

Monthly Data Summary

LIDDELL MONTHLY DATA SUMMARY APRIL 2019

LICENCE NO	2122
LICENCE HOLDER	AGL MACQUARIE
REPORTING PERIOD	APRIL 2019

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
APRIL 2019	14/05/2019	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	551.5	651.8	796.3	1500 mg/m ³
APRIL 2019	14/05/2019		parts per million				268.7			317.6
APRIL 2019	14/05/2019	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	789.7	955.0	1174.5	
APRIL 2019	14/05/2019		parts per million				276.3			334.1
APRIL 2019	14/05/2019	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	1.2	4.2	18.0	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-18	8/11/2018	Cadmium	milligrams per cubic metre	1	1	<0.0001	1.0
Oct-18	8/11/2018	Chlorine	milligrams per cubic metre	1	1	0.0	200
Oct-18	8/11/2018	Copper	milligrams per cubic metre	1	1	0.0017	
Oct-18	8/11/2018	Hazardous substances (Metals)	milligrams per cubic metre	1	1	≤0.058	5
Oct-18	8/11/2018	Hydrogen chloride	milligrams per cubic metre	1	1	26.0	100
Oct-18	8/11/2018	Mercury	milligrams per cubic metre	1	1	0.00330	1.0
Oct-18	8/11/2018	Nitrogen oxides	milligrams per cubic metre	1	1	810	1500
Oct-18	8/11/2018	Solid particles	milligrams per cubic metre	1	1	5.5	100
Oct-18	8/11/2018	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	2.000	100
Oct-18	8/11/2018	Sulphur dioxide	milligrams per cubic metre	1	1	1200	
Oct-18	8/11/2018	Total fluoride	milligrams per cubic metre	1	1	12.0	50
Oct-18	8/11/2018	Volatile organic compounds	milligrams per cubic metre	1	1	<0.03	

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
APRIL 2019	14/05/2019	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	457	619	829	1500 mg/m ³
APRIL 2019	14/05/2019		parts per million				223	302	404	700 ppm
APRIL 2019	14/05/2019	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	341	970	1274	
APRIL 2019	14/05/2019		parts per million				119	339	446	600 ppm
APRIL 2019	14/05/2019	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	6.2	7.9	11.1	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
Mar-18	12/04/2018	Cadmium	milligrams per cubic metre	1	1	<0.0002	1.0
Mar-18	12/04/2018	Chlorine	milligrams per cubic metre	1	1	<0.007	200
Mar-18	12/04/2018	Copper	milligrams per cubic metre	1	1	0.0040	
Mar-18	12/04/2018	Hazardous substances (Metals)	milligrams per cubic metre	1	1	≤0.019	5
Mar-18	12/04/2018	Hydrogen chloride	milligrams per cubic metre	1	1	8.7	100
Mar-18	12/04/2018	Mercury	milligrams per cubic metre	1	1	<0.00080	1.0
Mar-18	12/04/2018	Nitrogen oxides	milligrams per cubic metre	1	1	550	1500
Mar-18	12/04/2018	Solid particles	milligrams per cubic metre	1	1	37.0	100
Mar-18	12/04/2018	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	0.880	100
Mar-18	12/04/2018	Sulphur dioxide	milligrams per cubic metre	1	1	900	
Mar-18	12/04/2018	Total fluoride	milligrams per cubic metre	1	1	8.2	50
Mar-18	12/04/2018	Volatile organic compounds	milligrams per cubic metre	1	1	0.940	
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
APRIL 2019	14/05/2019	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	418.7	680.5	936.8	1500 mg/m ³
APRIL 2019	14/05/2019		parts per million				204.0	331.5	456.4	700 ppm
