

## Vales Point Power Station Monthly Environmental Data Summary



LICENCE NO	761	<a href="http://www.epa.nsw.gov.au/prpoeoapp/">http://www.epa.nsw.gov.au/prpoeoapp/</a>
LICENCE HOLDER	SUNSET POWER INTERNATIONAL PTY LTD	
REPORTING PERIOD	February 2020	
ADDRESS	VALES POINT ROAD, MANNERING PARK NSW	

POINT 1 Cooling water outlet at Wyee Bay, marked and shown as "VPOC" on the Plan (VX837351, 30.06.2015, DOC15/381265).											
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Feb-20	Chlorine (free residual)	milligrams per litre	Monthly	1	5/2/2020	0.01	0.01	0.01	0.2	No	
Feb-20	Temperature	degrees celsius	Continuous	100%	Feb-20	26.9	32.4	38.1	37.5	No*	*see comments section at bottom of page.
Feb-20	Oil and Grease	Visible	Continuous	100%	Feb-20	NIL	NIL	NIL			No visible oil or grease detected during February 2020.

POINT 2 Discharge from the ash water recycle system to the cooling water outlet canal, marked and shown as "VPADB" on the Plan (VX837351, 30.06.2015, DOC15/381265).											
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Feb-20	Ammonia	milligrams per litre	Quarterly								
Feb-20	Cadmium	milligrams per litre	Quarterly								
Feb-20	Copper	milligrams per litre	Quarterly								
Feb-20	Lead	milligrams per litre	Quarterly								
Feb-20	Manganese	milligrams per litre	Quarterly								
Feb-20	Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Monthly	1	5/2/2020	0.09	0.09	0.09			
Feb-20	Nitrogen (total)	milligrams per litre	Quarterly								
Feb-20	pH	pH	Monthly	1	5/2/2020	7.3	7.3	7.3	6.5 - 9.5	No	
Feb-20	Phosphorus (total)	milligrams per litre	Monthly	1	5/2/2020	0.52	0.52	0.52			
Feb-20	Reactive Phosphorus	milligrams per litre	Monthly	1	5/2/2020	0.07	0.07	0.07			
Feb-20	Selenium	milligrams per litre	Quarterly								
Feb-20	Total Kjeldahl Nitrogen	milligrams per litre	Quarterly								
Feb-20	Total Suspended Solids	milligrams per litre	Fortnightly	3	Feb-20	82	99	112	50	Yes	Background TSS concentration in Lake Macquarie higher than TSS concentration at EPA2 when exceedances occurred.
Feb-20	Zinc	milligrams per litre	Quarterly								

POINT 4 Seepage from ash dam rehabilitated area, marked and shown as "VPADS" on the Plan (VX837351, 30.06.2015, DOC15/381265).											
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Feb-20	Ammonia	milligrams per litre	Quarterly								
Feb-20	Cadmium	milligrams per litre	Quarterly								
Feb-20	Copper	milligrams per litre	Quarterly								
Feb-20	Lead	milligrams per litre	Quarterly								
Feb-20	Manganese	milligrams per litre	Quarterly								
Feb-20	Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Monthly	1	5/2/2020	0.72	0.72	0.72			
Feb-20	Nitrogen (total)	milligrams per litre	Quarterly								
Feb-20	pH	pH	Monthly	1	5/2/2020	7.88	7.88	7.88			
Feb-20	Phosphorus (total)	milligrams per litre	Monthly	1	5/2/2020	<0.05	<0.05	<0.05			
Feb-20	Selenium	milligrams per litre	Quarterly								
Feb-20	Total Kjeldahl Nitrogen	milligrams per litre	Quarterly								
Feb-20	Total Suspended Solids	milligrams per litre	Monthly	1	5/2/2020	69	69	69	50	Yes	Background TSS concentration in Lake Macquarie higher than TSS concentration at EPA2 when exceedance occurred.
Feb-20	Zinc	milligrams per litre	Quarterly								

