

Environment Protection Licence

Licence - 2122

Licence Details

Number:	2122
Anniversary Date:	01-July

Licensee

AGL MACQUARIE PTY LIMITED
 PRIVATE MAIL BAG 2
 MUSWELLBROOK NSW 2333

Premises

LIDDELL POWER STATION
 NEW ENGLAND HIGHWAY
 LIDDELL NSW 2333

Scheduled Activity

Chemical storage
 Coal works
 Crushing, grinding or separating
 Electricity generation

Fee Based Activity

<u>Fee Based Activity</u>	<u>Scale</u>
Coal works	> 2000000-5000000 T annual handling capacity
Crushing, grinding or separating	> 2000000 T annual processing capacity
General chemicals storage	0-5000 kL storage capacity
Generation of electrical power from coal	> 4000 GWh annual generating capacity
Petroleum products storage	0-5000 kL storage capacity

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Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).



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The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

AGL MACQUARIE PTY LIMITED
PRIVATE MAIL BAG 2
MUSWELLBROOK NSW 2333

subject to the conditions which follow.

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1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Coal works	Coal works	> 2000000 - 5000000 T annual handing capacity
Crushing, grinding or separating	Crushing, grinding or separating	> 2000000 T annual processing capacity
Chemical storage	General chemicals storage	0 - 5000 kL storage capacity
Electricity generation	Generation of electrical power from coal	> 4000 GWh annual generating capacity
Chemical storage	Petroleum products storage	0 - 5000 kL storage capacity

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
LIDDELL POWER STATION
NEW ENGLAND HIGHWAY
LIDDELL
NSW 2333
PREMISES DEFINED BY DOCUMENT(S) TITLED "LIDDELL EPL" REFERENCES "PAGE 1" AND "PAGE 2" DATED 29/06/2020 AND PROVIDED TO THE EPA ON 29/06/2020 (EPA REFERENCE DOC20/517017 AND DOC20/517017-1).

A2.2 The document(s) referred to in condition A2.1 above are herein referred to in this licence as "The Plans".

Note: Page Break.

A3 Other activities

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A3.1 This licence applies to all other activities carried on at the premises, including:

Ancillary Activity
Electricity generation (generation of electrical power from diesel)
Helicopter-related activities
Sewage treatment

A3.2 For the purpose of condition A3.1 above:

a) electricity generation (generation of electrical power from diesel) means the operation of the emergency diesel generator(s) and the Hunter Valley Gas Turbine(s) in accordance with the conditions of this licence; and

b) all other activities listed in condition A3.1 are as defined by Schedule 1 of the Protection of the Environment Operations Act 1997 although not meeting the scheduled activity threshold.

A4 Information supplied to the EPA

A4.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and

b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

A4.2 Any other document and/or management plan is not to be taken as part of the documentation in condition A4.1 above, other than those documents and/or management plans specifically referenced in this licence.

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

<i>Air</i>			
EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
1		Discharge to air	Discharge of air emissions from stack serving boilers number 1 and 2 marked and shown as EPL Monitors ID No. 1 on The Plans

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2		Discharge to air	Discharge of air emissions from stack serving boilers number 3 and 4 marked and shown as EPL Monitors ID No. 2 on The Plans
3	Air emission monitoring		Combined air emissions from boiler 1 via Points 7 and 8 to Point 1 marked and shown as EPL Monitors ID No. 3 on The Plans
4	Air emission monitoring		Combined air emissions from boiler 2 via Points 9 and 10 to Point 1 marked and shown as EPL Monitors ID No. 4 on The Plans
5	Air emission monitoring		Combined air emissions from boiler 3 via Points 11 and 12 to Point 2 marked and shown as EPL Monitors ID No. 5 on The Plans
6	Air emission monitoring		Combined air emissions from boiler 4 via Points 13 and 14 to Point 2 marked and shown as EPL Monitors ID No. 6 on The Plans
7	Air emission monitoring		Boiler number 1 exhaust - duct A marked and shown as EPL Monitors ID No. 7 on The Plans
8	Air emission monitoring		Boiler number 1 exhaust - duct B marked and shown as EPL Monitors ID No. 8 on The Plans
9	Air emission monitoring		Boiler number 2 exhaust - duct A marked and shown as EPL Monitors ID No. 9 on The Plans
10	Air emission monitoring		Boiler number 2 exhaust - duct B marked and shown as EPL Monitors ID No. 10 on The Plans
11	Air emission monitoring		Boiler number 3 exhaust - duct A marked and shown as EPL Monitors ID No. 11 on The Plans
12	Air emission monitoring		Boiler number 3 exhaust - duct B marked and shown as EPL Monitors ID No. 12 on The Plans
13	Air emission monitoring		Boiler number 4 exhaust - duct A marked and shown as EPL Monitors ID No. 13 on The Plans
14	Air emission monitoring		Boiler number 4 exhaust - duct B marked and shown as EPL Monitors ID No. 14 on The Plans
15	Meteorological weather monitoring		Meteorological weather station marked and shown as EPL Monitors ID No. 15 on The Plans

P1.2 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

P1.3 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

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Water and land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
16	Discharge to waters Discharge quality monitoring	Discharge to waters Discharge quality monitoring	Discharge of cooling water from the cooling water outlet canal to Lake Liddell marked and shown as EPL Monitors ID No. 16 on The Plans
17	Discharge to waters Discharge quality monitoring	Discharge to waters Discharge quality monitoring	Discharge from oil and grit trap weir overflow to Lake Liddell marked and shown as EPL Monitors ID No. 17 on The Plans
18	Discharge to waters Discharge quality monitoring Volume monitoring	Discharge to waters Discharge quality monitoring Volume monitoring	Discharge from skimmer dam overflow spillway (located at the left abutment of the skimmer dam) to Lake Liddell marked and shown as EPL Monitors ID No. 18 on The Plans
19	Discharge to utilisation area Volume monitoring	Discharge to utilisation area Volume monitoring	Discharge of effluent from the final pond of the onsite sewage treatment system adjacent to utilisation area marked and shown as EPL Monitors ID No. 19 on The Plans

3 Limit Conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Load limits

L2.1 The actual load of an assessable pollutant discharged from the premises during the reporting period must not exceed the load limit specified for the assessable pollutant in the table below.

