

Monthly Data Summary

LIDDELL MONTHLY DATA SUMMARY NOVEMBER 2017

LICENCE NO	2122
LICENCE HOLDER	AGL MACQUARIE
REPORTING PERIOD	NOVEMBER 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

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
NOVEMBER 2017	15/12/2017	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	356.8	671.2	786.8	1500 mg/m ³
NOVEMBER 2017	15/12/2017		parts per million				173.8	327.0	383.3	700 ppm
NOVEMBER 2017	15/12/2017	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	934.3	1050.9	1338.5	
NOVEMBER 2017	15/12/2017		parts per million				326.9	367.7	468.3	600 ppm
NOVEMBER 2017	15/12/2017	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	1.6	2.5	5.3	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			
Jul-17	5/09/2017	Cadmium	milligrams per cubic metre	1	1	<0.0002	1.0			
Jul-17	5/09/2017	Chlorine	milligrams per cubic metre	1	1	0.0	200			
Jul-17	5/09/2017	Copper	milligrams per cubic metre	1	1	0.0029				
Jul-17	5/09/2017	Hazardous substances (Metals)	milligrams per cubic metre	1	1	≤0.014	5			
Jul-17	5/09/2017	Hydrogen chloride	milligrams per cubic metre	1	1	5.7	100			
Jul-17	5/09/2017	Mercury	milligrams per cubic metre	1	1	0.00140	1.0			
Jul-17	5/09/2017	Nitrogen oxides	milligrams per cubic metre	1	1	1	1500			
Jul-17	5/09/2017	Solid particles	milligrams per cubic metre	1	1	24.0	100			
Jul-17	5/09/2017	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	1	1.100	100			
Jul-17	5/09/2017	Sulphur dioxide	milligrams per cubic metre	1	1	1100				
Jul-17	5/09/2017	Total fluoride	milligrams per cubic metre	1	1	3.9	50			
Jul-17	5/09/2017	Volatile organic compounds	milligrams per cubic metre	1	1	0.012				
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 25 July 2017.										

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
NOVEMBER 2017	15/12/2017	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	-				1500 mg/m ³
NOVEMBER 2017	15/12/2017		parts per million							700 ppm
NOVEMBER 2017	15/12/2017	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	-				
NOVEMBER 2017	15/12/2017		parts per million							600 ppm
NOVEMBER 2017	15/12/2017	Opacity - Undifferentiated particles	Percent	Continuous	One hour	-				20%
Comments:		Unit was out of service for the entire monitoring period								

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
-	-	Cadmium	milligrams per cubic metre	1	-	-	1.0
-	-	Chlorine	milligrams per cubic metre	1	-	-	200
-	-	Copper	milligrams per cubic metre	1	-	-	
-	-	Hazardous substances (Metals)	milligrams per cubic metre	1	-	-	5
-	-	Hydrogen chloride	milligrams per cubic metre	1	-	-	100
-	-	Mercury	milligrams per cubic metre	1	-	-	1.0
-	-	Nitrogen oxides	milligrams per cubic metre	1	-	-	1500
-	-	Solid particles	milligrams per cubic metre	1	-	-	100
-	-	Sulfuric acid mist and sulfur trioxide	milligrams per cubic metre	1	-	-	100
-	-	Sulphur dioxide	milligrams per cubic metre	1	-	-	
-	-	Total fluoride	milligrams per cubic metre	1	-	-	50
-	-	Volatile organic compounds	milligrams per cubic metre	1	-	-	
Comments:		Unit was out of service for the entire monitoring period					

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
NOVEMBER 2017	15/12/2017	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	290.4	476.2	954.7	1500 mg/m ³
NOVEMBER 2017	15/12/2017		parts per million				141.5			232.0
NOVEMBER 2017	15/12/2017	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	764.7	920.8	1511.8	
NOVEMBER 2017	15/12/2017		parts per million				267.5			322.2
NOVEMBER 2017	15/12/2017	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	2.9	4.6	7.3	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 ³
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	0.079	
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	650	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

