

# Monthly Data Summary

## LIDDELL MONTHLY DATA SUMMARY JULY 2020

LICENCE NO	2122
LICENCE HOLDER	AGL MACQUARIE
REPORTING PERIOD	JULY 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
JULY 2020	14/08/2020	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	239.0	650.4	799.4	1500 mg/m <sup>3</sup>
JULY 2020	14/08/2020		parts per million				116.5	316.9	389.5	700 ppm
JULY 2020	14/08/2020	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	548.1	904.6	1157.6	
JULY 2020	14/08/2020		parts per million				191.8	316.5	405.0	600 ppm
JULY 2020	14/08/2020	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	1.9	3.1	9.8	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 <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
JULY 2020	14/08/2020	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	96.7%	393	563	797	1500 mg/m <sup>3</sup>
JULY 2020	14/08/2020		parts per million				192	274	388	700 ppm
JULY 2020	14/08/2020	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	96.7%	627	810	1039	
JULY 2020	14/08/2020		parts per million				219	283	363	600 ppm
JULY 2020	14/08/2020	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	2.0	3.3	4.8	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
JULY 2020	14/08/2020	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	336.2	491.0	669.6	1500 mg/m <sup>3</sup>
JULY 2020	14/08/2020		parts per million				163.8			239.2
JULY 2020	14/08/2020	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	701.5	934.7	1181.0	
JULY 2020	14/08/2020		parts per million				245.4			327.0
JULY 2020	14/08/2020	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	5.3	6.9	13.3	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>			
May-20	23/06/2020	Cadmium	milligrams per cubic metre	1	1	<0.0001	1.0			
May-20	23/06/2020	Chlorine	milligrams per cubic metre	1	1	0.0	200			
May-20	23/06/2020	Copper	milligrams per cubic metre	1	1	0.0007				
May-20	23/06/2020	Hazardous substances (Metals)	milligrams per cubic metre	1	1	≤0.025	5			
May-20	23/06/2020	Hydrogen chloride	milligrams per cubic metre	1	1	13.0	100			
May-20	23/06/2020	Mercury	milligrams per cubic metre	1	1	0.00017	1.0			
May-20	23/06/2020	Nitrogen oxides	milligrams per cubic metre	1	1	620	1500			
May-20	23/06/2020	Solid particles	milligrams per cubic metre	1	1	70.0	100			
May-20	23/06/2020	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	3.400	100			
May-20	23/06/2020	Sulphur dioxide	milligrams per cubic metre	1	1	940				
May-20	23/06/2020	Total fluoride	milligrams per cubic metre	1	1	9.0	50			
May-20	23/06/2020	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
JULY 2020	14/08/2020	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	386.0	644.3	819.9	1500 mg/m <sup>3</sup>
JULY 2020	14/08/2020		parts per million				188.1	313.9	399.5	700 ppm
JULY 2020	14/08/2020	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	722.3	957.4	1241.3	
JULY 2020	14/08/2020		parts per million				252.7	335.0	434.3	600 ppm
JULY 2020	14/08/2020	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	4.9	7.3	9.8	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
JULY 2020	14/08/2020	Ammonia	milligrams per litre	Fortnightly	2	<0.01	0.0075	0.01	-
JULY 2020	14/08/2020	Antimony	milligrams per litre	Fortnightly	2	0.007	0.0075	0.008	
JULY 2020	14/08/2020	Arsenic	milligrams per litre	Fortnightly	2	0.006	0.0065	0.007	-
JULY 2020	14/08/2020	Barium	milligrams per litre	Fortnightly	2	0.105	0.1055	0.106	
JULY 2020	14/08/2020	Beryllium	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
JULY 2020	14/08/2020	Boron	milligrams per litre	Fortnightly	2	1.13	1.2	1.27	
JULY 2020	14/08/2020	Cadmium	milligrams per litre	Fortnightly	2	<0.0001	0.00005	<0.0001	-
JULY 2020	14/08/2020	Chlorine	milligrams per litre	Fortnightly	2	0.04	0.075	0.11	
JULY 2020	14/08/2020	Chromium	milligrams per litre	Fortnightly	2	<0.01	0.005	<0.01	-
JULY 2020	14/08/2020	Chromium (total)	milligrams per litre	Fortnightly	2	<0.001	0.00125	0.002	
JULY 2020	14/08/2020	Cobalt	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
JULY 2020	14/08/2020	Conductivity	uS/cm	Fortnightly	2	2630.0	2680.0	2730.0	
JULY 2020	14/08/2020	Copper	milligrams per litre	Fortnightly	2	0.005	0.005	0.005	-
JULY 2020	14/08/2020	Flouride	milligrams per litre	Fortnightly	2	1.24	1.44	1.64	
JULY 2020	14/08/2020	Lead	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
JULY 2020	14/08/2020	Manganese	milligrams per litre	Fortnightly	2	0.005	0.0085	0.012	
JULY 2020	14/08/2020	Mercury	milligrams per litre	Fortnightly	2	<0.0001	0.00005	<0.0001	-
JULY 2020	14/08/2020	Methylene Blue Active Substance	milligrams per litre	Fortnightly	2	<0.1	0.05	<0.1	
JULY 2020	14/08/2020	Molybdenum	milligrams per litre	Fortnightly	2	0.116	0.1175	0.119	-
JULY 2020	14/08/2020	Nickel	milligrams per litre	Fortnightly	2	0.004	0.005	0.006	
JULY 2020	14/08/2020	Nitrogen (total)	milligrams per litre	Fortnightly	2	0.5	0.55	0.6	-
JULY 2020	14/08/2020	Oil and Grease	milligrams per litre	Weekly	4	<5	2.5	<5	

