litre	Fortnightly	2	<0.1	0.05	<0.1	
MAY 2020	9/06/2020	Molybdenum	milligrams per litre	Fortnightly	2	0.11	0.113	0.116	-
MAY 2020	9/06/2020	Nickel	milligrams per litre	Fortnightly	2	0.004	0.0045	0.005	
MAY 2020	9/06/2020	Nitrogen (total)	milligrams per litre	Fortnightly	2	0.5	0.55	0.6	-
MAY 2020	9/06/2020	Oil and Grease	milligrams per litre	Weekly	4	<5	2.5	<5	
MAY 2020	9/06/2020	pH	pH Units	Daily	31	8.5	8.635483871	8.7	-



# 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
MAY 2020	9/06/2020	Phosphorus	milligrams per litre	Fortnightly	2	0.01	0.03	0.05	
MAY 2020	9/06/2020	Selenium	milligrams per litre	Fortnightly	2	<0.01	0.005	<0.01	-
MAY 2020	9/06/2020	Sulfur	milligrams per litre	Fortnightly	2	480	515	550	
MAY 2020	9/06/2020	Temperature	milligrams per litre	Fortnightly	2	18.6	19.95	21.3	
MAY 2020	9/06/2020	Tin	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
MAY 2020	9/06/2020	Total Dissolved Solids	milligrams per litre	Fortnightly	2	1690	1700	1710	
MAY 2020	9/06/2020	Total Organic Carbon	milligrams per litre	Fortnightly	2	<1	3.75	7	-
MAY 2020	9/06/2020	TSS	milligrams per litre	Fortnightly	2	5	5	5	
MAY 2020	9/06/2020	Vanadium	milligrams per litre	Fortnightly	2	0.01	0.01	0.01	-
MAY 2020	9/06/2020	Zinc	milligrams per litre	Fortnightly	2	<0.005	0.00425	0.006	
Comments									

## Discharge & Monitoring Point 14

Discharge to waters <301204 East 6416350 North> Update

The skimmer dam overflow spillway, located at the left abutment of the skimmer dam.

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
MAY 2020	9/06/2020	Arsenic	milligrams per litre	Weekly	4	0.016	0.0285	0.037	-
MAY 2020	9/06/2020	Boron	milligrams per litre	Weekly	4	1.69	1.8725	2.03	
MAY 2020	9/06/2020	Cadmium	milligrams per litre	Weekly	4	<0.0001	0.000075	0.0001	-
MAY 2020	9/06/2020	Chromium	milligrams per litre	Weekly	4	<0.01	0.005	<0.01	-
MAY 2020	9/06/2020	Chromium (total)	milligrams per litre	Weekly	4	<0.001	0.002375	0.004	
MAY 2020	9/06/2020	Conductivity	uS/cm	Weekly	4	2880.0	2957.5	3010.0	
MAY 2020	9/06/2020	Copper	milligrams per litre	Weekly	4	<0.001	0.001125	0.003	-
MAY 2020	9/06/2020	Flouride	milligrams per litre	Weekly	4	1.9	2.075	2.2	
MAY 2020	9/06/2020	Lead	milligrams per litre	Weekly	4	<0.001	0.0005	<0.001	-
MAY 2020	9/06/2020	Mercury	milligrams per litre	Weekly	4	<0.0001	0.00005	<0.0001	-
MAY 2020	9/06/2020	Oil and Grease	milligrams per litre	Weekly	4	<5	2.5	<5	

# 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
MAY 2020	9/06/2020	pH	pH Units	Weekly	4	8.2	8.3	8.3	-
MAY 2020	9/06/2020	Selenium	milligrams per litre	Weekly	4	0.01	0.025	0.04	-
MAY 2020	9/06/2020	TSS	milligrams per litre	Weekly	4	3	5.5	7	
MAY 2020	9/06/2020	Zinc	milligrams per litre	Weekly	4	<0.005	0.0025	<0.005	
Comments									

# Monthly Data Summary

## Details of Non-Compliance with Licence

Licence condition number not complied with

N/A

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

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