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
NOVEMBER 2017	15/12/2017	Nitrogen Oxides	milligrams per cubic metre	Continuous	One hour	>99%	372.4	571.5	1356.3	1500 mg/m ³
NOVEMBER 2017	15/12/2017		parts per million				181.4	278.5	660.8	700 ppm
NOVEMBER 2017	15/12/2017	Sulphur dioxide	milligrams per cubic metre	Continuous	One hour	>99%	744.3	903.4	1593.7	
NOVEMBER 2017	15/12/2017		parts per million				260.4	316.1	557.6	600 ppm
NOVEMBER 2017	15/12/2017	Opacity - Undifferentiated particles	Percent	Continuous	One hour	>99%	5.8	8.6	13.9	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
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	0.0033	1.0
Apr-17	19/05/2017	Nitrogen oxides	milligrams per cubic metre	1	1	630	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	
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 4 tested 6 April 2017.						

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
NOVEMBER 2017	15/12/2017	Ammonia	milligrams per litre	Fortnightly	2	0.0	0.0	0.1	-
NOVEMBER 2017	15/12/2017	Antimony	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	
NOVEMBER 2017	15/12/2017	Arsenic	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	-
NOVEMBER 2017	15/12/2017	Barium	milligrams per litre	Fortnightly	2	0.1	0.1	0.1	
NOVEMBER 2017	15/12/2017	Beryllium	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	-
NOVEMBER 2017	15/12/2017	Boron	milligrams per litre	Fortnightly	2	1.1	1.2	1.2	
NOVEMBER 2017	15/12/2017	Cadmium	milligrams per litre	Fortnightly	2	<0.0001	0.0	0.0	-
NOVEMBER 2017	15/12/2017	Chlorine	milligrams per litre	Fortnightly	2	0.1	0.1	0.1	
NOVEMBER 2017	15/12/2017	Chromium	milligrams per litre	Fortnightly	2	<0.01	0.0	<0.01	-
NOVEMBER 2017	15/12/2017	Chromium (total)	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	
NOVEMBER 2017	15/12/2017	Cobalt	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	-
NOVEMBER 2017	15/12/2017	Conductivity	uS/cm	Fortnightly	2	2520.0	2530.0	2540.0	
NOVEMBER 2017	15/12/2017	Copper	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	-
NOVEMBER 2017	15/12/2017	Flouride	milligrams per litre	Fortnightly	2	1.2	1.4	1.5	
NOVEMBER 2017	15/12/2017	Lead	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	-
NOVEMBER 2017	15/12/2017	Manganese	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	
NOVEMBER 2017	15/12/2017	Mercury	milligrams per litre	Fortnightly	2	<0.0001	0.0	<0.0001	-
NOVEMBER 2017	15/12/2017	Methylene Blue Active Substance	milligrams per litre	Fortnightly	2	<0.1	0.1	<0.1	
NOVEMBER 2017	15/12/2017	Molybdenum	milligrams per litre	Fortnightly	2	0.1	0.1	0.1	-