# Monthly Data Summary

JULY 2020	14/08/2020	pH	pH Units	Daily	31	8.5	8.6	8.6	-
JULY 2020	14/08/2020	Phosphorus	milligrams per litre	Fortnightly	2	0.02	0.02	0.02	
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 2020	14/08/2020	Selenium	milligrams per litre	Fortnightly	2	<0.01	0.005	<0.01	-
JULY 2020	14/08/2020	Sulfur	milligrams per litre	Fortnightly	2	630	710	790	
JULY 2020	14/08/2020	Temperature	milligrams per litre	Fortnightly	2	18.6	20.95	23.3	
JULY 2020	14/08/2020	Tin	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
JULY 2020	14/08/2020	Total Dissolved Solids	milligrams per litre	Fortnightly	2	1780	1795	1810	
JULY 2020	14/08/2020	Total Organic Carbon	milligrams per litre	Fortnightly	2	8	9	10	-
JULY 2020	14/08/2020	TSS	milligrams per litre	Fortnightly	2	3	11	19	
JULY 2020	14/08/2020	Vanadium	milligrams per litre	Fortnightly	2	0.01	0.01	0.01	-
JULY 2020	14/08/2020	Zinc	milligrams per litre	Fortnightly	2	<0.005	0.0025	<0.005	
Comments									

