

# Environment Protection Licence

Licence - 1429

## Licence Details

|                   |         |
|-------------------|---------|
| Number:           | 1429    |
| Anniversary Date: | 01-July |

## Licensee

ORIGIN ENERGY ERARING PTY LTD  
PO BOX 5044  
DORA CREEK NSW 2264

## Premises

ERARING POWER STATION  
ROCKY POINT ROAD  
ERARING NSW 2264

## Scheduled Activity

Chemical storage  
Coal works  
Crushing, grinding or separating  
Electricity generation  
Sewage treatment

## Fee Based Activity

## Scale

|  |  |
|--|--|
| Coal works   | > 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      |
| Generation of electrical power otherwise than from coal, diesel or gas | 0-250 GWh annual generating capacity       |
| Petroleum products storage   | 0-5000 kL storage capacity                 |
| Sewage treatment processing by small plants                            | 0-20 ML annual maximum volume of discharge |

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| Region   |
|--|
| North - Hunter   |
| Ground Floor, NSW Govt Offices, 117 Bull Street<br>NEWCASTLE WEST NSW 2302 |
| Phone: (02) 4908 6800  |
| Fax: (02) 4908 6810  |
|  |
| PO Box 488G<br>NEWCASTLE NSW 2300  |

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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:

|                               |
|-------------------------------|
| ORIGIN ENERGY ERARING PTY LTD |
| PO BOX 5044                   |
| DORA CREEK NSW 2264           |

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   | > 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        |
| Electricity generation           | Generation of electrical power otherwise than from coal, diesel or gas | 0 - 250 GWh annual generating capacity       |
| Chemical storage                 | Petroleum products storage   | 0 - 5000 kL storage capacity                 |
| Sewage treatment                 | Sewage treatment processing by small plants                            | 0 - 20 ML annual maximum volume of discharge |

### A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

| Premises Details  |
|---|
| ERARING POWER STATION   |
| ROCKY POINT ROAD  |
| ERARING   |
| NSW 2264  |
| PREMISES MARKED AND SHOWN BOUNDED BY THE AREAS "OPERATIONAL LAND" AND "EASEMENTS", BUT EXCLUDING "NON-OPERATIONAL LAND", ON THE PLAN TITLED "PLAN SHOWING THE LOCATION OF AIR AND WATER MONITORING SITES", DRAWING NO. 245481-0000-DRG-0004-F, PREPARED BY AURECON, DATED 28/11/2016 (EPA REFERENCE DOC16/616587) ("THE PLAN"). |

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## A3 Information supplied to the EPA

- A3.1 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.

## 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   |
| 11                     | Discharge to air<br>Air emissions monitoring | Discharge to air<br>Air emissions monitoring | Discharge to air from Boiler No. 1, marked and shown as "EPA 11/12" on the Plan.                           |
| 12                     | Discharge to air<br>Air emissions monitoring | Discharge to air<br>Air emissions monitoring | Discharge to air from Boiler No. 2, marked and shown as "EPA 11/12" on the Plan.                           |
| 13                     | Discharge to air<br>Air emissions monitoring | Discharge to air<br>Air emissions monitoring | Discharge to air from Boiler No. 3, marked and shown as "EPA 13/14" on the Plan.                           |
| 14                     | Discharge to air<br>Air emissions monitoring | Discharge to air<br>Air emissions monitoring | Discharge to air from Boiler No. 4, marked and shown as "EPA 13/14" on the Plan.                           |
| 15                     | Ambient air monitoring                       |  | Ambient air monitoring station at Marks Point Primary School, marked and shown as "EPA 15" on the Plan.    |
| 16                     | Ambient air monitoring                       |  | Ambient air monitoring station alongside the oval at Dora Creek, marked and shown as "EPA 16" on the Plan. |
| 18                     | Ambient air monitoring                       |  | Dust deposition gauge, marked and shown as "EPA 18b" on the Plan.  |
| 19                     | Discharge to air<br>Air emissions monitoring | Discharge to air<br>Air emissions monitoring | Discharge to air from the Emergency Turbine Generator Stack, marked and shown as "EPA 19" on the Plan.     |
| 25                     | Ambient air monitoring                       |  | Dust deposition gauge, marked and shown as "EPA 18d" on the Plan.  |
| 26                     | Ambient air monitoring                       |  | Dust deposition gauge, marked and shown as "EPA 18f" on the Plan.  |
| 27                     | Ambient air monitoring                       |  | Dust deposition gauge, marked and shown as "EPA U06" on the Plan.  |

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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.

## *Water and land*

| EPA Identification no. | Type of Monitoring Point                                      | Type of Discharge Point                                       | Location Description   |
|------------------------|---|---|--|
| 1                      | Discharge to waters<br>Effluent quality and volume monitoring | Discharge to waters<br>Effluent quality and volume monitoring | Cooling water outlet canal to Myuna Bay, marked and shown as "EPA 01" on the Plan.   |
| 2                      | Discharge to waters<br>Effluent quality monitoring            | Discharge to waters<br>Effluent quality monitoring            | The emergency ash dam outlet at the culvert under Main Road 217, marked and shown as "EPA 02" on the Plan.   |
| 3                      |   | Discharge to utilisation area                                 | Discharge from the Final Pond in Pasveer Sewage System to the utilisation area adjacent to sewage treatment works, marked and shown as "EPA 03" on the Plan. |
| 4                      | Ambient water monitoring                                      |   | The waters of Lake Macquaire located midway between cooling water inlet and Hungary Point, marked and shown as "EPA 04" on the Plan.                         |
| 5                      | Ambient water monitoring                                      |   | The waters of Lake Macquaire located off the old Wangi Power Station inlet point in Myuna Bay, marked and shown as "EPA 05" on the Plan.                     |
| 6                      | Ambient water monitoring                                      |   | The waters of Lake Macquaire located at the Eraring/Vales Point mixing zone off Fishery Point, marked and shown as "EPA 06" on the Plan.                     |
| 7                      | Ambient water monitoring                                      |   | The northern waters of Lake Macquarie east of Lake Macquarie Yacht Club, marked and shown as "EPA 07" on the Plan.   |
| 8                      | Ambient water monitoring                                      |   | Inlet canal of the cooling water intake from Lake Macquarie, marked and shown as "EPA 08" on the Plan.   |
| 10                     | Discharge to waters<br>Effluent quality monitoring            | Discharge to waters<br>Effluent quality monitoring            | Ash Dam discharge after the Siphon Pond Weir, marked and shown as "EPA 10" on the Plan.  |
| 17                     | Discharge to waters<br>Discharge quality monitoring           | Discharge to waters<br>Discharge quality monitoring           | Emergency discharge from the Toe Drain Collection Pond, marked and shown as "EPA 17" on the Plan.  |