Monthly Data Summary

NOVEMBER 2017	15/12/2017	Nickel	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	
NOVEMBER 2017	15/12/2017	Nitrogen (total)	milligrams per litre	Fortnightly	2	0.5	0.6	0.7	-
NOVEMBER 2017	15/12/2017	Oil and Grease	milligrams per litre	Weekly	4	<5	2.5	<5	
NOVEMBER 2017	15/12/2017	pH	pH Units	Fortnightly	30	8.3	8.4	8.5	-
NOVEMBER 2017	15/12/2017	Phosphorus	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	
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
NOVEMBER 2017	15/12/2017	Selenium	milligrams per litre	Fortnightly	2	<0.01	0.0	<0.01	-
NOVEMBER 2017	15/12/2017	Temperature	milligrams per litre	Fortnightly	2	26.3	26.9	27.4	
NOVEMBER 2017	15/12/2017	Tin	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	-
NOVEMBER 2017	15/12/2017	Total Dissolved Solids	milligrams per litre	Fortnightly	2	1330.0	1500.0	1670.0	
NOVEMBER 2017	15/12/2017	Total Organic Carbon	milligrams per litre	Fortnightly	2	6.0	6.5	7.0	-
NOVEMBER 2017	15/12/2017	TSS	milligrams per litre	Fortnightly	2	3.0	3.0	3.0	
NOVEMBER 2017	15/12/2017	Vanadium	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	-
NOVEMBER 2017	15/12/2017	Zinc	milligrams per litre	Fortnightly	2	<0.005	0.0	<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
NOVEMBER 2017	15/12/2017	Ammonia	milligrams per litre	Fortnightly	2	0.1	0.1	0.1	-
NOVEMBER 2017	15/12/2017	Antimony	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	
NOVEMBER 2017	15/12/2017	Arsenic	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	-
NOVEMBER 2017	15/12/2017	Barium	milligrams per litre	Fortnightly	2	0.1	0.1	0.1	
NOVEMBER 2017	15/12/2017	Beryllium	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	-
NOVEMBER 2017	15/12/2017	Boron	milligrams per litre	Fortnightly	2	0.9	0.9	1.0	
NOVEMBER 2017	15/12/2017	Cadmium	milligrams per litre	Fortnightly	2	<0.0001	0.0	<0.0001	-
NOVEMBER 2017	15/12/2017	Chlorine	milligrams per litre	Fortnightly	2	0.1	0.1	0.1	
NOVEMBER 2017	15/12/2017	Chromium	milligrams per litre	Fortnightly	2	<0.01	0.0	<0.01	-
NOVEMBER 2017	15/12/2017	Chromium (total)	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	
NOVEMBER 2017	15/12/2017	Cobalt	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	-
NOVEMBER 2017	15/12/2017	Conductivity	uS/cm	Fortnightly	2	2460.0	2465.0	2470.0	
NOVEMBER 2017	15/12/2017	Copper	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	-
NOVEMBER 2017	15/12/2017	Flouride	milligrams per litre	Fortnightly	2	1.5	1.4	1.5	
NOVEMBER 2017	15/12/2017	Lead	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	-
NOVEMBER 2017	15/12/2017	Manganese	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	
NOVEMBER 2017	15/12/2017	Mercury	milligrams per litre	Fortnightly	2	<0.0001	0.0	<0.0001	-
NOVEMBER 2017	15/12/2017	Methylene Blue Active Substance	milligrams per litre	Fortnightly	2	<0.1	0.1	<0.1	
NOVEMBER 2017	15/12/2017	Molybdenum	milligrams per litre	Fortnightly	2	0.1	0.1	0.1	-
NOVEMBER 2017	15/12/2017	Nickel	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	

Monthly Data Summary

NOVEMBER 2017	15/12/2017	Nitrogen (total)	milligrams per litre	Fortnightly	2	0.5	0.6	0.6	-
NOVEMBER 2017	15/12/2017	Oil and Grease	milligrams per litre	Weekly	4	<5	2.5	<5	
NOVEMBER 2017	15/12/2017	pH	pH Units	Fortnightly	30	0.0	0.0	0.0	-
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
NOVEMBER 2017	15/12/2017	Phosphorus	milligrams per litre	Fortnightly	2	0.0	0.0	0.0	
NOVEMBER 2017	15/12/2017	Selenium	milligrams per litre	Fortnightly	2	<0.01	0.0	<0.01	-
NOVEMBER 2017	15/12/2017	Temperature	milligrams per litre	Fortnightly	2	22.2	23.2	24.2	
NOVEMBER 2017	15/12/2017	Tin	milligrams per litre	Fortnightly	2	<0.001	0.0	<0.001	-
NOVEMBER 2017	15/12/2017	Total Dissolved Solids	milligrams per litre	Fortnightly	2	1170.0	1245.0	1320.0	
NOVEMBER 2017	15/12/2017	Total Organic Carbon	milligrams per litre	Fortnightly	2	7.0	7.0	7.0	-
NOVEMBER 2017	15/12/2017	TSS	milligrams per litre	Fortnightly	2	4.0	10.0	16.0	
NOVEMBER 2017	15/12/2017	Vanadium	milligrams per litre	Fortnightly	2	<0.01	0.0	0.0	-
NOVEMBER 2017	15/12/2017	Zinc	milligrams per litre	Fortnightly	2	<0.005	0.0	<0.005	
Comments									

Monthly Data Summary

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