# Monthly Data Summary

Comments									
Discharge & Monitoring Point 13									
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
JULY 2020	14/08/2020	Ammonia	milligrams per litre	Fortnightly	2	0.01	0.02	0.03	-
JULY 2020	14/08/2020	Antimony	milligrams per litre	Fortnightly	2	0.007	0.007	0.007	
JULY 2020	14/08/2020	Arsenic	milligrams per litre	Fortnightly	2	0.005	0.0055	0.006	-
JULY 2020	14/08/2020	Barium	milligrams per litre	Fortnightly	2	0.089	0.093	0.097	
JULY 2020	14/08/2020	Beryllium	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
JULY 2020	14/08/2020	Boron	milligrams per litre	Fortnightly	2	1.06	1.065	1.07	
JULY 2020	14/08/2020	Cadmium	milligrams per litre	Fortnightly	2	<0.0001	0.000125	0.0002	-
JULY 2020	14/08/2020	Chlorine	milligrams per litre	Fortnightly	2	0.06	0.11	0.16	
JULY 2020	14/08/2020	Chromium	milligrams per litre	Fortnightly	2	<0.01	0.005	<0.01	-
JULY 2020	14/08/2020	Chromium (total)	milligrams per litre	Fortnightly	2	<0.001	0.00125	0.002	
JULY 2020	14/08/2020	Cobalt	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
JULY 2020	14/08/2020	Conductivity	uS/cm	Fortnightly	2	2340.0	2470.0	2600.0	
JULY 2020	14/08/2020	Copper	milligrams per litre	Fortnightly	2	0.004	0.0045	0.005	-
JULY 2020	14/08/2020	Flouride	milligrams per litre	Fortnightly	2	1.15	1.33	1.51	
JULY 2020	14/08/2020	Lead	milligrams per litre	Fortnightly	2	<0.001	0.00125	0.002	-
JULY 2020	14/08/2020	Manganese	milligrams per litre	Fortnightly	2	0.008	0.0115	0.015	
JULY 2020	14/08/2020	Mercury	milligrams per litre	Fortnightly	2	<0.0001	0.00005	<0.0001	-
JULY 2020	14/08/2020	Methylene Blue Active Substance	milligrams per litre	Fortnightly	2	<0.1	0.05	<0.1	
JULY 2020	14/08/2020	Molybdenum	milligrams per litre	Fortnightly	2	0.096	0.1	0.104	-
JULY 2020	14/08/2020	Nickel	milligrams per litre	Fortnightly	2	0.005	0.006	0.007	
JULY 2020	14/08/2020	Nitrogen (total)	milligrams per litre	Fortnightly	2	0.03	0.045	0.06	-
JULY 2020	14/08/2020	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
JULY 2020	14/08/2020	pH	pH Units	Daily	31	8.5	8.603225806	8.7	-
JULY 2020	14/08/2020	Phosphorus	milligrams per litre	Fortnightly	2	0.03	0.035	0.04	
JULY 2020	14/08/2020	Selenium	milligrams per litre	Fortnightly	2	<0.01	0.005	<0.01	-
JULY 2020	14/08/2020	Sulfur	milligrams per litre	Fortnightly	2	550	635	720	
JULY 2020	14/08/2020	Temperature	milligrams per litre	Fortnightly	2	15.8	16.35	16.9	
JULY 2020	14/08/2020	Tin	milligrams per litre	Fortnightly	2	<0.001	0.00075	0.001	-
JULY 2020	14/08/2020	Total Dissolved Solids	milligrams per litre	Fortnightly	2	1620	1680	1740	
JULY 2020	14/08/2020	Total Organic Carbon	milligrams per litre	Fortnightly	2	8	8.5	9	-
JULY 2020	14/08/2020	TSS	milligrams per litre	Fortnightly	2	3	7.5	12	
JULY 2020	14/08/2020	Vanadium	milligrams per litre	Fortnightly	2	0.01	0.01	0.01	-
JULY 2020	14/08/2020	Zinc	milligrams per litre	Fortnightly	2	0.009	0.025	0.041	
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
JULY 2020	14/08/2020	Arsenic	milligrams per litre	Weekly	4	0.018	0.022	0.027	-
JULY 2020	14/08/2020	Boron	milligrams per litre	Weekly	4	1.66	1.915	2.06	
JULY 2020	14/08/2020	Cadmium	milligrams per litre	Weekly	4	<0.0001	0.0001125	0.0002	-
JULY 2020	14/08/2020	Chromium	milligrams per litre	Weekly	4	<0.01	0.005	<0.01	-
JULY 2020	14/08/2020	Chromium (total)	milligrams per litre	Weekly	4	<0.001	0.001125	0.002	
JULY 2020	14/08/2020	Conductivity	uS/cm	Weekly	4	2800.0	2882.5	2950.0	
JULY 2020	14/08/2020	Copper	milligrams per litre	Weekly	4	<0.001	0.0005	<0.001	-
JULY 2020	14/08/2020	Flouride	milligrams per litre	Weekly	4	2	2.175	2.3	
JULY 2020	14/08/2020	Lead	milligrams per litre	Weekly	4	<0.001	0.0005	<0.001	-

# Monthly Data Summary

JULY 2020	14/08/2020	Mercury	milligrams per litre	Weekly	4	<0.0001	0.00005	<0.0001	-
JULY 2020	14/08/2020	Oil and Grease	milligrams per litre	Weekly	4	<5	2.5	<5	
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 2020	14/08/2020	pH	pH Units	Weekly	4	8.2	8.3	8.3	-
JULY 2020	14/08/2020	Selenium	milligrams per litre	Weekly	4	0.02	0.0275	0.03	-
JULY 2020	14/08/2020	TSS	milligrams per litre	Weekly	4	7	10.25	17	
JULY 2020	14/08/2020	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