

Monthly Data Summary

LIDDELL MONTHLY DATA SUMMARY MARCH 2020

LICENCE NO	2122
LICENCE HOLDER	AGL MACQUARIE
REPORTING PERIOD	MARCH 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
MARCH 2020	9/04/2020	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	514.0	703.9	881.6	1500 mg/m ³
MARCH 2020	9/04/2020		parts per million				250.4			342.9
MARCH 2020	9/04/2020	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	816.0	901.9	1099.8	
MARCH 2020	9/04/2020		parts per million				285.5			315.6
MARCH 2020	9/04/2020	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	3.0	11.0	16.0	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-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
MARCH 2020	9/04/2020	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	331	600	751	1500 mg/m ³
MARCH 2020	9/04/2020		parts per million				161	292	366	700 ppm
MARCH 2020	9/04/2020	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	832	1010	1326	
MARCH 2020	9/04/2020		parts per million				291	353	464	600 ppm
MARCH 2020	9/04/2020	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	0.8	2.0	4.6	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
Apr-19	14/05/2019	Cadmium	milligrams per cubic metre	1	1	<0.0002	1.0
Apr-19	14/05/2019	Chlorine	milligrams per cubic metre	1	1	<0.008	200
Apr-19	14/05/2019	Copper	milligrams per cubic metre	1	1	0.0029	
Apr-19	14/05/2019	Hazardous substances (Metals)	milligrams per cubic metre	1	1	≤0.067	5
Apr-19	14/05/2019	Hydrogen chloride	milligrams per cubic metre	1	1	27.0	100
Apr-19	14/05/2019	Mercury	milligrams per cubic metre	1	1	0.00047	1.0
Apr-19	14/05/2019	Nitrogen oxides	milligrams per cubic metre	1	1	800	1500
Apr-19	14/05/2019	Solid particles	milligrams per cubic metre	1	1	30.0	100
Apr-19	14/05/2019	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	11.000	100
Apr-19	14/05/2019	Sulphur dioxide	milligrams per cubic metre	1	1	1200	
Apr-19	14/05/2019	Total fluoride	milligrams per cubic metre	1	1	15.0	50
Apr-19	14/05/2019	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 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
MARCH 2020	9/04/2020	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	299.5	568.5	806.5	1500 mg/m ³
MARCH 2020	9/04/2020		parts per million				145.9	277.0	393.0	700 ppm
MARCH 2020	9/04/2020	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	822.5	977.5	1243.1	
MARCH 2020	9/04/2020		parts per million				287.8	342.0	435.0	600 ppm
MARCH 2020	9/04/2020	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	1.3	5.9	13.8	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
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
MARCH 2020	9/04/2020	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	561.1	698.7	864.6	1500 mg/m3
MARCH 2020	9/04/2020		parts per million				273.4			340.4
MARCH 2020	9/04/2020	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	800.5	944.7	1187.7	
MARCH 2020	9/04/2020		parts per million				280.1			330.5
MARCH 2020	9/04/2020	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	4.3	6.4	9.2	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
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
MARCH 2020	9/04/2020	Ammonia	milligrams per litre	Fortnightly	2	0.06	0.065	0.07	-
MARCH 2020	9/04/2020	Antimony	milligrams per litre	Fortnightly	2	0.008	0.008	0.008	
MARCH 2020	9/04/2020	Arsenic	milligrams per litre	Fortnightly	2	0.008	0.0085	0.009	-
MARCH 2020	9/04/2020	Barium	milligrams per litre	Fortnightly	2	0.108	0.113	0.118	
MARCH 2020	9/04/2020	Beryllium	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
MARCH 2020	9/04/2020	Boron	milligrams per litre	Fortnightly	2	1.26	1.33	1.4	
MARCH 2020	9/04/2020	Cadmium	milligrams per litre	Fortnightly	2	<0.0001	0.000075	0.0001	-
MARCH 2020	9/04/2020	Chlorine	milligrams per litre	Fortnightly	2	0.05	0.055	0.06	
MARCH 2020	9/04/2020	Chromium	milligrams per litre	Fortnightly	2	<0.01	0.005	<0.01	-
MARCH 2020	9/04/2020	Chromium (total)	milligrams per litre	Fortnightly	2	<0.001	0.00075	0.001	
MARCH 2020	9/04/2020	Cobalt	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
MARCH 2020	9/04/2020	Conductivity	uS/cm	Fortnightly	2	2830.0	2840.0	2850.0	
MARCH 2020	9/04/2020	Copper	milligrams per litre	Fortnightly	2	0.002	0.0025	0.003	-
MARCH 2020	9/04/2020	Flouride	milligrams per litre	Fortnightly	2	1.07	1.29	1.51	
MARCH 2020	9/04/2020	Lead	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
MARCH 2020	9/04/2020	Manganese	milligrams per litre	Fortnightly	2	0.007	0.0085	0.01	
MARCH 2020	9/04/2020	Mercury	milligrams per litre	Fortnightly	2	<0.0001	0.00005	<0.0001	-
MARCH 2020	9/04/2020	Methylene Blue Active Substance	milligrams per litre	Fortnightly	2	<0.1	0.05	<0.1	
MARCH 2020	9/04/2020	Molybdenum	milligrams per litre	Fortnightly	2	0.118	0.122	0.126	-
MARCH 2020	9/04/2020	Nickel	milligrams per litre	Fortnightly	2	0.004	0.004	0.004	
MARCH 2020	9/04/2020	Nitrogen (total)	milligrams per litre	Fortnightly	2	0.3	0.5	0.7	-
MARCH 2020	9/04/2020	Oil and Grease	milligrams per litre	Weekly	5	<5	2.5	<5	
MARCH 2020	9/04/2020	pH	pH Units	Daily	31	8.4	8.5	8.6	-
MARCH 2020	9/04/2020	Phosphorus	milligrams per litre	Fortnightly	2	0.03	0.035	0.04	