Note: An assessable pollutant is a pollutant which affects the licence fee payable for the licence.

L2.2 The actual load of an assessable pollutant must be calculated in accordance with the relevant load calculation protocol.

Assessable Pollutant	Load limit (kg)
Arsenic (Air)	
Benzene (Air)	
Benzo(a)pyrene (equivalent) (Air)	
Coarse Particulates (Air)	

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Fine Particulates (Air)
Fluoride (Air)
Lead (Air)
Mercury (Air)
Nitrogen Oxides (Air)
Sulfur Oxides (Air)
Volatile organic compounds (Air)

L3 Concentration limits

- L3.1 For each monitoring/discharge point or utilisation area specified in the table\& below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.
- L3.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.
- L3.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\&.
- L3.4 Air Concentration Limits

POINT 3,4,5,6

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Cadmium	milligrams per cubic metre	0.2	Dry, 273K, 101.3kPA	7% O ₂	1 hour
Chlorine	milligrams per cubic metre	20	Dry, 273K, 101.3kPA	7% O ₂	1 hour
Fluorine	milligrams per cubic metre	30	Dry, 273K, 101.3kPA	7% O ₂	1 hour
Hydrogen chloride	milligrams per cubic metre	50	Dry, 273K, 101.3kPA	7% O ₂	1 hour
Mercury	milligrams per cubic metre	0.05	Dry, 273K, 101.3kPA	7% O ₂	1 hour
Nitrogen Oxides	milligrams per cubic metre	1500	Dry, 273K, 101.3kPA	12.5% CO ₂	1 hour
Solid Particles	milligrams per cubic metre	50	Dry, 273K, 101.3kPA	7% O ₂	1 hour
Sulfuric acid mist and sulfur trioxide (as SO ₃)	milligrams per cubic metre	100	Dry, 273K, 101.3kPA	7% O ₂	1 hour

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Sulfur dioxide	milligrams per cubic metre	1900	Dry, 273K, 101.3kPA	12.5% CO ₂	1 hour
Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	0.75	Dry, 273K, 101.3kPA	7% O ₂	1 hour
volatile organic compounds as n-propane equivalent	milligrams per cubic metre	10	Dry, 273K, 101.3kPA	7% O ₂	1 hour

- L3.5 In addition to the concentration limits specified in condition L3.4 above, the following 99th percentile concentration limits apply for points 3 to 6 utilising the same units of measure, reference conditions, oxygen correction and averaging period as above for each pollutant listed below:
- nitrogen oxides: 1100 mg/m³; and
 - sulfur dioxide: 1400 mg/m³.
- L3.6 For the purposes of conditions L3.4 and L3.5 of this licence:
- Nitrogen Oxides mean: Nitric Oxide (NO) or Nitrogen Dioxide (NO₂) or both, as NO₂ equivalent; and
 - Fluorine means: fluorine and any compound containing fluorine, as total fluoride (HF equivalent).
- L3.7 For the purposes of nitrogen oxides at points 3 to 6 and in accordance with the Protection of the Environment Operations (Clean Air) Regulation 2021, Boilers 1 to 4 are taken to belong to Group 2 until 1 January 2022 or unless otherwise approved in writing by the EPA.
- L3.8 Water and/or Land Concentration Limits

POINT 16,17,18

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Oil and Grease	milligrams per litre				10
pH	pH				6.5-9.0

L4 Waste

- L4.1 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.
- Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below.
- Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that

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waste contained in the column titled "Other Limits" in the table below.
This condition does not limit any other conditions in this licence.

Code	Waste	Description	Activity	Other Limits
K130	Sewage products	Sewage generated at the Bayswater Power Station	Sewage Treatment	Only permitted when the Bayswater Power Station sewage treatment plant and/or reticulation system is undergoing maintenance or repair
NA	Waste Water and Sludges	Lime and gypsum residues from drinking water treatment, as defined by and meeting the requirements of The Lime and Gypsum Residues from Drinking Water Treatment Exemption, as in-force from time to time	Waste storage As specified in each particular resource recovery exemption Capping of Ash Dam	See condition O6.2
NA	Drilling mud and/or muddy waters from drilling operations	As defined by and meeting the requirements of the Treated Drilling Mud Order and Exemption, as in-force from time to time	Waste storage As specified in each particular resource recovery exemption Capping of Ash Dam	See condition O6.2
NA	Organics	Compost, manure and mulch as defined by and meeting the requirements of the Compost, Manure and Mulch Orders and Exemptions, as in-force from time to time	Waste storage As specified in each particular resource recovery exemption Capping of Ash Dam	See condition O6.2
NA	Biosolids categorised as unrestricted use, or as restricted use 1, 2 or 3, in accordance with the criteria set out in the biosolids guidelines	As defined by and meeting the requirements of the Biosolids Order and Exemption, as in-force from time to time	Waste storage As specified in each particular resource recovery exemption Capping of Ash Dam	See condition O6.2
NA	Excavated natural material	As defined by and meeting the requirements of the Excavated Natural Material Order and Exemption, as in-force from time to time	Waste storage As specified in each particular resource recovery exemption Capping of Ash Dam	See condition O6.2
NA	Virgin excavated natural	As defined by the	Waste storage	See condition

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material	Protection of the Environment Operations Act, as in-force from time to time	As specified in each particular resource recovery exemption Capping of Ash Dam	O6.2
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L4.2 In addition to condition L4.1 above, the licensee may also use any waste nominated within the table above where the use of that waste is authorised for use by an instrument/approval issued under the *Environment Planning and Assessment Act 1979* for the purpose specified.

L4.3 The following wastes generated at/or on the premises may be disposed of to the ash dam or within the ash dam catchment:

- a) ash
- b) acid solutions or acids in solid form;
- c) ash line poly pipe;
- d) boiler cleaning residues;
- e) coal fines from coal settling basins and plant and conveyor wash down;
- f) cooling tower sediments;
- g) demineralisation resins;
- h) filter bags;
- i) gypsum;
- j) lime;
- k) sediment basin clays;
- l) treated sewage effluent;
- m) water treatment residual chemicals;
- n) any material approved in writing by the EPA to control dust emission from the ash dam; and
- o) any other material approved in writing by the EPA.

L5 Potentially offensive odour

L5.1 No condition of this licence identifies a potentially offensive odour for the purposes of section 129 of the Protection of the Environment Operations Act 1997.

Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

L6 Other limit conditions

Air concentration limit emergency exceedance provision

L6.1 The air concentration limits specified in conditions L3.4 and L3.5 of this licence may be temporarily exceeded under the following circumstances:

- a) the Australian Electricity Market Operator (AEMO), or a person authorised by AEMO, directs the licensee, under the National Electricity Law and the National Electricity Rules, to take relevant actions to maintain or restore the security or reliability of the electricity network; and
- b) the relevant AEMO direction referred to above remains in force; and
- c) the licensee takes all practical measures to prevent or minimise air pollution.

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L6.2 An exceedance under condition L6.1 above counts towards the hours accumulated for the purpose of calculating compliance with the 99th percentile concentration limits specified in condition L3.5 of this licence.

L6.3 The licensee must notify the EPA of any and all limit exceedances due to the activation of condition L6.1 in accordance with conditions R4.1 and R4.2 of this licence.

4 Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- a) must be maintained in a proper and efficient condition; and
- b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

O3.2 All operations and activities occurring at the premises must be carried out in a manner that will minimise the emission of dust from the premises.

O3.3 Trucks entering and leaving the premises that are carrying loads of dust generating materials must be covered at all times, except during loading and unloading.

O4 Effluent application to land

O4.1 Spray from effluent application must not drift beyond the boundary of the premises.

O4.2 Effluent application must not occur in a manner that causes surface runoff.

O4.3 Effluent application must not be carried out if soil moisture conditions are such that surface runoff or ponding is likely to occur.

O4.4 The utilisation areas must be maintained in a proper and efficient condition so as to provide adequate percolation, evaporation and transpiration of effluent.

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- O4.5 The quantity of effluent applied to the utilisation area must not exceed the capacity of the area to effectively utilise the effluent where for the purpose of this condition, 'effectively utilise' includes the use of the effluent for pasture or crop production, as well as the ability of the soil to absorb the nutrient, salt, hydraulic load and organic material.
- O4.6 Public access to any effluent utilisation area must be denied during effluent application and until the effluent application area has dried.
- O4.7 For the purpose of this licence, conditions O4.1 to O4.6 only relate to the discharge of effluent to the utilisation area authorised via point 19.

O5 Emergency response

Note: The licensee must maintain, and implement as necessary, a current Pollution Incident Response Management Plan (PIRMP) for the premises in accordance with Part 5.7A of the Protection of the Environment Operations Act 1997 and Part 3A of the Protection of the Environment Operations (General) Regulation 2009.

O6 Waste management

- O6.1 The licensee must ensure that any liquid and non liquid waste generated and/or stored at the premises that is to be sent offsite:
- is assessed and classified in accordance with the EPA's Waste Classification Guidelines as in force from time to time prior to leaving the premises; or
 - where the waste is covered by an in-force Resource Recovery Order and Exemption, the waste must meet the conditions of the relevant Order prior to leaving the premises.
- O6.2 The licensee, when capping and remediating the Liddell Power Station ash dam, must only use those wastes permitted by condition L4.1 of this licence to be received and used at the premises to the minimum extent possible.

Note: For the purposes of condition O6.2 and determining compliance with the term "minimum extent possible", the EPA will consider such matters as any instrument approving or otherwise authorising the capping and remediation activities and any relevant design specifications for the capping and remediation activities.

O7 Other operating conditions

Permitted fuels for start-up, combustion support and emergency firing of generator

- O7.1 Distillate may be used for start-up and combustion support in Boilers 1 to 4 and firing the Hunter Valley Gas Turbine(s).
- O7.2 Distillate may be used for firing the emergency diesel generator(s) at the premises for the purposes of:
- providing black-start capability for the Liddell Power Station or at the direction of the Australian Electricity Market Operator (AEMO); and/or
 - operating the emergency diesel generator up to a maximum of 200 hours per reporting period.

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- 07.3 Distillate fuel used in the Liddell Power Station for start-up and combustion support, the firing of the Hunter Valley Gas Turbine(s) and the firing of the emergency diesel generator(s) must comply with the Determination of Fuel Quality Standards (Automotive Diesel) 2019, made under section 21 of the Fuel Quality Standards Act 2000.

Other fuels permitted for use

- 07.4 Waste mineral oils generated on the premises can be used as fuel under the following restrictions:
- must only be fed to the Boilers during coal firing and at a maximum feed rate of less than or equal to 4% of the coal feed rate; and
 - must not exceed 0.5% of sulfur by weight.

Testing of coal fuel

- 07.5 The licensee must have in place a fuel testing program to collect and analyse a representative number of samples of coal fired in Boilers 1 to 4. At a minimum, the coal must be analysed for:
- ash content (%);
 - sulfur content (%);
 - chlorine content (mg/kg);
 - fluorine content (mg/kg);
 - type 1 and 2 substances content (mg/kg); and
 - calorific value (MJ/kg).

Onsite sewage treatment system

- 07.6 The licensee must construct, implement and operate/utilise a wastewater management system to manage the collection, storage, treatment, use and disposal of all sewage and related wastewater generated on the premises.
- 07.7 The wastewater management system(s) operated/utilised at the premises must be inspected by a suitably qualified and experienced wastewater technician at least once in each quarterly period of the reporting period and a minimum of four times per reporting period and serviced as required.
- 07.8 In relation to condition 07.7 above, the licensee must record the following:
- details of each inspection undertaken (date, time and personnel);
 - the results of any tests performed on the wastewater management system;
 - the finding and any actions required following each inspection; and
 - the date those actions were completed or the reasons they were not completed.

Chemical storage

- 07.9 The licensee must store and handle all liquid chemicals and hazardous materials used at the premises within bunded areas that are constructed and maintained in accordance with the following:
- any relevant Australian Standards for the liquids being stored;
 - within a bunded area with a minimum bund capacity of 110% of the volume of the largest single stored vessel within the bund;
 - the Storing and Handling Liquids: Environmental Protection Participant's Manual (DECC, 2007); and where any conflict exists between these requirements, the most stringent requirements apply.
- 07.10 For the purpose of condition 07.9 above, any tanks or other storage vessels that are interconnected and may

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distribute their contents either by gravity or automated pumps must be considered a single vessel.