POINT 18 Overboarding of Ash Dam, marked and shown as "VPADD" on the Plan (VX837351, 30.06.2015, DOC15/381265).											
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Feb-20	Ammonia	milligrams per litre	Daily for discharge >2 hrs								
Feb-20	Cadmium	milligrams per litre	Daily for discharge >2 hrs								
Feb-20	Copper	milligrams per litre	Daily for discharge >2 hrs								
Feb-20	Lead	milligrams per litre	Daily for discharge >2 hrs								
Feb-20	Manganese	milligrams per litre	Daily for discharge >2 hrs								
Feb-20	Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Daily for discharge >2 hrs								
Feb-20	Nitrogen (total)	milligrams per litre	Daily for discharge >2 hrs								
Feb-20	pH	pH	Daily for discharge >2 hrs						6.5 - 9.0		
Feb-20	Phosphorus (total)	milligrams per litre	Daily for discharge >2 hrs								
Feb-20	Selenium	milligrams per litre	Daily for discharge >2 hrs								
Feb-20	Total Kjeldahl Nitrogen	milligrams per litre	Daily for discharge >2 hrs								
Feb-20	Total Suspended Solids	milligrams per litre	Daily for discharge >2 hrs						50		
Feb-20	Zinc	milligrams per litre	Daily for discharge >2 hrs								

POINT 19 Groundwater bore, marked and shown as "VPGM/D3" on the Plan (VX837351, 30.06.2015, DOC15/381265).											
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Feb-20	Arsenic	milligrams per litre	Quarterly								
Feb-20	Cadmium	milligrams per litre	Quarterly								
Feb-20	Calcium	milligrams per litre	Quarterly								
Feb-20	Chromium	milligrams per litre	Quarterly								
Feb-20	Copper	milligrams per litre	Quarterly								
Feb-20	Electrical conductivity	microsiemens per centimetre	Quarterly								
Feb-20	Iron	milligrams per litre	Quarterly								
Feb-20	Lead	milligrams per litre	Quarterly								
Feb-20	Magnesium	milligrams per litre	Quarterly								(next quarterly sample scheduled for April 2020)
Feb-20	Manganese	milligrams per litre	Quarterly								
Feb-20	Nickel	milligrams per litre	Quarterly								
Feb-20	pH	pH	Quarterly								
Feb-20	Potassium	milligrams per litre	Quarterly								
Feb-20	Selenium	milligrams per litre	Quarterly								
Feb-20	Sodium	milligrams per litre	Quarterly								
Feb-20	Standing Water Level	metres	Quarterly								
Feb-20	Zinc	milligrams per litre	Quarterly								

POINT 20 Groundwater bore, marked and shown as "VPGM/D5" on the Plan (VX837351, 30.06.2015, DOC15/381265).											
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Feb-20	Arsenic	milligrams per litre	Quarterly								
Feb-20	Cadmium	milligrams per litre	Quarterly								
Feb-20	Calcium	milligrams per litre	Quarterly								
Feb-20	Chromium	milligrams per litre	Quarterly								
Feb-20	Copper	milligrams per litre	Quarterly								
Feb-20	Electrical conductivity	microsiemens per centimetre	Quarterly								
Feb-20	Iron	milligrams per litre	Quarterly								
Feb-20	Lead	milligrams per litre	Quarterly								
Feb-20	Magnesium	milligrams per litre	Quarterly								(next quarterly sample scheduled for April 2020)
Feb-20	Manganese	milligrams per litre	Quarterly								
Feb-20	Nickel	milligrams per litre	Quarterly								
Feb-20	pH	pH	Quarterly								
Feb-20	Potassium	milligrams per litre	Quarterly								
Feb-20	Selenium	milligrams per litre	Quarterly								
Feb-20	Sodium	milligrams per litre	Quarterly								
Feb-20	Standing Water Level	metres	Quarterly								
Feb-20	Zinc	milligrams per litre	Quarterly								