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|----|------------------------|---|
| 20 | Volume monitoring      | Ash Dam discharge pipe to the Outlet Canal (Tunnel Spillway), marked and shown as "EPA 20" on the Plan. |
| 21 | Groundwater monitoring | Groundwater Monitoring Well 01, marked and shown as "EPA 21" on the Plan.                               |
| 22 | Groundwater monitoring | Groundwater Monitoring Well 02, marked and shown as "EPA 22" on the Plan.                               |
| 23 | Groundwater monitoring | Groundwater Monitoring Well 06, marked and shown as "EPA 23" on the Plan.                               |
| 24 | Groundwater monitoring | Groundwater Monitoring Well D26, marked and shown as "EPA 24" on the Plan.                              |

## 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.
- 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)         |                 |
| Fine Particulates (Air)           |                 |
| Fluoride (Air)                    |                 |
| Lead (Air)                        |                 |
| Mercury (Air)                     |                 |
| Nitrogen Oxides (Air)             |                 |

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|  |
|--|
| Salt (Estuarine Water)                   |
| Selenium (Estuarine Water)               |
| Sulfur Oxides (Air)                      |
| Total suspended solids (Estuarine Water) |
| Volatile organic compounds (Air)         |

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

## 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 In accordance with section 33(3) of the Protection of the Environment (Clean Air) Regulation 2010 the emission units corresponding to Points 11, 12, 13 and 14 are taken to belong to Group 3. However under section 37(3) of the Protection of the Environment (Clean Air) Regulation 2010 the EPA has imposed more stringent emission standards at Points 11, 12, 13 and 14 for pollutants detailed in limit condition L3.5 of this licence.
- L3.5 Air Concentration Limits

### POINT 11,12,13,14

| Pollutant  | Units of measure           | 100 percentile concentration limit | Reference conditions | Oxygen correction | Averaging period |
|--|----------------------------|------------------------------------|----------------------|-------------------|------------------|
| Hydrogen chloride  | milligrams per cubic metre | 100                                |                      |                   |                  |
| Sulfuric acid mist and sulfur trioxide (as SO <sub>3</sub> ) | milligrams per cubic metre | 100                                |                      |                   |                  |
| Nitrogen Oxides  | milligrams per cubic metre | 1100                               |                      |                   |                  |
| Cadmium  | milligrams per cubic metre | 0.2                                |                      |                   |                  |
| Mercury  | milligrams per cubic metre | 0.2                                |                      |                   |                  |

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|   |                            |     |
|---|----------------------------|-----|
| Solid Particles                           | milligrams per cubic metre | 50  |
| Chlorine                                  | milligrams per cubic metre | 200 |
| Total Fluoride                            | milligrams per cubic metre | 50  |
| Type 1 and Type 2 substances in aggregate | milligrams per cubic metre | 1   |

POINT 19

| Pollutant       | Units of measure           | 100 percentile concentration limit | Reference conditions | Oxygen correction | Averaging period |
|-----------------|----------------------------|------------------------------------|----------------------|-------------------|------------------|
| Nitrogen Oxides | milligrams per cubic metre | 86                                 |                      |                   |                  |
| Solid Particles | milligrams per cubic metre | 20                                 |                      |                   |                  |

L3.6 Water and/or Land Concentration Limits

POINT 1

| Pollutant   | Units of Measure     | 50%Limit | 90%Limit | 97.72%Limit | 100 percentile concentration limit |
|-------------|----------------------|----------|----------|-------------|------------------------------------|
| Copper      | micrograms per litre |          |          |             | 5                                  |
| Iron        | micrograms per litre |          |          |             | 300                                |
| Selenium    | micrograms per litre |          |          |             | 2                                  |
| Temperature | degrees Celsius      |          |          | 35          | 37.5                               |

POINT 2

| Pollutant              | Units of Measure     | 50%Limit | 90%Limit | 97.72%Limit | 100 percentile concentration limit |
|------------------------|----------------------|----------|----------|-------------|------------------------------------|
| pH                     | pH                   |          |          |             | 6.5-9.5                            |
| Total suspended solids | milligrams per litre |          |          |             | 50                                 |

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## Note: (1)

The 97.72% limit specified for the pollutant 'Temperature' at Point 1 means during normal electricity supply conditions, cooling water may be discharged over 35°C but up to a maximum temperature of 37.5°C for up to 200 hours over the reporting period.

## (2)

The 100% limit specified for the pollutant 'Temperature' at Point 1 means cooling waters may never exceed a maximum temperature of 37.5°C except in accordance with Special Condition E1.2.

## (3)

In the event that the licensee exceeds the 97.72 percentile temperature limit the licensee must advise the EPA on a weekly basis, every day such an exceedance occurs.

- L3.7 The reference basis for all the air pollutants specified in condition L3.5 for points 11, 12, 13 and 14 are: dry, 273 K, 101.3 kPa and 7% O<sub>2</sub>.

## L4 Volume and mass limits

- L4.1 For each discharge point or utilisation area specified below (by a point number), the volume/mass of:
- a) liquids discharged to water; or;
  - b) solids or liquids applied to the area;
- must not exceed the volume/mass limit specified for that discharge point or area.

| Point | Unit of Measure    | Volume/Mass Limit |
|-------|--------------------|-------------------|
| 1     | megalitres per day | 11800             |
| 3     | kilolitres per day | 250               |
| 20    | megalitres per day | 150               |

## L5 Waste

- L5.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.
- L5.2 This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require an environment protection licence.
- L5.3 The following wastes generated on the premises may be disposed of to the ash dam or within the ash dam catchment:
- a) ash;
  - b) dead sea grass and silt, natural lake silt and shells, silt removed from settlement basins on the premises, coal, fines from settlement basins and conveyor wash-down on the premises, boiler chemical cleaning residues and rinse water, saline solutions from the water reclamation plant (including ferrous chloride used for phosphorous removal), water polishing plant residues and rinse waters, de-oiled fresh water, used fabric filters, mine dewatering from Awaba State Mine;

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- c) any material approved in writing by the EPA to control dust emission from the ash dam; and
- d) any material approved in writing by the EPA.

## **L6 Potentially offensive odour**

- L6.1 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.

## **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 have their loads covered at all times, except during loading and unloading.