O7.11 For the purposes of condition O7.9 and O7.10 of this licence, failure to comply with these conditions is not to be taken as a non-compliance where there is a Pollution Studies and Reduction Program nominated on this licence that is in place to correct the non-compliance, for the period of time covered by that condition.

5 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:

- in a legible form, or in a form that can readily be reduced to a legible form;
- kept for at least 4 years after the monitoring or event to which they relate took place; and
- produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- the date(s) on which the sample was taken;
- the time(s) at which the sample was collected;
- the point at which the sample was taken; and
- the name of the person who collected the sample.

M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

M2.2 Air Monitoring Requirements

POINT 3,4,5,6

Pollutant	Units of measure	Frequency	Sampling Method
Cadmium	milligrams per cubic metre	Every 6 months	TM-38
Chlorine	milligrams per cubic metre	Every 6 months	TM-38
Fluorine	milligrams per cubic metre	Every 6 months	TM-38
Hydrogen chloride	milligrams per cubic metre	Every 6 months	TM-38
Mercury	milligrams per cubic metre	Every 6 months	TM-38
Nitrogen Oxides	milligrams per cubic metre	Continuous	TM-38
Solid Particles	milligrams per cubic metre	Quarterly	TM-38

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Sulfur dioxide	milligrams per cubic metre	Continuous	TM-38
Sulfuric acid mist and sulfur trioxide (as SO ₃)	milligrams per cubic metre	Every 6 months	TM-38
Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Every 6 months	TM-38
volatile organic compounds as n-propane equivalent	milligrams per cubic metre	Every 6 months	TM-38

POINT 7,10,11,14

Pollutant	Units of measure	Frequency	Sampling Method
Carbon dioxide	percent	Continuous	CEM-3 and US EPA Procedure 1
Chlorine	milligrams per cubic metre	Every 6 months	TM-7
Fluorine	milligrams per cubic metre	Every 6 months	TM-9
Hydrogen chloride	milligrams per cubic metre	Every 6 months	TM-8
Nitrogen Oxides	milligrams per cubic metre	Continuous	CEM-2 and US EPA Procedure 1
Sulfur dioxide	milligrams per cubic metre	Continuous	CEM-2 and US EPA Procedure 1
Sulfuric acid mist and sulfur trioxide (as SO ₃)	milligrams per cubic metre	Every 6 months	TM-3
volatile organic compounds as n-propane equivalent	milligrams per cubic metre	Every 6 months	TM-34

POINT 7,8,9,10,11,12,13,14

Pollutant	Units of measure	Frequency	Sampling Method
Cadmium	milligrams per cubic metre	Every 6 months	TM-14
Flow rate	cubic metres per second	Continuous	CEM-6 and US EPA Procedure 1
Mercury	milligrams per cubic metre	Every 6 months	TM-14
Moisture	percent	Continuous	Special Method 1
Oxygen (O ₂)	percent	Continuous	CEM-3 and US EPA Procedure 1
Solid Particles	milligrams per cubic metre	Quarterly	TM-15
Temperature	degrees Celsius	Continuous	TM-2 and US EPA Procedure 1
Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Every 6 months	TM-12, TM-13 & TM-14

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M2.3 For the purpose of condition M2.2 above:

- every 6 months means: a minimum of two sampling events per reporting period, at approximately 6 monthly intervals and occurring no less than 3 months apart;
- quarterly means: a minimum of four sampling events per reporting period, at approximately 3 monthly intervals and occurring no less than 1 month apart; and
- special method 1 means: any moisture monitoring method approved in writing by the EPA. The monitoring method and data must be quality assured on an ongoing basis in accordance with US EPA Procedure 1.

M2.4 For the purpose of condition M2.2 of this licence, the requirement to install, commission and continuously monitor for flow rate, moisture, oxygen and temperature at points 7 to 14 does not take effect until 1 July 2023.

M2.5 Water and/ or Land Monitoring Requirements

POINT 16,17

Pollutant	Units of measure	Frequency	Sampling Method
Ammonia	milligrams per litre	Fortnightly	Grab sample
Antimony	milligrams per litre	Fortnightly	Grab sample
Arsenic	milligrams per litre	Fortnightly	Grab sample
Barium	milligrams per litre	Fortnightly	Grab sample
Beryllium	milligrams per litre	Fortnightly	Grab sample
Boron	milligrams per litre	Fortnightly	Grab sample
Cadmium	milligrams per litre	Fortnightly	Grab sample
Chlorine	milligrams per litre	Fortnightly	Grab sample
Chromium (trivalent)	milligrams per litre	Fortnightly	Grab sample
Chromium (VI)	milligrams per litre	Fortnightly	Grab sample
Compounds			
Cobalt	milligrams per litre	Fortnightly	Grab sample
Conductivity	microsiemens per centimetre	Fortnightly	Grab sample
Copper	milligrams per litre	Fortnightly	Grab sample
Fluoride	milligrams per litre	Fortnightly	Grab sample
Lead	milligrams per litre	Fortnightly	Grab sample
Manganese	milligrams per litre	Fortnightly	Grab sample
Mercury	milligrams per litre	Fortnightly	Grab sample
Methylene Blue Active Substances	milligrams per litre	Fortnightly	Grab sample
Molybdenum	milligrams per litre	Fortnightly	Grab sample
Nickel	milligrams per litre	Fortnightly	Grab sample
Nitrogen	milligrams per litre	Fortnightly	Grab sample
Oil and Grease	milligrams per litre	Weekly during any discharge	Grab sample
pH	pH	Daily during any discharge	Grab sample
Phosphorus	milligrams per litre	Fortnightly	Grab sample

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Selenium	milligrams per litre	Fortnightly	Grab sample
Sulfur	milligrams per litre	Fortnightly	Grab sample
Temperature	degrees Celsius	Fortnightly	In situ
Tin	milligrams per litre	Fortnightly	Grab sample
Total dissolved solids	milligrams per litre	Fortnightly	Grab sample
Total organic carbon	milligrams per litre	Fortnightly	Grab sample
Total suspended solids	milligrams per litre	Fortnightly	Grab sample
Vanadium	milligrams per litre	Fortnightly	Grab sample
Zinc	milligrams per litre	Fortnightly	Grab sample