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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
MARCH 2020	9/04/2020	Selenium	milligrams per litre	Fortnightly	2	<0.01	0.005	<0.01	-
MARCH 2020	9/04/2020	Sulfur	milligrams per litre	Fortnightly	2	710	765	820	
MARCH 2020	9/04/2020	Temperature	milligrams per litre	Fortnightly	2	32.5	32.5	32.5	
MARCH 2020	9/04/2020	Tin	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
MARCH 2020	9/04/2020	Total Dissolved Solids	milligrams per litre	Fortnightly	2	1880	1910	1940	
MARCH 2020	9/04/2020	Total Organic Carbon	milligrams per litre	Fortnightly	2	6	7	8	-
MARCH 2020	9/04/2020	TSS	milligrams per litre	Fortnightly	2	3	3	3	
MARCH 2020	9/04/2020	Vanadium	milligrams per litre	Fortnightly	2	0.02	0.02	0.02	-
MARCH 2020	9/04/2020	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
MARCH 2020	9/04/2020	Ammonia	milligrams per litre	Fortnightly	2	0.02	0.025	0.03	-
MARCH 2020	9/04/2020	Antimony	milligrams per litre	Fortnightly	2	0.008	0.008	0.008	
MARCH 2020	9/04/2020	Arsenic	milligrams per litre	Fortnightly	2	0.007	0.007	0.007	-
MARCH 2020	9/04/2020	Barium	milligrams per litre	Fortnightly	2	0.105	0.1055	0.106	
MARCH 2020	9/04/2020	Beryllium	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
MARCH 2020	9/04/2020	Boron	milligrams per litre	Fortnightly	2	1.22	1.26	1.3	
MARCH 2020	9/04/2020	Cadmium	milligrams per litre	Fortnightly	2	<0.0001	0.00005	<0.0001	-
MARCH 2020	9/04/2020	Chlorine	milligrams per litre	Fortnightly	2	0.06	0.065	0.07	
MARCH 2020	9/04/2020	Chromium	milligrams per litre	Fortnightly	2	<0.01	0.005	<0.01	-
MARCH 2020	9/04/2020	Chromium (total)	milligrams per litre	Fortnightly	2	<0.001	0.00075	0.001	
MARCH 2020	9/04/2020	Cobalt	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
MARCH 2020	9/04/2020	Conductivity	uS/cm	Fortnightly	2	2690.0	2705.0	2720.0	
MARCH 2020	9/04/2020	Copper	milligrams per litre	Fortnightly	2	0.003	0.003	0.003	-
MARCH 2020	9/04/2020	Flouride	milligrams per litre	Fortnightly	2	0.996	1.058	1.12	
MARCH 2020	9/04/2020	Lead	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
MARCH 2020	9/04/2020	Manganese	milligrams per litre	Fortnightly	2	0.007	0.0085	0.01	
MARCH 2020	9/04/2020	Mercury	milligrams per litre	Fortnightly	2	<0.0001	0.00005	<0.0001	-
MARCH 2020	9/04/2020	Methylene Blue Active Substance	milligrams per litre	Fortnightly	2	<0.1	0.05	<0.1	
MARCH 2020	9/04/2020	Molybdenum	milligrams per litre	Fortnightly	2	0.114	0.114	0.114	-
MARCH 2020	9/04/2020	Nickel	milligrams per litre	Fortnightly	2	0.004	0.004	0.004	
MARCH 2020	9/04/2020	Nitrogen (total)	milligrams per litre	Fortnightly	2	0.3	0.45	0.6	-
MARCH 2020	9/04/2020	Oil and Grease	milligrams per litre	Weekly	5	<5	2.5	<5	
MARCH 2020	9/04/2020	pH	pH Units	Daily	31	8.5	8.6	8.7	-