### **O4 Effluent application to land**

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- O4.1 Effluent application must not occur in a manner that causes surface runoff.
- O4.2 Spray from effluent application must not drift beyond the boundary of the premises.
- O4.3 Adequate notices, warning the public not to drink or otherwise use the treated effluent, must be erected on the site. These notices must be legible English and in any other languages as may be necessary, and must indicate at least that the water in use is "Reclaimed Water - Unfit for Drinking".
- O4.4 The quantity of effluent/solids applied to the utilisation area must not exceed the capacity of the area to effectively utilise the effluent/solids.

For the purpose of this condition, 'effectively utilise' include the use of the effluent/solids for pasture or crop production, as well as the ability of the soil to absorb the nutrient, salt, hydraulic load and organic material.

## O5 Emergency response

- O5.1 The licensee must maintain, and implement as necessary, a current emergency response plan for the premises. The licensee must keep the emergency response plan on the premises at all times. The emergency response plan must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment. If a current emergency response plan does not exist at the date on which this condition is attached to the licence, the licensee must develop an emergency response plan within three months of that date.

## O6 Processes and management

- O6.1 All above ground tanks containing material that is likely to cause environmental harm must be bunded or have an alternative spill containment system in place.
- O6.2 Bunds must:
  - a) have walls and floors constructed of impervious materials;
  - b) be of sufficient capacity to contain 110% of the volume of the tank (or 110% volume of the largest tank where a group of tanks are installed);
  - c) have floors graded to a collection sump; and
  - d) not have a drain valve incorporated in the bund structure,

or be constructed and operated in a manner that achieves the same environmental outcome.

## O7 Waste management

- O7.1 The licensee must ensure that any liquid and/or non liquid waste generated and/or stored at the premises is assessed and classified in accordance with the EPA's Waste Classification Guidelines as in force from time to time.

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O7.2 The licensee must ensure that waste identified for recycling is stored separately from other waste.

## **O8 Other operating conditions**

- O8.1 Only Silifax D1760 or anti-foaming agent(s) approved in writing by the EPA may be used to control floating foam on the cooling water discharge canal.
- O8.2 Ferrous chloride may be added to the condenser cooling water.
- O8.3 Sawdust derived from untreated timber may be added to the condenser cooling water at a rate not exceeding 10 cubic meters per year.
- O8.4 Except under emergency conditions, any overflow from the ash dam must be discharged via the cooling water outlet canal to Discharge Point 1.
- O8.5 Boiler blowdown may be discharged to the cooling water system.
- O8.6 Uncontaminated surface runoff from the site may be discharged to the cooling water system.
- O8.7 Overflow from the coal fines settling pond as a result of rainfall may discharge to the cooling water system.
- O8.8 Under emergency conditions the overflow from the ash dam may be discharged via Crooked Creek and Discharge Point 2. Any such discharge must be reported to the EPA as soon as practicable after the discharge commences and the licensee must provide a written report that addresses the requirements of condition R3.3 of this licence within seven days of the date on which the discharge commenced.
- O8.9 Water from the ash dam toe drains must be collected and returned to the ash dam. Under emergency conditions the toe drain water may be discharged via Discharge Point 17. Any such discharge must be reported to the EPA as soon as practicable after the discharge commences and the licensee must provide a written report that addresses the requirements of condition R3.3 of this licence within seven days of the date on which the discharge commenced.
- O8.10 Effluent from the Myuna Bay Sport and Recreation Camp may be received for treatment at the sewage treatment plant located on the premises.
- O8.11 Treated sewage effluent may be received for processing at the water reclamation plant located on the premises for the purpose of meeting the power station's water requirements.
- O8.12 The following fuels may be used in the power station for station start-up and combustion support provided that they comply with the specification set out in this licence:
- a) Distillate / heating oils
  - b) Distillate / heating oils blended with refined oil additives
- O8.13 The licensee must sample and analyse sufficient samples of fuel received on the premise to assess whether the fuel complies with the specifications in this licence.

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O8.14 Fuel oils containing Polychlorinated biphenyls (PCB's) are not permitted to be used in the power station.

O8.15 Coal and alternative liquid fuels must not be burnt in the electricity generating works unless they comply with the specifications below:

- a) Coal fuels must not be burnt in the electricity generating works unless they contain concentrations of Sulphur that do not exceed the 100 percentile Concentration Limit of 0.5 (% by weight) as a monthly average (8% H<sub>2</sub>O).
- b) Alternative liquid fuels must not be burnt in the electricity generating works unless they contain concentrations of Sulphur that do not exceed the 100 percentile Concentration Limit of 0.5 (% by weight) as a monthly average.

O8.16

| COAL - Impurity | Units of measure | 100% Concentration Limit<br>(Monthly Av. 8% H <sub>2</sub> O) |
|-----------------|------------------|---|
| Sulphur         | % by weight      | 0.5   |

O8.17

| LIQUID FUELS -Impurity | Units of measure | 100% Concentration Limit(Monthly Average) |
|------------------------|------------------|---|
| Sulphur                | % by weight      | 0.5                                       |

O8.18 Distillate / heating oils and distillate refined oil blends burnt in the power station must comply with the specifications in Table 1.

| TABLE 1.-Characteristic of Fuel | Limit                     | Test Method   |
|---------------------------------|---------------------------|---|
| AG                              | less than 10ppm by weight |   |
| As                              | less than 10ppm by weight | Pre-treatment method USEPA  |
| Be                              | less than 10ppm by weight | 200.2(waters)   |
| CD                              | less than 5ppm by weight  |   |
| Cr(total)                       | less than 30ppm by weight | Pre-treatment method  |
| Co                              | less than 10ppm by weight | HNO <sub>3</sub> /H <sub>2</sub> O <sub>2</sub> (Oils/Organic matrices) |
| Cu                              | less than 50ppm by weight |   |
| Hg                              | less than 10ppm by weight |   |
| Mn                              | less than 50ppm by weight |   |
| Mo                              | less than 50ppm by weight |   |
| Ni                              | less than 50ppm by weight | Analysis  |
| Pb                              | less than 50ppm by weight | ALPHA 20th Ed under part 3000   |
| Sb                              | less than 15ppm by weight |   |

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|                           |                           |                    |
|---------------------------|---------------------------|--------------------|
| Se                        | less than 15ppm by weight |                    |
| Sn                        | less than 40ppm by weight |                    |
| V                         | less than 40ppm by weight |                    |
| Polychlorinated biphenyls | less than 2ppm by weight  | USEPA 8081A        |
| Energy                    | 10 - 48 MJ per Kg         | AS1038.5           |
| Sulphur (total)           | less than 0.5% by weight  | AS1038.6.2         |
| Flourine (total)          | less than 0.05% by weight | AS1038.10.4D(2001) |
| Chlorine (total)          | less than 0.50% by weight | AS1038.8.2         |