APRIL 2019	14/05/2019	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	907.2	1082.0	1361.2	
APRIL 2019	14/05/2019		parts per million				317.4	378.6	476.3	600 ppm
APRIL 2019	14/05/2019	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	3.6	5.9	13.4	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
Oct-17	1/12/2017	Cadmium	milligrams per cubic metre	1	1	<0.0001	1.0
Oct-17	1/12/2017	Chlorine	milligrams per cubic metre	1	1	0.0	200
Oct-17	1/12/2017	Copper	milligrams per cubic metre	1	1	0.0037	
Oct-17	1/12/2017	Hazardous substances (Metals)	milligrams per cubic metre	1	1	≤0.02	5
Oct-17	1/12/2017	Hydrogen chloride	milligrams per cubic metre	1	1	20.0	100
Oct-17	1/12/2017	Mercury	milligrams per cubic metre	1	1	0.00051	1.0
Oct-17	1/12/2017	Nitrogen oxides	milligrams per cubic metre	1	1	770	1500
Oct-17	1/12/2017	Solid particles	milligrams per cubic metre	1	1	42.0	100
Oct-17	1/12/2017	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	1.700	100
Oct-17	1/12/2017	Sulphur dioxide	milligrams per cubic metre	1	1	1300	
Oct-17	1/12/2017	Total fluoride	milligrams per cubic metre	1	1	9.8	50
Oct-17	1/12/2017	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
APRIL 2019	14/05/2019	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour					1500 mg/m ³
APRIL 2019	14/05/2019		parts per million							700 ppm
APRIL 2019	14/05/2019	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour					
APRIL 2019	14/05/2019		parts per million							600 ppm
APRIL 2019	14/05/2019	Opacity - Undifferentiated particles	Percent	Continuous	One hour					20%
Comments:	Unit was out of service for the month of April									

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-18	29/11/2018	Cadmium	milligrams per cubic metre	1	1	<0.0001	1.0
Oct-18	29/11/2018	Chlorine	milligrams per cubic metre	1	1	0.0	200
Oct-18	29/11/2018	Copper	milligrams per cubic metre	1	1	0.0007	
Oct-18	29/11/2018	Hazardous substances (Metals)	milligrams per cubic metre	1	1	≤0.013	5
Oct-18	29/11/2018	Hydrogen chloride	milligrams per cubic metre	1	1	21.0	100
Oct-18	29/11/2018	Mercury	milligrams per cubic metre	1	1	0.00037	1.0
Oct-18	29/11/2018	Nitrogen oxides	milligrams per cubic metre	1	1	540	1500
Oct-18	29/11/2018	Solid particles	milligrams per cubic metre	1	1	16.0	100
Oct-18	29/11/2018	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	0.900	100
Oct-18	29/11/2018	Sulphur dioxide	milligrams per cubic metre	1	1	1100	
Oct-18	29/11/2018	Total fluoride	milligrams per cubic metre	1	1	11.0	50
Oct-18	29/11/2018	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. 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
APRIL 2019	14/05/2019	Ammonia	milligrams per litre	Fortnightly	2	<0.01	0.0275	0.05	-
APRIL 2019	14/05/2019	Antimony	milligrams per litre	Fortnightly	2	0.009	0.009	0.009	
APRIL 2019	14/05/2019	Arsenic	milligrams per litre	Fortnightly	2	0.008	0.0085	0.009	-
APRIL 2019	14/05/2019	Barium	milligrams per litre	Fortnightly	2	0.112	0.112	0.112	
APRIL 2019	14/05/2019	Beryllium	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
APRIL 2019	14/05/2019	Boron	milligrams per litre	Fortnightly	2	1.15	1.225	1.3	