POINT 18

Pollutant	Units of measure	Frequency	Sampling Method
Arsenic	milligrams per litre	Weekly during any discharge	Grab sample
Boron	milligrams per litre	Weekly during any discharge	Grab sample
Cadmium	milligrams per litre	Weekly during any discharge	Grab sample
Chromium (trivalent)	milligrams per litre	Weekly during any discharge	Grab sample
Chromium (VI) Compounds	milligrams per litre	Weekly during any discharge	Grab sample
Copper	milligrams per litre	Weekly during any discharge	Grab sample
Electrical conductivity	microsiemens per centimetre	Weekly during any discharge	Grab sample
Fluoride	milligrams per litre	Weekly during any discharge	Grab sample
Lead	milligrams per litre	Weekly during any discharge	Grab sample
Mercury	milligrams per litre	Weekly during any discharge	Grab sample
Oil and Grease	milligrams per litre	Weekly during any discharge	Grab sample
pH	pH	Weekly during any discharge	Grab sample
Selenium	milligrams per litre	Weekly during any discharge	Grab sample
Total suspended solids	milligrams per litre	Weekly during any discharge	Grab sample
Zinc	milligrams per litre	Weekly during any discharge	Grab sample

M3 Testing methods - concentration limits

M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:

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- a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
- b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
- c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Note: The *Protection of the Environment Operations (Clean Air) Regulation 2021* requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

M3.2 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

Note: Page Break.

M4 Testing methods - load limits

Note: Division 3 of the *Protection of the Environment Operations (General) Regulation 2021* requires that monitoring of actual loads of assessable pollutants listed in L2.2 must be carried out in accordance with the relevant load calculation protocol set out for the fee-based activity classification listed in the Administrative Conditions of this licence.

M5 Weather monitoring

M5.1 For each monitoring point specific below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample frequency, specified opposite in the other columns:

POINT 15

Parameter	Units of Measure	Frequency	Averaging Period	Sampling Method
Rainfall	mm	Continuous	1 hour	AM-4
Wind speed at 10m	m/s	Continuous	15 minutes	AM-2 & AM-4
Temperature at 2m	°C	Continuous	15 minutes	AM-4
Wind direction at 10m	°	Continuous	15 minutes	AM-2 & AM-4
Temperature at 10m	°C	Continuous	15 minutes	AM-4
Sigma theta at 10m	°	Continuous	15 minutes	AM-2 & AM-4
Solar radiation	W/m ²	Continuous	15 minutes	AM-4

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Additional Requirements	
siting	AM-1 & AM-4
measurement	AM-2 & AM-4

M5.2 For the purposes of condition M5.1 above, the requirement to monitor rainfall, temperature at 2m and solar radiation does not take effect until 31 December 2020.

M6 Recording of pollution complaints

M6.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M6.2 The record must include details of the following:

- a) the date and time of the complaint;
- b) the method by which the complaint was made;
- c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- d) the nature of the complaint;
- e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- f) if no action was taken by the licensee, the reasons why no action was taken.

M6.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M6.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M7 Telephone complaints line

M7.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M7.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M7.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.

M7.4 For the purpose of condition M7.1 of this licence, operating hours are defined as twenty-four hours a day, seven days a week.

M8 Requirement to monitor volume or mass

M8.1 For each discharge point or utilisation area specified below, the licensee must monitor:

- a) the volume of liquids discharged to water or applied to the area;
- b) the mass of solids applied to the area;

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c) the mass of pollutants emitted to the air;
at the frequency and using the method and units of measure, specified below.

POINT 18

Frequency	Unit of Measure	Sampling Method
Daily	kilolitres per day	Level sensor and continuous logger

POINT 19

Frequency	Unit of Measure	Sampling Method
Daily	kilolitres per day	In line instrumentation

Note: Page Break.

M9 Noise monitoring

M9.1 The licensee, following the receipt of a noise related complaint and if required by the EPA, must undertake noise monitoring as required in writing by the EPA.

6 Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,
5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

R1.3 Where this licence is transferred from the licensee to a new licensee:

- a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and

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b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:

- a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
- b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 Where the licensee is unable to complete a part of the Annual Return by the due date because the licensee was unable to calculate the actual load of a pollutant due to circumstances beyond the licensee's control, the licensee must notify the EPA in writing as soon as practicable, and in any event not later than the due date. The notification must specify:

- a) the assessable pollutants for which the actual load could not be calculated; and
- b) the relevant circumstances that were beyond the control of the licensee.

R1.7 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.8 Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:

- a) the licence holder; or
- b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

Annual Air Emission Monitoring Report

R1.9 The licensee must submit with the Annual Return an Annual Air Emission Monitoring Report. The Annual Air Emission Monitoring Report must analyse and summarise emission monitoring data from the reporting period including, but not limited to:

- a) a comprehensive summary (tabulated and graphical) of all periodic and continuous monitoring data as required by condition M2.2 of this licence, including a comparison with the concentration limits specified in conditions L3.4 and L3.5 of this licence;
- b) analysis of trends in emission performance for all pollutants monitored as required under condition M2.2 of this licence. Trend analysis must include comparison of emission performance during the reporting period with emission performance from the previous 4 years;
- c) details of any exceedances of air emission licence limits and details of plant operating conditions at the times the exceedances occurred;
- d) details of plant operating conditions, including Boiler load (MW), during sampling for each Boiler;
- e) demonstrated compliance with the CEMS Quality Assurance and Control Procedures required under condition E3.1 of the licence;
- f) summary of fuel usage, including:
 - i. total coal and other permitted fuels consumed in each Boiler (including start-up),
 - ii. a statement about the representativeness of fuel quality during periodic air emission sampling compared to

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- non-sampling periods,
- iii. total fuel consumed by each Boiler during times when periodic air emission sampling was undertaken; and
- g) detailed calculations used to determine the aggregated pollutant emissions rates for points 3 to 6.

R2 Notification of environmental harm

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

- R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.
- R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which they became aware of the incident.

R3 Written report

- R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
 - a) where this licence applies to premises, an event has occurred at the premises; or
 - b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
 and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.
- R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.
- R3.3 The request may require a report which includes any or all of the following information:
 - a) the cause, time and duration of the event;
 - b) the type, volume and concentration of every pollutant discharged as a result of the event;
 - c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
 - d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
 - e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
 - f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
 - g) any other relevant matters.
- R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.