## O8.19 Alternative Fuel Burning Trial – Source Emission Testing

Any distillate / heating oil or distillate refined oil blend that complies with the specifications in Table 2 may be burnt for the purpose of undertaking emission monitoring trials in accordance with monitoring specified in this licence.

| TABLE 2. - Characteristic of Fuel | Limit                      | Test Method   |
|-----------------------------------|----------------------------|---|
| Ag                                | less than 10ppm by weight  | Pre-treatment method USEPA  |
| As                                | less than 50ppm by weight  | 200.2 (waters)  |
| Be                                | less than 50ppm by weight  |   |
| Cd                                | less than 20ppm by weight  | Pre-treatment method<br>HNO <sub>3</sub> /H <sub>2</sub> O <sub>2</sub> (Oils/Organic matrices) |
| Cr (total)                        | less than 100ppm by weight |   |
| Co                                | less than 50ppm by weight  |   |
| Cu                                | less than 100ppm by weight |   |
| Hg                                | less than 20ppm by weight  |   |
| Mn                                | less than 250ppm by weight | Analysis  |
| Mo                                | less than 200ppm by weight | ALPHA 20th Ed under part 3  |
| Ni                                | less than 250ppm by weight |   |
| Pb                                | less than 200ppm by weight |   |
| Sb                                | less than 50ppm by weight  |   |
| Se                                | less than 50ppm by weight  |   |
| Sn                                | less than 100ppm by weight |   |
| V                                 | less than 150ppm by weight |   |
| Polychlorinated biphenyls         | less than 2ppm by weight   | USEPA 8081A   |
| Energy                            | 10 - 48 MJ per Kg          | AS1038.5  |
| Sulphur (total)                   | less than 1.10% by weight  | AS1038.6.3.2  |
| Flourine (total)                  | less than 0.05% by weight  | AS1038.10.4 (2001)  |
| Chlorine (total)                  | less than 0.50% by weight  | AS1038.8.2 (1996)   |

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O8.20 Distillate may be used for the firing of the emergency turbine generator for the purpose of:

- a) Providing black-start capability to Eraring Power Station or at the direction of the Australian Electricity Market Operator (currently AEMO); and
- b) Operating the emergency turbine generator up to a maximum of 200 hours per year

## 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:
- a) in a legible form, or in a form that can readily be reduced to a legible form;
  - b) kept for at least 4 years after the monitoring or event to which they relate took place; and
  - c) 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:
- a) the date(s) on which the sample was taken;
  - b) the time(s) at which the sample was collected;
  - c) the point at which the sample was taken; and
  - d) 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 11,12,13,14

| Pollutant       | Units of measure           | Frequency | Sampling Method |
|-----------------|----------------------------|-----------|-----------------|
| Cadmium         | milligrams per cubic metre | Yearly    | TM-14           |
| Carbon dioxide  | percent                    | Yearly    | TM-24           |
| Carbon monoxide | parts per million          | Yearly    | OM-1            |
| Chlorine        | milligrams per cubic metre | Yearly    | TM-7 & TM-8     |

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|                                 |                            |            |                      |
|---------------------------------|----------------------------|------------|----------------------|
| Copper                          | milligrams per cubic metre | Yearly     | TM-12, TM-13 & TM-14 |
| Dry gas density                 | kilograms per cubic metre  | Yearly     | TM-23                |
| Hazardous substances            | milligrams per cubic metre | Yearly     | TM-12, TM-13 & TM-14 |
| Hydrogen chloride               | milligrams per cubic metre | Yearly     | TM-8                 |
| Mercury                         | milligrams per cubic metre | Yearly     | TM-14                |
| Moisture                        | percent                    | Yearly     | TM-22                |
| Molecular weight of stack gases | grams per gram mole        | Yearly     | TM-23                |
| Nitrogen Oxides                 | milligrams per cubic metre | Continuous | CEM-2                |
| Solid Particles                 | milligrams per cubic metre | Yearly     | TM-15                |
| Sulphur dioxide                 | milligrams per cubic metre | Continuous | CEM-2                |
| Temperature                     | degrees Celsius            | Yearly     | TM-2                 |
| Total Fluoride                  | milligrams per cubic metre | Yearly     | TM-9                 |
| Undifferentiated Particulates   | milligrams per cubic metre | Continuous | CEM-1                |
| Velocity                        | metres per second          | Yearly     | TM-2                 |
| Volatile organic compounds      | parts per million          | Yearly     | TM-34                |
| Volumetric flowrate             | cubic metres per second    | Yearly     | TM-2                 |

**POINT 15**

| Pollutant        | Units of measure          | Frequency  | Sampling Method |
|------------------|---------------------------|------------|-----------------|
| Nitrogen dioxide | parts per hundred million | Continuous | AM-12           |
| Sulphur dioxide  | parts per hundred million | Continuous | AM-20           |

**POINT 16**

| Pollutant        | Units of measure          | Frequency  | Sampling Method |
|------------------|---------------------------|------------|-----------------|
| Nitrogen dioxide | parts per hundred million | Continuous | AM-12           |
| Sulphur dioxide  | parts per hundred million | Continuous | AM-20           |

**POINT 18,25,26,27**

| Pollutant                       | Units of measure                 | Frequency  | Sampling Method |
|---------------------------------|----------------------------------|------------|-----------------|
| Particulates - Deposited Matter | grams per square metre per month | Continuous | AM-19           |

**POINT 19**

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| Pollutant                       | Units of measure           | Frequency  | Sampling Method |
|---------------------------------|----------------------------|------------|-----------------|
| Carbon dioxide                  | percent                    | Yearly     | TM-24           |
| Dry gas density                 | kilograms per cubic metre  | Yearly     | TM-23           |
| Moisture                        | percent                    | Yearly     | TM-22           |
| Molecular weight of stack gases | grams per gram mole        | Yearly     | TM-23           |
| Nitrogen Oxides                 | milligrams per cubic metre | Continuous | CEM-2           |
| Oxygen (O <sub>2</sub> )        | percent                    | Yearly     | TM-25           |
| Solid Particles                 | milligrams per cubic metre | Yearly     | TM-15           |
| Velocity                        | metres per second          | Yearly     | TM-2            |
| Volumetric flowrate             | cubic metres per second    | Yearly     | TM-2            |

M2.3 Ambient air monitoring of pollutants for reporting purposes must include "averaging periods" as stipulated at Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (2005).