POINT 21 Groundwater bore, marked and shown as "VPGM/D6" on the Plan (VX837351, 30.06.2015, DOC15/381265).											
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Feb-20	Arsenic	milligrams per litre	Quarterly								
Feb-20	Cadmium	milligrams per litre	Quarterly								
Feb-20	Calcium	milligrams per litre	Quarterly								
Feb-20	Chromium	milligrams per litre	Quarterly								
Feb-20	Copper	milligrams per litre	Quarterly								
Feb-20	Electrical conductivity	microsiemens per centimetre	Quarterly								
Feb-20	Iron	milligrams per litre	Quarterly								
Feb-20	Lead	milligrams per litre	Quarterly								(next quarterly sample scheduled for April 2020)
Feb-20	Magnesium	milligrams per litre	Quarterly								
Feb-20	Manganese	milligrams per litre	Quarterly								
Feb-20	Nickel	milligrams per litre	Quarterly								
Feb-20	pH	pH	Quarterly								
Feb-20	Potassium	milligrams per litre	Quarterly								
Feb-20	Selenium	milligrams per litre	Quarterly								
Feb-20	Sodium	milligrams per litre	Quarterly								
Feb-20	Standing Water Level	metres	Quarterly								
Feb-20	Zinc	milligrams per litre	Quarterly								

POINT 22 Groundwater bore, marked and shown as "VPGM/D8" on the Plan (VX837351, 30.06.2015, DOC15/381265).											
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Feb-20	Arsenic	milligrams per litre	Quarterly								
Feb-20	Cadmium	milligrams per litre	Quarterly								
Feb-20	Calcium	milligrams per litre	Quarterly								
Feb-20	Chromium	milligrams per litre	Quarterly								
Feb-20	Copper	milligrams per litre	Quarterly								
Feb-20	Electrical conductivity	microsiemens per centimetre	Quarterly								
Feb-20	Iron	milligrams per litre	Quarterly								
Feb-20	Lead	milligrams per litre	Quarterly								
Feb-20	Magnesium	milligrams per litre	Quarterly								(next quarterly sample scheduled for April 2020)
Feb-20	Manganese	milligrams per litre	Quarterly								
Feb-20	Nickel	milligrams per litre	Quarterly								
Feb-20	pH	pH	Quarterly								
Feb-20	Potassium	milligrams per litre	Quarterly								
Feb-20	Selenium	milligrams per litre	Quarterly								
Feb-20	Sodium	milligrams per litre	Quarterly								
Feb-20	Standing Water Level	metres	Quarterly								
Feb-20	Zinc	milligrams per litre	Quarterly								

POINT 23 Groundwater bore, marked and shown as "VPGM/D10" on the Plan (VX837351, 30.06.2015, DOC15/381265).											
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Feb-20	Arsenic	milligrams per litre	Quarterly								
Feb-20	Cadmium	milligrams per litre	Quarterly								
Feb-20	Calcium	milligrams per litre	Quarterly								
Feb-20	Chromium	milligrams per litre	Quarterly								
Feb-20	Copper	milligrams per litre	Quarterly								
Feb-20	Electrical conductivity	microsiemens per centimetre	Quarterly								
Feb-20	Iron	milligrams per litre	Quarterly								
Feb-20	Lead	milligrams per litre	Quarterly								
Feb-20	Magnesium	milligrams per litre	Quarterly								(next quarterly sample scheduled for April 2020)
Feb-20	Manganese	milligrams per litre	Quarterly								
Feb-20	Nickel	milligrams per litre	Quarterly								
Feb-20	pH	pH	Quarterly								
Feb-20	Potassium	milligrams per litre	Quarterly								
Feb-20	Selenium	milligrams per litre	Quarterly								
Feb-20	Sodium	milligrams per litre	Quarterly								
Feb-20	Standing Water Level	metres	Quarterly								
Feb-20	Zinc	milligrams per litre	Quarterly								