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R4 Other reporting conditions

- R4.1 The licensee must notify the EPA of any exceedances of any emission or concentration limit included as a condition of this licence in accordance with condition R2.1 no later than 5 days after becoming aware of any exceedance.
- R4.2 Within 20 days of the notification made in accordance with condition R4.1 above, the licensee must provide a report to the EPA at info@epa.nsw.gov.au that includes, as a minimum, the following details:
- the date and time the exceedance occurred;
 - the nature of the exceedance (i.e. the pollutants involved);
 - the duration of the exceedance;
 - plant operating conditions at the time of the exceedance;
 - the cause of the exceedance;
 - the remedial/corrective actions taken at the time the exceedance was made known; and
 - the actions taken and/or future actions to be taken, to prevent exceedances of a similar nature occurring in the future.
- R4.3 The licensee must notify the EPA at info@epa.nsw.gov.au of the date of any periodic air emission sampling (stack testing) to be undertaken to satisfy a monitoring condition of this licence at least 7 days prior to the stack testing being carried out. If the licensee must delay the test due to unforeseen circumstances beyond the licensee's control, the EPA must be notified immediately of the delay at the email address contained in this condition once the delay is identified and specify the date when the stack testing is to be undertaken.

7 General Conditions

G1 Copy of licence kept at the premises or plant

- G1.1 A copy of this licence must be kept at the premises to which the licence applies.
- G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.
- G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

G2 Contact number for incidents and responsible employees

- G2.1 The licensee must operate 24-hour telephone contact lines for the purpose of enabling the EPA to directly contact one or more representatives of the licensee who can:
- respond at all times to incidents relating to the premises; and
 - contact the licensee's senior employees or agents authorised at all times to:
 - speak on behalf of the licensee; and
 - provide any information or document required under this licence.
- G2.2 The licensee is to inform the EPA in writing of the appointment of any subsequent contact persons, or changes to the person's contact details as soon as practicable and in any event within fourteen days of the appointment or change.

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G3 Signage

G3.1 Each monitoring and discharge point must be clearly marked by a sign that indicates the EPA point identification number.

G3.2 Condition G3.1 above does not take effect until 1 October 2020.

G4 Other general conditions

G4.1 Completed Programs

Program	Description	Completed Date
PRP 1 - Stack Emission Testing During Co-firing	During the co-firing of the alternative fuel 'treated oyster stakes' Macquarie Generation are to conduct stack emission testing to monitor emission to air. This will allow the quantification stack emissions to air during the co-firing of treated oyster stakes and determine compliance with the re-testing specifications to allow the burning of alternative fuels.	24-October-2003
PRP 2 - Replace the Existing Air Monitors	Macquarie Generation are to replace the existing continuous air monitors to allow continuous monitoring of each boiler on the premises in accordance with the EPA's approved test methods. This will extend continuous monitoring on boiler units not previously monitored to enable quantification of emissions to air from the boiler units.	30-June-2004
PRP3 - Upgrade Continuous Air Monitoring Equipment	Upgrade of continuous air monitoring equipment. To test compliance with Air Regulations and minimise air pollution.	12-July-2007
PRP 4 - Emission Testing Trial	Emission testing trial co-firing combined blend of manufactured wooden beam off-cuts and chipboard waste. This will allow the quantification of stack emissions to air during the co-firing of timber off-cuts and determine compliance with the re-testing specifications to allow burning of alternative fuels.	12-July-2007
PRP 5 - Determination of Compliance of Air Emission	Determination of compliance of air emission measurement sampling planes. Assessment of compliance/performance of emission testing location and equipment in accordance with approved test methods.	30-June-2007
PRP 6 - Report Results to EPA	Hire appropriate consultant to assist meeting TM-1, test No. 4 Generation Unit in accordance with TM-1 and report results to EPA. Minimise air emissions.	31-December-2007

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Water Softening Plant - backwash management	Backwash cycles from the water softening plant (sulphuric acid and sodium hydroxide) have historically discharged high and low pH water to Lake Liddell. This PRP will require licensee to undertake a feasibility study on appropriate controls to prevent the discharge of such water.	19-December-2013
Liddell Ash Dam water management investigation	Assess water management systems associated with ash dam and provide report on the better management of the ash water.	17-December-2013
Upgrade to water and ash management - Liddell Ash Line Settling Pond	Upgrade to ash line settling pond to minimise risk of overflow from this pond to Tinkers Creek	17-December-2013
Water Treatment Plant Backwash Effluent Management Upgrade Works	Licensee to undertake and complete water treatment plant upgrade works as detailed in report "Water Treatment Plant Backwash Effluent Management - Feasibility Study" dated 19 December 2013.	31-March-2016
Liddell Power Station Outfall Canal and Oil and Grit Trap Water Quality Assessment	Licensee to undertake a water quality assessment of discharges from the Outfall Canal and the Oil and Grit Trap discharge points, and potential impacts to Lake Liddell.	06-May-2015
Liddell Power Station Ash Dam - Waste Assessment	Licensee to undertake an adequacy assessment of the Liddell Power Station Ash Dam, including assessment of waste stream inputs and an integrity assessment of the ash dam.	30-June-2016
Upgrade to water and ash management - Ash Settling Pond	Complete works to upgrade ash line settling pond	30-September-2016
PRP - NOx emission reduction	The aim of this Pollution Reduction Program is to assess the feasibility of achieving reductions in the emission of NOx from the premises	28-June-2017
PRS 17 - Alarm review	Review of the management of key alarms for hydrocarbon and chemical storage to identify and implement alternate technologies to enable remote monitoring that will minimise the potential and scale of incidents.	01-March-2021
PRS 18 - Liddell water management system review	Identified recommendations for the construction or water management measures or changes to the management of water management infrastructure to minimise potential impacts.	01-September-2020

8 Pollution Studies and Reduction Programs

U1 PRS 19 - Asset environmental management review

- U1.1 The licensee must undertake a review of external plant assets on the premises to identify and implement appropriate mitigation measures to minimise potential environmental impacts resulting from asset strategy, physical condition assessment and maintenance delivery (Asset Environmental Management Review).

The Asset Environmental Management Review must focus on key external plant assets including, but not limited to, the water treatment plants, diesel and chemical bulk storage areas and associated systems, ash

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and dust pipelines, and stormwater systems.