M2.4 Water and/ or Land Monitoring Requirements

## POINT 1

| Pollutant   | Units of measure     | Frequency  | Sampling Method         |
|-------------|----------------------|------------|-------------------------|
| Copper      | micrograms per litre | Quarterly  | Grab sample             |
| Iron        | micrograms per litre | Quarterly  | Grab sample             |
| Selenium    | micrograms per litre | Quarterly  | Grab sample             |
| Temperature | degrees Celsius      | Continuous | In line instrumentation |

## POINT 2

| Pollutant              | Units of measure     | Frequency           | Sampling Method |
|------------------------|----------------------|---------------------|-----------------|
| pH                     | pH                   | Each overflow event | Grab sample     |
| Selenium               | micrograms per litre | Each overflow event | Grab sample     |
| Total suspended solids | milligrams per litre | Each overflow event | Grab sample     |

## POINT 8

| Pollutant   | Units of measure     | Frequency | Sampling Method         |
|-------------|----------------------|-----------|-------------------------|
| Copper      | micrograms per litre | Quarterly | Grab sample             |
| Iron        | micrograms per litre | Quarterly | Grab sample             |
| Selenium    | micrograms per litre | Quarterly | Grab sample             |
| Temperature | degrees Celsius      | Daily     | In line instrumentation |

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## POINT 10

| Pollutant                             | Units of measure     | Frequency | Sampling Method |
|---------------------------------------|----------------------|-----------|-----------------|
| Cadmium                               | micrograms per litre | Quarterly | Grab sample     |
| Copper                                | micrograms per litre | Quarterly | Grab sample     |
| Iron                                  | micrograms per litre | Quarterly | Grab sample     |
| Lead                                  | micrograms per litre | Quarterly | Grab sample     |
| Manganese                             | micrograms per litre | Quarterly | Grab sample     |
| Nitrate + nitrite (oxidised nitrogen) | micrograms per litre | Monthly   | Grab sample     |
| pH                                    | pH                   | Quarterly | Grab sample     |
| Phosphorus (total)                    | micrograms per litre | Monthly   | Grab sample     |
| Reactive Phosphorus                   | micrograms per litre | Monthly   | Grab sample     |
| Selenium                              | micrograms per litre | Quarterly | Grab sample     |
| Total suspended solids                | milligrams per litre | Monthly   | Grab sample     |
| Zinc                                  | micrograms per litre | Quarterly | Grab sample     |

## POINT 17

| Pollutant                             | Units of measure     | Frequency | Sampling Method |
|---------------------------------------|----------------------|-----------|-----------------|
| Cadmium                               | micrograms per litre | Quarterly | Grab sample     |
| Copper                                | micrograms per litre | Quarterly | Grab sample     |
| Iron                                  | micrograms per litre | Quarterly | Grab sample     |
| Lead                                  | micrograms per litre | Quarterly | Grab sample     |
| Manganese                             | micrograms per litre | Quarterly | Grab sample     |
| Nitrate + nitrite (oxidised nitrogen) | micrograms per litre | Monthly   | Grab sample     |
| pH                                    | pH                   | Quarterly | Grab sample     |
| Phosphorus (total)                    | micrograms per litre | Monthly   | Grab sample     |
| Selenium                              | micrograms per litre | Quarterly | Grab sample     |
| Zinc                                  | micrograms per litre | Quarterly | Grab sample     |

## POINT 21,22,23,24

| Pollutant               | Units of measure            | Frequency      | Sampling Method       |
|-------------------------|-----------------------------|----------------|-----------------------|
| Arsenic                 | micrograms per litre        | Every 6 months | Representative sample |
| Cadmium                 | micrograms per litre        | Every 6 months | Representative sample |
| Calcium                 | micrograms per litre        | Every 6 months | Representative sample |
| Chromium                | micrograms per litre        | Every 6 months | Representative sample |
| Copper                  | micrograms per litre        | Every 6 months | Representative sample |
| Electrical conductivity | microsiemens per centimetre | Every 6 months | Representative sample |
| Iron                    | micrograms per litre        | Every 6 months | Representative sample |
| Lead                    | micrograms per litre        | Every 6 months | Representative sample |

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|                      |                      |                |                       |
|----------------------|----------------------|----------------|-----------------------|
| Magnesium            | micrograms per litre | Every 6 months | Representative sample |
| Manganese            | micrograms per litre | Every 6 months | Representative sample |
| Nickel               | micrograms per litre | Every 6 months | Representative sample |
| pH                   | pH                   | Every 6 months | Representative sample |
| Potassium            | micrograms per litre | Every 6 months | Representative sample |
| Selenium             | micrograms per litre | Every 6 months | Representative sample |
| Standing Water Level | metres               | Every 6 months | In situ               |
| Zinc                 | micrograms per litre | Every 6 months | Representative 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:
- any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
  - 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
  - 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 2010* 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.
- M3.3 **Division 3** of the **Protection of the Environment Operations (General) Regulations 2009** requires that monitoring of actual loads of assessable pollutants listed in L2.2 must be carried out in accordance with the testing methods set out in relevant load calculation protocol for the fee-based activity classification listed in condition A1.1.
- M3.4 Samples taken pursuant to a requirement in this licence to monitor the volume, mass or concentration of pollutants, must be analysed and reported in accordance with the laboratory accreditation requirements set out in section 2.1.3 of the Load Calculation Protocol.

The Load Calculation Protocol is the Protocol referred to in Division 3 of the Protection of the Environment Operations (General) Regulation 2009. A copy of the Protocol was published in the Government Gazette on 26 June 2009 and can be purchased from the EPA or viewed at <http://www.environment.nsw.gov.au/licensing/lblprotocol/index.htm>

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## M4 Testing methods - load limits

Note: Division 3 of the *Protection of the Environment Operations (General) Regulation 2009* 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 Environmental monitoring

M5.1 Not less than two (2) water quality surveys, as specified below, must be conducted in Lake Macquarie during each quarter of the reporting period. The surveys must be scheduled so that there are at least two (2) surveys in each season. For each of the points 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 and sample at the frequency specified opposite in the other columns.

| POINTS 4,5,6,7 - POLLUTANT | FREQUENCY   | SAMPLING METHOD  |
|----------------------------|---|--|
| Dissolved Oxygen           | At least two (2) surveys per three (3) month period with a minimum of four (4) weeks between each survey. | Measured at 0.1 metres below the surface, 0.5 metres below the surface and thereafter at 1.0 metre intervals to the bottom.              |
| Temperature                | At least two (2) surveys per three (3) month period with a minimum of four (4) weeks between each survey. | Measured at 0.1 metres below the surface, 0.5 metres below the surface and thereafter at 1.0 metre intervals to the bottom.              |
| Salinity                   | At least two (2) surveys per three (3) month period with a minimum of four (4) weeks between each survey. | Measured at 0.1 metres below the surface, 0.5 metres below the surface and thereafter at 1.0 metre intervals to the bottom.              |
| Water Quality              | At least two (2) surveys per three (3) month period with a minimum of four (4) weeks between each survey. | Using a Secchi disk.   |
| Zooplankton - total count  | At least two (2) surveys per three (3) month period with a minimum of four (4) weeks between each survey. | Sampling may be preserved and counted annually.<br>Samples must be preserved and retained for species identification if required by EPA. |

## M6 Weather monitoring

M6.1 For each monitoring point specified 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 at the frequency, specified opposite in the other column.

