

Summary of Environmental Protection Licence 766 Annual Return

Year Ending 31 December 2010

Delta Electricity holds licence number 766 for Wallerawang Power Station. The activities to which the licence applies are electricity generation, chemical storage facilities, waste storage, coal works and crushing, grinding and separating works and energy recovery.

The Department of Environment, Climate Change and Water (DECCW) sets limits for conditions, such as pH, conductivity and suspended solids, metals and elements. DECCW stipulates the minimal monitoring regime that must be implemented for each of the items stipulated.

Some monitoring is conducted at discharge points as well as at locations at a further distance from discharge points. Note that Discharge Point 2 has been discontinued and that Discharge Point 6 is now the subject of a separate licence.

Summary

During 2010, there was one instance where a parameter was exceeded. This occurred at Discharge Point 4 at the base of pollution control device, tortuous water course. This occurred when a pH reading was greater than the pH upper limit for Discharge Point 4. Independent investigation indicates that the rise in pH is not the direct result of the power stations operations. Scientific evidence indicates this event resulted from the combination of high alkalinity make up water, sourced from Springvale mine, and nutrients in the tortuous water course. This combination of substances most likely led to biological activity which converts bicarbonates to carbonates, causing the pH to rise. No evidence of environmental harm was observed.

Concentration Monitoring Summary

Discharge and monitoring point 1 – discharge to Coxs River

Item	Monitoring required	Upper limit set	Complied with all requirements
Conductivity	✓		Yes
pH	✓	✓	Yes
Sulfate	✓	✓	Yes
Selenium	✓		Yes
Total suspended solids	✓		Yes

Discharge and monitoring point 3 – discharge to Coxs River

Item	Monitoring required	Upper limit set	Complied with all requirements
Conductivity	✓		Yes
pH	✓	✓	Yes
Selenium	✓		Yes
Fluoride	✓		Yes
Filterable iron	✓		Yes
Filterable Manganese	✓		Yes
Total suspended solids	✓	✓	Yes
Sulfate	✓	✓	Yes
Boron	✓		Yes

Discharge and monitoring point 4 – discharge to Coxs River

Item	Monitoring required	Upper limit set	Complied with all requirements
Aluminium	✓		Yes
Nickel	✓		Yes
Selenium	✓		Yes
Total suspended solids	✓		Yes
Fluoride	✓		Yes
Zinc	✓		Yes
Turbidity	✓	✓	Yes
Sulfate	✓	✓	Yes
pH	✓	✓	No – exceeded upper pH limit. 1 occurrence.
Copper	✓		Yes
Arsenic	✓		Yes
Boron	✓		Yes
Conductivity	✓		Yes

Discharge and monitoring point 5 – to Coxs River

Item	Monitoring required	Upper limit set	Complied with all requirements
pH	✓	✓	Yes
Total suspended solids	✓		Yes
Conductivity	✓		Yes
Oil and grease	✓	✓	Yes

Monitoring point 7 – Main Street Bridge upstream of all Wallerawang discharge points to Coxs River

Item	Monitoring required	Complied with all requirements
Boron	✓	Yes
Fluoride	✓	Yes
Filterable manganese	✓	Yes
Filterable iron	✓	Yes
Sulfate	✓	Yes
Conductivity	✓	Yes
pH	✓	Yes
Selenium	✓	Yes

Monitoring point 8 – downstream of Wallerawang discharge points 1, 2, 3 and 5

Item	Monitoring required	Complied with all requirements
Selenium	✓	Yes
pH	✓	Yes
Conductivity	✓	Yes
Sulfate	✓	Yes
Filterable iron	✓	Yes
Filterable manganese	✓	Yes
Fluoride	✓	Yes
Boron	✓	Yes

Monitoring and discharge point 13 – Wallerawang Power Station Unit 7 chimney stack

Item	Monitoring required	Upper limit set	Complied with all requirements
Cadmium	✓	✓	Yes
Chlorine	✓	✓	Yes
Mercury	✓	✓	Yes
Sulfur dioxide	✓		Yes
Oxygen (O ₂)	✓		Yes
Type 1* and Type 2# hazardous substances	✓	✓	Yes
Sulfur acid mist and Sulfur trioxide	✓	✓	Yes
Molecular weight of stack gases	✓		Yes
Dry gas density	✓		Yes
Volumetric flow rate	✓		Yes
Velocity	✓		Yes
Carbon dioxide	✓		Yes
Total Fluoride	✓	✓	Yes
Moisture content	✓		Yes
Solid Particles	✓	✓	Yes
Hydrogen Chloride	✓	✓	Yes
Copper	✓		Yes
Temperature	✓		Yes
Nitrogen Oxide	✓	✓	Yes