By 13 March 2020, the licensee must notify the EPA of the assets subject to the Asset Environmental Management Review; categorise their environment risk as either "High", "Medium" or "Low" (for the purpose of prioritising the timing of the Asset Environmental Management Review); and, provide the rationale for their categorisation. The notification must be provided to the EPA at PO Box 488G, Newcastle NSW 2300, or emailed to info@epa.nsw.gov.au, for the EPA's approval.

The key activities to be undertaken as part of the Asset Environmental Management Review must include:

(a) A review of key external plant assets on the premises targeting environmental risk reduction. The review of each key external plant asset must include consideration of the following:

- Statutory requirements under the *Protection of the Environment Operations Act 1997*;
- Any prior environmental incidents in relation to the asset;
- Critical controls to manage environmental impacts relating to the asset;
- Engineering technical standards which apply to the asset;
- Existing operating manuals and procedures for the asset;
- The asset management plans for the incident; and
- The maintenance strategy for the asset.

(b) The review of key external plant assets on the premises must identify recommendations for each asset to improve asset health through a focus on asset strategy, physical condition assessment and maintenance delivery. This may include recommendations relating to:

- The use of alternatives technologies;
- Changes to operations and/or maintenance programs and inspections; and
- Further risk assessments to ensure key environmental risks are being controlled.

The licensee must complete the Asset Environmental Management Review detailed above by the following dates.

(i) Stage 1 - Completion of the Asset Environmental Management Review for those assets identified as having a "High" environmental Risk by 31 December 2020.

(ii) Provision of a report to the EPA that outlines the Asset Environmental Management Review for Stage 1, including key findings and recommendations. The report must be provided to the EPA at PO Box 488G, Newcastle NSW 2300, or emailed to info@epa.nsw.gov.au, by 31 March 2021.

Note: On 31 March 2021, the licensee wrote to the EPA providing the required report in respect of the Asset Environmental Management Review for Stage 1.

(iii) Stage 2 - Completion of the Asset Environmental Management Review for those assets identified as having a "Medium" or "Low" environmental Risk by 30 September 2021.

(ii) Provision of a report to the EPA that outlines the Asset Environmental Management Review for Stage 2, including key findings and recommendations. The report must be provided to the EPA at PO Box 488G, Newcastle NSW 2300, or emailed to info@epa.nsw.gov.au, by 31 December 2021.

U2 PRS 20 - Coal ash repository water sampling program and characterisation

U2.1 By **28 February 2022**, the licensee must prepare, and submit to the EPA, a Coal Ash Repository Water Sampling Program (Program) aimed at characterising surface and groundwater (including seepage) discharges associated with coal ash repositories (including ash dams and open cut mine voids) at the

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Premises. The Program must:

- (a) be prepared by a suitably qualified and experienced person/s in consultation with the EPA;
- (b) be informed by contemporary information and data regarding the pollutants potentially present in coal ash dam water;
- (c) be consistent with the *Approved methods for the sampling and analysis of water pollutants in New South Wales* (EPA, 2021);
- (d) include a site map that clearly identifies the following:
 - (i) all relevant components of the coal ash water management system (e.g. ash dam cells, decant ponds, return water ponds, seepage collection system);
 - (ii) groundwater bores and piezometers;
 - (iii) all discharge points and flow paths to receiving waters, and
 - (iv) all proposed sampling locations.
- (e) set out the proposed sampling program, that includes:
 - (i) sampling of (as relevant):
 - controlled discharges
 - managed overflows
 - surface water storages related to coal ash management (e.g. ash dam cells, decant ponds)
 - seepage water (e.g. seepage collection ponds, surface expressions)
 - any groundwater bores or piezometers screened within or adjacent to the coal ash repository
 - (ii) the sampling conditions/frequency and the duration of the sampling program, including rationale and justification for the proposed sampling frequencies and duration of the program; and
 - (iii) the analytical suite including all pollutants present at non-trivial levels, based on any existing monitoring data and a risk assessment of the range of potential pollutants that could be present.

The Program must be provided to the EPA via email to: info@epa.nsw.gov.au.

Note: Upon review and acceptance of the Program, it is the EPA's intention to formalise the implementation of the Program along with a requirement to prepare a Coal Ash Repository Water Characterisation Report.

9 Special Conditions

E1 Dioxin and furan study

- E1.1 The licensee must undertake dioxin and furan emission testing in accordance with the following:
- a) a minimum of 1 round of testing on all Boilers at the premises that have only been fired on coal within the past 10 years;
 - b) a minimum of 2 rounds of testing on all Boilers at the premises that have been fired on a non-standard fuel within the past 10 years; and
 - c) testing must be undertaken in accordance with TM-18, as defined in the Approved Methods for the Sampling and Analysis of Air Pollutants in NSW.
- E1.2 Following the dioxin and furan emission testing required by condition E1.1 above, the licensee must prepare a report which includes the following:
- a) details of the sampling program undertaken;
 - b) details of the sampling methodology and emission monitoring conducted (including description of sampling

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- time(s) and sampling location(s) for all test runs) and including a statement of compliance with the relevant test method(s);
- c) detailed description of any deviation from the relevant test method(s) including analysis of the likely effect of any deviation on the final test results (as appropriate);
- d) detailed description of all plant operating conditions at the time emission monitoring was conducted, including, but not limited to fuel rate, fuel quality and composition and production load(s);
- e) summary of all test results including a statement on the representativeness of final test results, including a statement of expected characterisation of long-term emission performance from the plant;
- f) all air emission monitoring results and reports, including analytical reports;
- g) recommendation on the need for any future or follow-up testing; and
- h) all additional reporting requirements prescribed in the Approved Methods for the Sampling and Analysis of Air Pollutants in NSW for stationary source monitoring.

E1.3 The dioxin and furan testing and report required by conditions E1.1 and E1.2 of this licence must be completed and the report provided to the EPA at info@epa.nsw.gov.au by 5pm on 1 July 2021.

Note: On 30 June 2021, the licensee wrote to the EPA providing the report required above. This report is being reviewed by the EPA.

E1.4 Where historical dioxin and furan testing and operating data are available for the premises which robustly satisfies the testing and reporting requirements listed in conditions E1.1 and E1.2 of this licence, the licensee may use the historic data to satisfy these special conditions however; any historical data used to satisfy these conditions must not be more than 5 years old.