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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
MARCH 2020	9/04/2020	Phosphorus	milligrams per litre	Fortnightly	2	0.04	0.04	0.04	
MARCH 2020	9/04/2020	Selenium	milligrams per litre	Fortnightly	2	<0.01	0.005	<0.01	-
MARCH 2020	9/04/2020	Sulfur	milligrams per litre	Fortnightly	2	720	765	810	
MARCH 2020	9/04/2020	Temperature	milligrams per litre	Fortnightly	2	27	27.2	27.4	
MARCH 2020	9/04/2020	Tin	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
MARCH 2020	9/04/2020	Total Dissolved Solids	milligrams per litre	Fortnightly	2	1640	1740	1840	
MARCH 2020	9/04/2020	Total Organic Carbon	milligrams per litre	Fortnightly	2	3	5.5	8	-
MARCH 2020	9/04/2020	TSS	milligrams per litre	Fortnightly	2	5	8	11	
MARCH 2020	9/04/2020	Vanadium	milligrams per litre	Fortnightly	2	0.01	0.015	0.02	-
MARCH 2020	9/04/2020	Zinc	milligrams per litre	Fortnightly	2	<0.005	0.00675	0.011	
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
MARCH 2020	9/04/2020	Arsenic	milligrams per litre	Weekly	5	0.021	0.036	0.051	-
MARCH 2020	9/04/2020	Boron	milligrams per litre	Weekly	5	1.64	1.824	1.97	
MARCH 2020	9/04/2020	Cadmium	milligrams per litre	Weekly	5	<0.0001	0.00015	0.0002	-
MARCH 2020	9/04/2020	Chromium	milligrams per litre	Weekly	5	<0.01	0.005	<0.01	-
MARCH 2020	9/04/2020	Chromium (total)	milligrams per litre	Weekly	5	0.002	0.0028	0.004	
MARCH 2020	9/04/2020	Conductivity	uS/cm	Weekly	5	2870.0	2950.0	3010.0	
MARCH 2020	9/04/2020	Copper	milligrams per litre	Weekly	5	<0.001	0.0005	<0.001	-
MARCH 2020	9/04/2020	Flouride	milligrams per litre	Weekly	5	2.3	2.44	2.7	
MARCH 2020	9/04/2020	Lead	milligrams per litre	Weekly	5	<0.001	0.0005	<0.001	-
MARCH 2020	9/04/2020	Mercury	milligrams per litre	Weekly	5	<0.0001	0.00005	<0.0001	-
MARCH 2020	9/04/2020	Oil and Grease	milligrams per litre	Weekly	5	<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
MARCH 2020	9/04/2020	pH	pH Units	Weekly	5	8.2	8.2	8.3	-
MARCH 2020	9/04/2020	Selenium	milligrams per litre	Weekly	5	0.02	0.032	0.04	-
MARCH 2020	9/04/2020	TSS	milligrams per litre	Weekly	5	4	6.6	9	
MARCH 2020	9/04/2020	Zinc	milligrams per litre	Weekly	5	<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

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