APRIL 2019	14/05/2019	Cadmium	milligrams per litre	Fortnightly	2	<0.0001	0.00005	<0.0001	-
APRIL 2019	14/05/2019	Chlorine	milligrams per litre	Fortnightly	2	0	0.025	0.05	
APRIL 2019	14/05/2019	Chromium	milligrams per litre	Fortnightly	2	<0.01	0.005	<0.01	-
APRIL 2019	14/05/2019	Chromium (total)	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	
APRIL 2019	14/05/2019	Cobalt	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
APRIL 2019	14/05/2019	Conductivity	uS/cm	Fortnightly	2	2740.0	2755.0	2770.0	
APRIL 2019	14/05/2019	Copper	milligrams per litre	Fortnightly	2	0.002	0.0025	0.003	-
APRIL 2019	14/05/2019	Flouride	milligrams per litre	Fortnightly	2	1.14	1.32	1.5	
APRIL 2019	14/05/2019	Lead	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
APRIL 2019	14/05/2019	Manganese	milligrams per litre	Fortnightly	2	0.012	0.0125	0.013	
APRIL 2019	14/05/2019	Mercury	milligrams per litre	Fortnightly	2	<0.0001	0.00005	<0.0001	-
APRIL 2019	14/05/2019	Methylene Blue Active Substance	milligrams per litre	Fortnightly	2	<0.1	0.075	0.1	
APRIL 2019	14/05/2019	Molybdenum	milligrams per litre	Fortnightly	2	0.121	0.1215	0.122	-
APRIL 2019	14/05/2019	Nickel	milligrams per litre	Fortnightly	2	0.004	0.004	0.004	
APRIL 2019	14/05/2019	Nitrogen (total)	milligrams per litre	Fortnightly	2	0.4	0.4	0.4	-
APRIL 2019	14/05/2019	Oil and Grease	milligrams per litre	Weekly	5	<5	2.5	<5	
APRIL 2019	14/05/2019	pH	pH Units	Daily	30	8.3	8.5	8.6	-
APRIL 2019	14/05/2019	Phosphorus	milligrams per litre	Fortnightly	2	0.02	0.03	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
APRIL 2019	14/05/2019	Selenium	milligrams per litre	Fortnightly	2	<0.01	0.005	<0.01	-
APRIL 2019	14/05/2019	Sulfur	milligrams per litre	Fortnightly	2	652	662.5	673	
APRIL 2019	14/05/2019	Temperature	milligrams per litre	Fortnightly	2	29.7	29.95	30.2	
APRIL 2019	14/05/2019	Tin	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
APRIL 2019	14/05/2019	Total Dissolved Solids	milligrams per litre	Fortnightly	2	1590	1765	1940	
APRIL 2019	14/05/2019	Total Organic Carbon	milligrams per litre	Fortnightly	2	6	6	6	-
APRIL 2019	14/05/2019	TSS	milligrams per litre	Fortnightly	2	1	2	3	
APRIL 2019	14/05/2019	Vanadium	milligrams per litre	Fortnightly	2	0.02	0.02	0.02	-
APRIL 2019	14/05/2019	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
APRIL 2019	14/05/2019	Ammonia	milligrams per litre	Fortnightly	2	0.02	0.065	0.11	-
APRIL 2019	14/05/2019	Antimony	milligrams per litre	Fortnightly	2	0.01	0.011	0.012	
APRIL 2019	14/05/2019	Arsenic	milligrams per litre	Fortnightly	2	0.015	0.015	0.015	-
APRIL 2019	14/05/2019	Barium	milligrams per litre	Fortnightly	2	0.116	0.117	0.118	
APRIL 2019	14/05/2019	Beryllium	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
APRIL 2019	14/05/2019	Boron	milligrams per litre	Fortnightly	2	1.22	1.26	1.3	
APRIL 2019	14/05/2019	Cadmium	milligrams per litre	Fortnightly	2	<0.0001	0.00005	<0.0001	-
APRIL 2019	14/05/2019	Chlorine	milligrams per litre	Fortnightly	2	0.05	0.05	0.05	
APRIL 2019	14/05/2019	Chromium	milligrams per litre	Fortnightly	2	<0.01	0.005	<0.01	-
APRIL 2019	14/05/2019	Chromium (total)	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	