* Type 1 = Cadmium and mercury – upper limits set and individual limits set

Type 2 = Beryllium, chromium, cobalt, manganese, nickel, selenium, and/or vanadium

Monitoring and discharge point 14 – Wallerawang Power Station Unit 8 chimney stack

Item	Monitoring required	Upper limit set	Complied with all requirements
Cadmium	✓	✓	Yes
Chlorine	✓	✓	Yes
Mercury	✓	✓	Yes
Oxygen (O ₂)	✓		Yes
Type 1 and Type 2 hazardous substances	✓	✓	Yes
Sulfuric acid mist and Sulfur trioxide	✓	✓	Yes
Molecular weight of stack gases	✓		Yes
Dry gas density	✓		Yes
Volumetric flow rate	✓		Yes
Velocity	✓		Yes
Carbon dioxide	✓		Yes
Total Fluoride	✓	✓	Yes
Moisture content	✓		Yes
Solid Particles	✓	✓	Yes
Hydrogen Chloride	✓		Yes
Copper	✓		Yes
Temperature	✓		Yes
Nitrogen Oxides	✓	✓	Yes
Sulfur dioxide	✓		Yes

Monitoring point 15 – Blackman’s Flat

Item	Monitoring required	Complied with all requirements
Nitrogen oxides	✓	Yes
Sulfur dioxide	✓	Yes

Monitoring point 16 – Off Bray’s Lane, Wallerawang

Item	Monitoring required	Complied with all requirements
Nitrogen oxides	✓	Yes
Sulfur dioxide	✓	Yes

Monitoring point 17 – Newnes Plateau

Item	Monitoring required	Complied with all requirements
Nitrogen oxides	✓	Yes
Sulfur dioxide	✓	Yes

Monitoring and discharge point 18 – overflow drain from coal stockpile settling basins near Wallerawang Power Station

Item	Monitoring required	Upper limit set	Complied with all requirements
pH	✓	✓	Yes
Total suspended solids	✓	✓	Yes
Oil and grease	✓	✓	Yes

Emergency discharge and monitoring point 20 – mine water transfer line

Substances and conditions	Monitoring required	Upper limit set	Complied with all requirements
Turbidity	✓		Yes
Zinc	✓		Yes
Fluoride	✓		Yes
Temperature	✓		Yes
pH	✓	✓	Yes
Oil and grease	✓	✓	Yes
Nickel	✓		Yes
Copper	✓		Yes
Conductivity	✓		Yes
Boron	✓		Yes
Arsenic	✓		Yes
Aluminium	✓		Yes
Total suspended solids	✓		Yes
Filterable iron	✓		Yes
Filterable manganese	✓		Yes

Emergency discharge and monitoring point 21 – north of Railway Bridge

Item	Monitoring required	Upper limit set	Complied with all requirements
Total suspended solids	✓		Yes
Sulfate	✓	✓	Yes
pH	✓	✓	Yes
Conductivity	✓		Yes

Volume monitoring summary

Water discharge and monitoring point 1

Unit of Measure	Monitoring required	Upper limit set	Complied with all requirements
Kilolitres per week	continuous	✓	Yes

Water discharge and monitoring point 3

Unit of Measure	Monitoring required	Upper limit set	Complied with all requirements
Kilolitres per week	continuous	✓	Yes

Water discharge and monitoring point 4

Unit of Measure	Monitoring required	Upper limit set	Complied with all requirements
Kilolitres per week	continuous	✓	Yes

Water discharge point 5 – stormwater overflow

Unit of Measure	Monitoring required	Upper limit set	Complied with all requirements
Kilolitres	continuous	nil	Yes

Emergency water discharge and monitoring point 20

Unit of Measure	Monitoring required	Upper limit set	Complied with all requirements
Kilolitres	continuous	✓	Yes

Emergency water discharge and monitoring point 21

Unit of Measure	Monitoring required	Upper limit set	Complied with all requirements
Kilolitres	continuous	✓	Yes