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| POINT 16 - Parameter      | Units of Measure | Averaging Period | Frequency    | Sampling Method |
|---------------------------|------------------|------------------|--------------|-----------------|
| Wind Speed @ 10m          | m/s              | 1 hour           | Continuously | AM-2 & AM-4     |
| Wind Direction @ 10m      | °                | 1 hour           | Continuously | AM-2 & AM-4     |
| Sigma Theta @ 10m         | °                | 1 hour           | Continuously | AM-2 & AM-4     |
| Ambient Temperature @ 2m  | ° C              | 1 hour           | Continuously | AM-4            |
| Ambient Temperature @ 10m | ° C              | 1 hour           | Continuously | AM-4            |
| Rainfall                  | mm/hr            | 1 hour           | Continuously | AM-4            |
| Solar Radiation           | W/m <sup>2</sup> | 1 hour           | Continuously | AM-4            |
| Additional Requirements   |                  |                  |              |                 |
| Sitting                   |                  |                  |              | AM-1 & AM-4     |
| Measurement               |                  |                  |              | AM-2 & AM-4     |

## M7 Recording of pollution complaints

- M7.1 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.
- M7.2 The record must include details of the following:
- the date and time of the complaint;
  - the method by which the complaint was made;
  - any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
  - the nature of the complaint;
  - the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
  - if no action was taken by the licensee, the reasons why no action was taken.
- M7.3 The record of a complaint must be kept for at least 4 years after the complaint was made.
- M7.4 The record must be produced to any authorised officer of the EPA who asks to see them.

## M8 Telephone complaints line

- M8.1 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.

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- M8.2 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.
- M8.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.
- M8.4 The licensee must nominate to the EPA a single telephone number for the purpose of the EPA contacting the licensee to provide immediate assistance or response during emergencies or any other incidents at the premises. The telephone number must be current at all times.  
The nomination must be provided to the EPA's Director - Hunter at PO Box 488G, Newcastle NSW 2300.  
Note: This condition does not apply until two (2) weeks after the date of issue of the Notice adding this condition to the licence.

## M9 Requirement to monitor volume or mass

- M9.1 For each discharge point or utilisation area specified below, the licensee must monitor:
- the volume of liquids discharged to water or applied to the area;
  - the mass of solids applied to the area;
  - the mass of pollutants emitted to the air;
- at the frequency and using the method and units of measure, specified below.

### POINT 1

| Frequency  | Unit of Measure    | Sampling Method   |
|------------|--------------------|---|
| Continuous | megalitres per day | By Calculation (volume flow rate or pump capacity multiplied by operating time) |

### POINT 17

| Frequency  | Unit of Measure    | Sampling Method  |
|------------|--------------------|------------------|
| Continuous | megalitres per day | Special Method 1 |

### POINT 20

| Frequency | Unit of Measure    | Sampling Method         |
|-----------|--------------------|-------------------------|
| Daily     | megalitres per day | In line instrumentation |

- M9.2 For the purpose of the table(s) above, Special Method 1 means "In Line Instrumentation". If In Line Instrumentation is not available, alternative "By Calculation".

## 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:
- a Statement of Compliance,

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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 a copy of the form that must be completed and returned to the EPA.

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
- 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.

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- R1.9 The information collected in accordance with condition M4.1 of this licence must be submitted to the EPA with the Annual Return for the reporting period.
- R1.10 The licensee must submit a report to the EPA's Manager Hunter Region that outlines each occurrence of operation of the emergency turbine generator and the reason for each occurrence of operation. This report must be submitted as part of the Annual Return.
- R1.11 The licensee must report with the Annual Return what volume of distillate was burnt at the Emergency Turbine Generator during the reporting period.
- R1.12 For any specified pollutant required to be continuously monitored for points 11, 12, 13 and 14 the licensee must produce an air emission exceedence report if the concentration of that pollutant any anytime exceeds the following level.

Sulphur dioxide at any time exceeds 600 ppm.

Within seven (7) days of the licensee becoming aware of the exceedence of the limits specified in this condition, a written report must be sent to the EPA's Regional Manager Hunter and must include the following:

- a)  
details of the date and time of the exceedence;
- b)  
the duration of the exceedence; and
- c)  
the reason(s) for the exceedence.

## 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 the incident occurred.

## 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

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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.

## R4 Other reporting conditions

- R4.1 The licensee must submit a detailed report to the EPA's Manager Hunter Region that outlines the results of an investigation into providing gas fuel for the emergency turbine generator. While distillate fuel is used, the licensee must clearly justify in the report why gas is not a practical or economically viable alternative.

**Submission Date:** With the annual return on a two-yearly frequency. The first report is to be submitted with the annual return for the 2011/12 reporting period.

## 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.

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## G2 Other general conditions

### G2.1 Completed Programs

| Program   | Description   | Completed Date   |
|---|---|------------------|
| Civil diversion works                           | Civil diversion works to reduce stormwater flows into the ash dam. Reduced possibility of overflows and resultant discharges of selenium.   | 30-June-2006     |
| Audit of emission monitoring points             | Audit of emission monitoring points. Improved reliability of reported monitoring results.   | 31-December-2003 |
| PRP 3 - Replace CEMS with Complying Instruments | Replace CEMS with complying instruments. Improved reliability of reported monitoring results.   | 31-December-2004 |
| PRP 4 - Seagrass Monitoring Program             | Seagrass monitoring program with primary aim to monitor seagrass distribution in southern end of Lake Macquarie (Mynua Bay) and determine if any thermal effects of cooling water discharge impacts seagrass community. | 31-August-2016   |

## 8 Special Conditions

### E1 Discharge of Cooling Waters into Lake Macquarie

E1.1 All Special Conditions listed under condition E1 of this licence only apply to 31 August 2021.