E2 Site specific air emission monitoring plan

E2.1 The licensee must develop and submit a Site Specific Air Emission Monitoring Plan to the EPA which supports the comprehensive management of air emission monitoring required by this licence. As a minimum, the Site Specific Air Emission Monitoring Plan must describe in detail the following:

- a) monitoring and discharge points;
- b) detailed description of the operational measures used for ensuring the representativeness of emission measurements during monitoring including any procedures relating to pre-test planning, setting operating conditions and process data collection and recording;
- c) detailed description of sampling methodology and test procedures;
- d) description of any deviation from the relevant test methods, including analysis of the likely effect of any deviation on the final sampling and test results;
- e) detailed description of quality assurance and quality control procedures used for collecting, verifying and reporting emission test data;
- f) responsible personnel and roles;
- g) governance/version control, review and updating procedures for the plan; and
- h) a detailed methodology and all supporting calculations used to determine the aggregated emission concentration for each pollutant associated with points 3 to 6 as stipulated by conditions L3.4 and L3.5 at the discharge point for each boiler. All calculations must, at a minimum, meet the requirements of TM-38.

E2.2 The Site Specific Air Emission Monitoring Plan required by condition E2.1 above must be drafted and provided to the EPA at info@epa.nsw.gov.au for review and approval by 5pm on 31 January 2021.

Note: On 29 January 2021, the licensee wrote to the EPA providing the required Site Specific Air Emission Monitoring Plan. The EPA have reviewed the Plan and written to the licensee requesting various issues be

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addressed and the Plan be resubmitted by 31 January 2022.

E3 Continuous emission monitoring systems - quality assurance and control procedures

- E3.1 The licensee must develop and submit a CEMS quality assurance (QA) and quality control (QC) procedure to the EPA which enables the evaluation of the quality of data produced by any CEMS monitoring required by conditions of this licence. As a minimum, the CEMS QA/QC procedure must describe in detail the following:
- calibration and adjustment measures;
 - preventive maintenance measures (including spare parts inventory);
 - data handling, recording and calculation procedures;
 - processes for evaluating, verifying and reporting monitoring data;
 - accuracy audit measures including sampling and analysis methods;
 - fault identification and corrective action measures; and
 - process for ongoing review and evaluation of the effectiveness of the CEMS QA/QC procedures.
- E3.2 The CEMS QA/QC procedure required by condition E3.1 above must be drafted and provided to the EPA at info@epa.nsw.gov.au for review and approval by 5pm on 31 March 2021.

Note: On 31 March 2021, the licensee wrote to the EPA providing the required CEMS QA/QC procedure. The Procedure is being reviewed by the EPA.

E4 Air pollution control equipment - maintenance, operation and fault response procedure

- E4.1 The licensee must develop and submit an air pollution control equipment - maintenance, operation and fault response procedure to the EPA which ensures that air pollution control equipment is maintained and operated in accordance with conditions O1.1 and O2.1 of this licence. As a minimum, the procedure must describe in detail the following:
- procedures for routine operations including equipment start-up and shut-down;
 - procedures for routine and non-routine inspections and maintenance;
 - procedures for faults and failure response and emergency situations;
 - spare parts inventory;
 - reporting and training procedures;
 - verification procedures incorporating performance indicators and benchmarks relating to:
 - performance monitoring,
 - operational efficiency, and
 - data quality,
 - planning, reporting, record keeping and tracking systems; and
 - process for ongoing review and evaluating air pollution control equipment - maintenance, operation and fault response procedure.
- E4.2 The air pollution control equipment - maintenance, operation and fault response procedure must be peer reviewed and endorsed by a suitably qualified air pollution control practitioner, affirming the suitability of the procedure for meeting its objectives.
- E4.3 The air pollution control equipment - maintenance, operation and fault response procedure required by



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condition E4.1 of this licence must be drafted and provided to the EPA at info@epa.nsw.gov.au for review and approval by 5pm on 31 January 2021.

Note: On 29 January 2021, the licensee wrote to the EPA providing the required Air Pollution Control Equipment - Maintenance, Operation and Fault Response procedure. The EPA have reviewed the Procedure and written to the licensee requesting various issues be addressed and the Procedure be resubmitted by 31 March 2022.

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Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .



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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste

Mr Bernie Weir

Environment Protection Authority

(By Delegation)

Date of this edition: 26-April-2000

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End Notes

- 1 Licence varied by notice 1004079, issued on 30-May-2003, which came into effect on 24-Jun-2003.
- 2 Licence varied by notice 1032951, issued on 02-Apr-2004, which came into effect on 27-Apr-2004.
- 3 Licence varied by notice 1037103, issued on 21-Jun-2004, which came into effect on 16-Jul-2004.
- 4 Licence varied by notice 1039422, issued on 26-Oct-2004, which came into effect on 20-Nov-2004.
- 5 Licence varied by notice 1064038, issued on 09-May-2007, which came into effect on 09-May-2007.
- 6 Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
- 7 Licence varied by notice 1093943, issued on 10-Mar-2009, which came into effect on 10-Mar-2009.
- 8 Licence fee period changed by notice 1101276 approved on .
- 9 Licence varied by notice 1101344, issued on 18-May-2009, which came into effect on 18-May-2009.
- 10 Licence varied by admin corrections to annual return, issued on 02-Jul-2009, which came into effect on 02-Jul-2009.
- 11 Licence varied by notice 1104682, issued on 15-Sep-2009, which came into effect on 15-Sep-2009.
- 12 Licence varied by notice 1110855, issued on 02-Feb-2010, which came into effect on 02-Feb-2010.
- 13 Licence varied by notice 1509106 issued on 24-Jun-2013
- 14 Licence varied by notice 1515942 issued on 20-Sep-2013
- 15 Licence varied by notice 1519337 issued on 31-Jan-2014
- 16 Licence transferred through application 1524623 approved on 29-Aug-2014 , which came into effect on 02-Sep-2014
- 17 Licence varied by notice 1531453 issued on 29-Jun-2015
- 18 Licence varied by notice 1534817 issued on 15-Feb-2016
- 19 Licence varied by notice 1543814 issued on 23-Jan-2017
- 20 Licence varied by notice 1552483 issued on 09-May-2018
- 21 Licence varied by notice 1590324 issued on 06-Feb-2020



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22 Licence varied by notice 1591555 issued on 23-Jul-2020