APRIL 2019	14/05/2019	Cobalt	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
APRIL 2019	14/05/2019	Conductivity	uS/cm	Fortnightly	2	2640.0	2655.0	2670.0	
APRIL 2019	14/05/2019	Copper	milligrams per litre	Fortnightly	2	0.003	0.0035	0.004	-
APRIL 2019	14/05/2019	Flouride	milligrams per litre	Fortnightly	2	1.11	1.29	1.47	
APRIL 2019	14/05/2019	Lead	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
APRIL 2019	14/05/2019	Manganese	milligrams per litre	Fortnightly	2	0.014	0.016	0.018	
APRIL 2019	14/05/2019	Mercury	milligrams per litre	Fortnightly	2	<0.0001	0.00005	<0.0001	-
APRIL 2019	14/05/2019	Methylene Blue Active Substance	milligrams per litre	Fortnightly	2	<0.1	0.075	0.1	
APRIL 2019	14/05/2019	Molybdenum	milligrams per litre	Fortnightly	2	0.126	0.133	0.14	-
APRIL 2019	14/05/2019	Nickel	milligrams per litre	Fortnightly	2	0.004	0.004	0.004	
APRIL 2019	14/05/2019	Nitrogen (total)	milligrams per litre	Fortnightly	2	0.4	0.45	0.5	-
APRIL 2019	14/05/2019	Oil and Grease	milligrams per litre	Weekly	5	<5	2.5	<5	
APRIL 2019	14/05/2019	pH	pH Units	Daily	30	6.7	8.276666667	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
APRIL 2019	14/05/2019	Phosphorus	milligrams per litre	Fortnightly	2	0.03	0.045	0.06	
APRIL 2019	14/05/2019	Selenium	milligrams per litre	Fortnightly	2	<0.01	0.005	<0.01	-
APRIL 2019	14/05/2019	Sulfur	milligrams per litre	Fortnightly	2	617	676.5	685	
APRIL 2019	14/05/2019	Temperature	milligrams per litre	Fortnightly	2	24.7	25.25	25.8	
APRIL 2019	14/05/2019	Tin	milligrams per litre	Fortnightly	2	<0.001	0.0005	<0.001	-
APRIL 2019	14/05/2019	Total Dissolved Solids	milligrams per litre	Fortnightly	2	1590	1625	1660	
APRIL 2019	14/05/2019	Total Organic Carbon	milligrams per litre	Fortnightly	2	5	5.5	6	-
APRIL 2019	14/05/2019	TSS	milligrams per litre	Fortnightly	2	2	4	6	
APRIL 2019	14/05/2019	Vanadium	milligrams per litre	Fortnightly	2	0.02	0.025	0.03	-
APRIL 2019	14/05/2019	Zinc	milligrams per litre	Fortnightly	2	<0.005	0.0025	<0.005	
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
APRIL 2019	14/05/2019	Arsenic	milligrams per litre	Weekly	5	0.053	0.0464	0.067	-
APRIL 2019	14/05/2019	Boron	milligrams per litre	Weekly	5	1.62	1.708	1.94	
APRIL 2019	14/05/2019	Cadmium	milligrams per litre	Weekly	5	<0.0001	0.00005	<0.0001	-
APRIL 2019	14/05/2019	Chromium	milligrams per litre	Weekly	5	<0.01	0.005	<0.01	-
APRIL 2019	14/05/2019	Chromium (total)	milligrams per litre	Weekly	5	0.002	0.0011	0.002	
APRIL 2019	14/05/2019	Conductivity	uS/cm	Weekly	5	2740.0	2872.0	2960.0	
APRIL 2019	14/05/2019	Copper	milligrams per litre	Weekly	5	<0.001	0.0009	0.002	-
APRIL 2019	14/05/2019	Flouride	milligrams per litre	Weekly	5	2.8	2.66	2.8	
APRIL 2019	14/05/2019	Lead	milligrams per litre	Weekly	5	<0.001	0.0005	<0.001	-
APRIL 2019	14/05/2019	Mercury	milligrams per litre	Weekly	5	<0.0001	0.00005	<0.0001	-
APRIL 2019	14/05/2019	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
APRIL 2019	14/05/2019	pH	pH Units	Weekly	5	8.0	8.1	8.2	-
APRIL 2019	14/05/2019	Selenium	milligrams per litre	Weekly	5	0.04	0.023	0.04	-
APRIL 2019	14/05/2019	TSS	milligrams per litre	Weekly	5	<1	4.4	8	
APRIL 2019	14/05/2019	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