E1.2 In the event that:

(a) AEMO, or a person authorised by the AEMO, directs the licensee, under the National Electricity Rules, to maintain, increase or be available to increase power generation, for system security, the licensee may exceed the maximum operating hours above 35°C and the maximum temperature specified in conditions L3.1 and L3.6; or

(b) The EPA may, by notice in writing, in response to circumstances that the EPA considers may impact on the function of the NSW electricity grid, grant the licensee an approval to exceed the cooling water temperature limits specified in conditions L3.1 and L3.6. This approval remains in place for the period specified in the approval or if no period is specified, for 72 hours from the date and time of the approval.

When a direction issued under E1.2(a) is revoked by the AEMO, or an approval issued under E1.2(b) is revoked by the EPA, the licensee must, as soon as practicable, run down the cooling water discharge temperature to within the limits specified in conditions L3.1 and L3.6.

If the licensee receives a direction from the AEMO under E1.2(a), the licensee must notify the EPA in writing, as soon as practicable, of the time and date the direction was given by the AEMO and the period of time that the limits specified in conditions L3.1 and L3.6 were exceeded.

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An approval issued under E1.2(b) does not count towards hours accumulated above cooling temperature parameters under this licence.

Note: The EPA may vary the licensed temperature conditions after 31 August 2021 following a review of studies undertaken on thermal discharges to Lake Macquarie.

## E2 Seagrass Monitoring Program

- E2.1 The licensee must implement and maintain on a three yearly basis a Seagrass Monitoring Program approved in writing by the EPA.
- E2.2 Every three years, the licensee must submit, with the Annual Return, a Seagrass Monitoring Program Report that includes, but not necessarily limited to:
  - (a) Provision of the data, analysis and conclusions of the Seagrass Monitoring Program required under the above condition.
  - (b) Comparison and discussion of data collected since the commencement of the Seagrass Monitoring Program in February 2011, and any other relevant and/or previous studies.
- E2.3 If the Seagrass Monitoring Program required under the above conditions identifies observed changes that indicates a reduction in seagrass areas, where these changes are likely to be attributed to the licensed activities, the licensee must prepare a report that details the following.
  - (a) A description of ameliorative measures, including the timeframe for the implementation of management actions; and
  - (b) In the case where impacts are unavoidable, a description of how the impacts will be offset.

The report is to be submitted to the EPA's Director - Hunter at PO Box 488G, Newcastle NSW 2300, or by email to [hunter.region@epa.nsw.gov.au](mailto:hunter.region@epa.nsw.gov.au), within three months of providing the Seagrass Monitoring Program Report required under the above condition.

## E3 Cooling Water Temperature Study

- E3.1 The Licensee must conduct a study into the potential impacts of discharges of cooling water at temperatures above the limits imposed under L3.1 and L3.6 of this licence under future predicted operating conditions. The study must include, but need not be limited to:
  1. A prediction of the expected maximum inlet water temperature of Lake Macquarie cooling water based on the maximum recorded temperature in the last 5 years.
  2. With reference to point 1 above, predict the maximum expected cooling water temperature that would be discharged with all units operating at maximum supply capacity.
  3. A review of electricity supply trends and past extreme weather events for the previous 12 months and predict the expected number of hours that would be required to be operated at above the limits prescribed at conditions L3.1 and L3.6 of this licence to prevent a lack of reserve based on these events.
  4. Modelling the plume of cooling water and profile its temperature above ambient lake temperature based on a 10 metre grid and 1 degree Celsius change in water temperature.
  5. Consider points 2, 3 and 4 above and investigate and predict the likely impact of exceedances of the

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cooling water temperature limits at conditions L3.1 and L3.6 of the licence on sea grasses within the temperature plume of the cooling water outlet.

6. Make recommendation as to how potential impacts from an increase in cooling water discharge temperature on the environment can be mitigated or offset.

The Licensee must provide a report which details the findings and recommendations of the Study to the EPA by no later than 5.00pm on 1 December 2017.

## E4 Continuous Emissions Monitoring Instruments

- E4.1 Any new continuous emission monitoring instruments installed on the premises for the purpose of monitoring emissions to atmosphere must comply with ***“Approved methods of the sampling and analysis of air pollutants in New South Wales”***, or such other methods that may be approved by the EPA.

## E5 Emergency Groundwater Discharge

- E5.1 The licensee may extract groundwater (associated with the seep occurring at the premises, which is understood to be from the Awaba underground colliery) from the groundwater dewatering bores to the west of the High Level Inlet Canal and discharge it to the Outlet Canal during the operation of the power station until FRIDAY 26 OCTOBER 2018.

The licensee must not discharge the extracted groundwater to the Outlet Canal during a Station maintenance outage.

Note:

(1) The licensee is required to obtain all consents, licenses, approvals, permits and/or allocations to lawfully extract and discharge groundwater.

(2) During a Station maintenance outage, extracted groundwater may be discharged to the Ash Dam in accordance with licence condition L5.3(b).

(3) It is the EPA intention to require the licensee to undertake a bioaccumulation study on impacts of groundwater discharge to Lake Macquarie if the discharge continues beyond 26 October 2018.

- E5.2 The licensee must monitor the quality of the groundwater it extracts from the dewatering bores (to the west of the High Level Inlet Canal) and discharges to the Outlet Canal. Monitoring must be undertaken for the parameters listed in Table 6 of the report titled *'Revised Modelling of Seep water Diverted & Discharged to Outlet Canal'*, prepared by Jacobs, dated 11 April 2017 ("the Report"). The monitoring must be undertaken:

- (a) Within two days of first commencing the discharge; and
- (b) Monthly for the duration of the discharge.

The licensee must compare the monitoring results against the average bore results presented in Table 6 of the Report, and notify the EPA's Director - Hunter by email to [hunter.region@epa.nsw.gov.au](mailto:hunter.region@epa.nsw.gov.au) if the

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monitoring results exceed the average results presented in Table 6 of the Report by more than 20%. The notification must be provided within three days of the licensee obtaining the monitoring results.