POINT 11 Stack serving Boiler Unit No. 5, marked and shown as "11" on the Plan (VX837351, 30.06.2015, DOC15/381265).											
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Feb-20	Cadmium	milligrams per cubic metre	Yearly						1	No	
Feb-20	Chlorine	milligrams per cubic metre	Yearly						200	No	
Feb-20	Copper	milligrams per cubic metre	Yearly								
Feb-20	Hydrogen chloride	milligrams per cubic metre	Yearly						100	No	
Feb-20	Mercury	milligrams per cubic metre	Yearly						1	No	
Feb-20	Moisture	percent	Yearly								
Feb-20	Molecular weight of stack gases	grams per gram mole	Yearly								
Feb-20	Nitrogen Oxides	milligrams per cubic metre	Continuous	98.13%	Feb-20	441	628	992	1500	No	
Feb-20	Sulfuric acid mist and sulfur trioxide (as SO3)	milligrams per cubic metre	Yearly						100	No	
Feb-20	Sulphur dioxide	parts per million	Continuous	98.13%	Feb-20	197	259	369	600	No	
Feb-20	Temperature	degrees Celsius	Yearly								
Feb-20	Total Fluoride	milligrams per cubic metre	Yearly						50	No	
Feb-20	Total Solid Particles	milligrams per cubic metre	Yearly						100	No	
Feb-20	Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Yearly						5	No	
Feb-20	Undifferentiated Particulates	milligrams per cubic metre	Continuous	100%	Feb-20	16.5	19.1	22.4			
Feb-20	Velocity	metres per second	Yearly								
Feb-20	Volatile organic compounds	parts per million	Yearly								
Feb-20	Volumetric flowrate	cubic metres per second	Yearly								

**POINT 12 Stack serving Boiler Unit No. 6, marked and shown as "12" on the Plan (VX837351, 30.06.2015, DOC15/381265).**

Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Feb-20	Cadmium	milligrams per cubic metre	Yearly						1	No	
Feb-20	Chlorine	milligrams per cubic metre	Yearly						200	No	
Feb-20	Copper	milligrams per cubic metre	Yearly								
Feb-20	Hydrogen chloride	milligrams per cubic metre	Yearly						100	No	
Feb-20	Mercury	milligrams per cubic metre	Yearly						1	No	
Feb-20	Moisture	percent	Yearly								
Feb-20	Molecular weight of stack gases	grams per gram mole	Yearly								
Feb-20	Nitrogen Oxides	milligrams per cubic metre	Continuous	98.99%	Feb-20	492	758	947	1500	No	
Feb-20	Sulfuric acid mist and sulfur trioxide (as SO3)	milligrams per cubic metre	Yearly						100	No	
Feb-20	Sulphur dioxide	parts per million	Continuous	98.99%	Feb-20	187	270	403	600	No	
Feb-20	Temperature	degrees Celsius	Yearly								
Feb-20	Total Fluoride	milligrams per cubic metre	Yearly						50	No	
Feb-20	Total Solid Particles	milligrams per cubic metre	Yearly						100	No	
Feb-20	Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Yearly						5	No	
Feb-20	Undifferentiated Particulates	milligrams per cubic metre	Continuous	100%	Feb-20	6.3	7.4	9.1			
Feb-20	Velocity	metres per second	Yearly								
Feb-20	Volatile organic compounds	parts per million	Yearly								
Feb-20	Volumetric flowrate	cubic metres per second	Yearly								

**GENERAL COMMENTS**

The outlet canal temperature exceeded 37.5°C during Australian Energy Market Operator (AEMO) lack of reserve (LOR) conditions when the maximum permissible temperature is increased to 38.5°C. Condition E1.2 of the Vales Point Power Station Environment Protection Licence outlines the conditions under which the normal 37.5°C outlet canal temperature limit can be exceeded. The following link explains what LOR conditions are in further detail. <<https://aemo.com.au/news/aemo-market-notifications-explained>>