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## Dictionary

### General Dictionary

|  |  |
|--|--|
| <b>3DGM [in relation to a concentration limit]</b> | 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 |
| <b>Act</b>   | Means the Protection of the Environment Operations Act 1997  |
| <b>activity</b>                                    | Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997  |
| <b>actual load</b>                                 | Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009  |
| <b>AM</b>  | 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> .   |
| <b>AMG</b>   | Australian Map Grid  |
| <b>anniversary date</b>                            | 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.                            |
| <b>annual return</b>                               | Is defined in R1.1   |
| <b>Approved Methods Publication</b>                | Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009  |
| <b>assessable pollutants</b>                       | Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009  |
| <b>BOD</b>   | Means biochemical oxygen demand  |
| <b>CEM</b>   | 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> .  |
| <b>COD</b>   | Means chemical oxygen demand   |
| <b>composite sample</b>                            | 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.   |
| <b>cond.</b>                                       | Means conductivity   |
| <b>environment</b>                                 | Has the same meaning as in the Protection of the Environment Operations Act 1997   |
| <b>environment protection legislation</b>          | Has the same meaning as in the Protection of the Environment Administration Act 1991   |
| <b>EPA</b>   | Means Environment Protection Authority of New South Wales.   |
| <b>fee-based activity classification</b>           | Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.   |
| <b>general solid waste (non-putrescible)</b>       | Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997   |

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|  |  |
|--|--|
| <b>flow weighted composite sample</b>                                | Means a sample whose composites are sized in proportion to the flow at each composites time of collection.   |
| <b>general solid waste (putrescible)</b>                             | Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997   |
| <b>grab sample</b>   | Means a single sample taken at a point at a single time  |
| <b>hazardous waste</b>   | Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997   |
| <b>licensee</b>  | Means the licence holder described at the front of this licence  |
| <b>load calculation protocol</b>                                     | Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009  |
| <b>local authority</b>   | Has the same meaning as in the Protection of the Environment Operations Act 1997   |
| <b>material harm</b>   | Has the same meaning as in section 147 Protection of the Environment Operations Act 1997   |
| <b>MBAS</b>  | Means methylene blue active substances   |
| <b>Minister</b>  | Means the Minister administering the Protection of the Environment Operations Act 1997   |
| <b>mobile plant</b>  | Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997   |
| <b>motor vehicle</b>   | Has the same meaning as in the Protection of the Environment Operations Act 1997   |
| <b>O&amp;G</b>   | Means oil and grease   |
| <b>percentile [in relation to a concentration limit of a sample]</b> | 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.   |
| <b>plant</b>   | Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.  |
| <b>pollution of waters [or water pollution]</b>                      | Has the same meaning as in the Protection of the Environment Operations Act 1997   |
| <b>premises</b>  | Means the premises described in condition A2.1   |
| <b>public authority</b>  | Has the same meaning as in the Protection of the Environment Operations Act 1997   |
| <b>regional office</b>   | Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence   |
| <b>reporting period</b>  | 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. |
| <b>restricted solid waste</b>  | Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997   |
| <b>scheduled activity</b>  | Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997  |
| <b>special waste</b>   | Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997   |
| <b>TM</b>  | 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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|                         |   |
|-------------------------|---|
| <b>TSP</b>              | Means total suspended particles   |
| <b>TSS</b>              | Means total suspended solids  |
| <b>Type 1 substance</b> | Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements                               |
| <b>Type 2 substance</b> | Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements |
| <b>utilisation area</b> | Means any area shown as a utilisation area on a map submitted with the application for this licence   |
| <b>waste</b>            | Has the same meaning as in the Protection of the Environment Operations Act 1997  |
| <b>waste type</b>       | Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste    |

Mr Grahame Clarke

Environment Protection Authority

(By Delegation)

Date of this edition: 06-June-2000

# Environment Protection Licence

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## End Notes

- 1 Licence varied by notice V/M upgrade, issued on 07-Jul-2000, which came into effect on 07-Jul-2000.
- 2 Licence transferred through application 140098, approved on 30-Nov-2000, which came into effect on 02-Aug-2000.
- 3 Licence varied by notice 1003063, issued on 07-Dec-2000, which came into effect on 19-Dec-2000.
- 4 Licence varied by notice 1007825, issued on 18-Jul-2001, which came into effect on 12-Aug-2001.
- 5 Licence varied by notice 1016571, issued on 27-Oct-2003, which came into effect on 21-Nov-2003.
- 6 Licence varied by notice 1042247, issued on 16-Feb-2005, which came into effect on 13-Mar-2005.
- 7 Licence varied by notice 1053525, issued on 05-Dec-2005, which came into effect on 30-Dec-2005.
- 8 Licence varied by notice 1066065, issued on 01-Nov-2006, which came into effect on 01-Nov-2006.
- 9 Licence varied by notice 1067535, issued on 28-Mar-2007, which came into effect on 28-Mar-2007.
- 10 Licence varied by notice 1079689, issued on 01-Nov-2007, which came into effect on 01-Nov-2007.
- 11 Licence varied by notice 1080433, issued on 18-Jan-2008, which came into effect on 18-Jan-2008.
- 12 Licence fee period changed by notice 1082099 approved on .
- 13 Licence varied by notice 1086281, issued on 09-May-2008, which came into effect on 09-May-2008.
- 14 Licence varied by notice 1088978, issued on 01-Aug-2008, which came into effect on 01-Aug-2008.
- 15 Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
- 16 Licence varied by notice 1093910, issued on 13-Nov-2008, which came into effect on 13-Nov-2008.
- 17 Licence varied by notice 1096239, issued on 24-Dec-2008, which came into effect on 24-Dec-2008.
- 18 Licence varied by notice 1098000, issued on 27-Mar-2009, which came into effect on 27-Mar-2009.

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|----|---|
| 19 | Licence varied by notice 1102931, issued on 30-Jun-2009, which came into effect on 30-Jun-2009.                     |
| 20 | Licence varied by admin corrections to annual return, issued on 02-Jul-2009, which came into effect on 02-Jul-2009. |
| 21 | Licence varied by correction to Annual Return record, issued on 02-Dec-2009, which came into effect on 02-Dec-2009. |
| 22 | Licence varied by notice 1117447, issued on 22-Nov-2010, which came into effect on 22-Nov-2010.                     |
| 23 | Licence varied by notice 1128029, issued on 13-Jul-2011, which came into effect on 13-Jul-2011.                     |
| 24 | Licence varied by notice 1502813 issued on 19-Jan-2012  |
| 25 | Licence varied by notice 1513558 issued on 04-Jul-2013  |
| 26 | Licence format updated on 11-Nov-2015   |
| 27 | Licence varied by notice 1544589 issued on 26-Sep-2016  |
| 28 | Licence varied by notice 1545609 issued on 08-Dec-2016  |
| 29 | Licence varied by notice 1548389 issued on 17-Jan-2017  |
| 30 | Licence varied by notice 1549289 issued on 10-Feb-2017  |
| 31 | Licence varied by notice 1551505 issued on 28-Apr-2017  |
| 32 | Licence varied by notice 1553512 issued on 18-Oct-2017  |
| 33 | Licence varied by notice 1557834 issued on 26-Oct-2017  |
| 34 | Licence format updated on 07-Nov-2017   |
| 35 | Licence varied by notice 1559767 issued on 22-Dec-2017  |