

## 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	September 2018	
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	97% limit	Exceedance (yes/no)	Comments
Sep-18	Chlorine (free residual)	milligrams per litre	Monthly	1	11/09/2018	0.05	0.05	0.05	0.2		No	
Sep-18	Temperature	degrees celsius	Continuous	100%	Sep-18	23.0	27.5	30.6	37.5	35	No	
Sep-18	Oil and Grease	Visible	Continuous	100%	Sep-18	NIL	NIL	NIL				No visible oil or grease detected during Sep 2018

### 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
Sep-18	Ammonia	milligrams per litre	Quarterly								
Sep-18	Cadmium	milligrams per litre	Quarterly								
Sep-18	Copper	milligrams per litre	Quarterly								
Sep-18	Lead	milligrams per litre	Quarterly								
Sep-18	Manganese	milligrams per litre	Quarterly								
Sep-18	Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Monthly	1	11/09/2018	0.03	0.03	0.03			
Sep-18	Nitrogen (total)	milligrams per litre	Quarterly								
Sep-18	pH	pH	Monthly	1	11/09/2018	9.3	9.3	9.3	6.5 - 9.5	No	
Sep-18	Phosphorus (total)	milligrams per litre	Monthly	1	11/09/2018	0.12	0.12	0.12			
Sep-18	Reactive Phosphorus	milligrams per litre	Monthly	1	11/09/2018	<0.01	<0.01	<0.01			
Sep-18	Selenium	milligrams per litre	Quarterly								
Sep-18	Total Kjeldahl Nitrogen	milligrams per litre	Quarterly								
Sep-18	Total Suspended Solids	milligrams per litre	Fortnightly	4	Sep-18	6	30	75*	50	Yes	*See note in general comments.
Sep-18	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
Sep-18	Ammonia	milligrams per litre	Quarterly								
Sep-18	Cadmium	milligrams per litre	Quarterly								
Sep-18	Copper	milligrams per litre	Quarterly								
Sep-18	Lead	milligrams per litre	Quarterly								
Sep-18	Manganese	milligrams per litre	Quarterly								
Sep-18	Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Monthly	1	11/09/2018						
Sep-18	Nitrogen (total)	milligrams per litre	Quarterly								** Seepage water sampled is captured and pumped back to the ash dam. There was no licence 'discharge to waters' (i.e. to Manning Bay) during September 2018.
Sep-18	pH	pH	Monthly	1	11/09/2018						
Sep-18	Phosphorus (total)	milligrams per litre	Monthly	1	11/09/2018						
Sep-18	Selenium	milligrams per litre	Quarterly								
Sep-18	Total Kjeldahl Nitrogen	milligrams per litre	Quarterly								
Sep-18	Total Suspended Solids	milligrams per litre	Monthly	1	11/09/2018				50	No	
Sep-18	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
Sep-18	Ammonia	milligrams per litre	Daily for discharge >2 hrs								
Sep-18	Cadmium	milligrams per litre	Daily for discharge >2 hrs								
Sep-18	Copper	milligrams per litre	Daily for discharge >2 hrs								
Sep-18	Lead	milligrams per litre	Daily for discharge >2 hrs								
Sep-18	Manganese	milligrams per litre	Daily for discharge >2 hrs								
Sep-18	Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Daily for discharge >2 hrs								
Sep-18	Nitrogen (total)	milligrams per litre	Daily for discharge >2 hrs								No discharge from EPA Point 18 during September 2018
Sep-18	pH	pH	Daily for discharge >2 hrs						6.5 - 9.0		
Sep-18	Phosphorus (total)	milligrams per litre	Daily for discharge >2 hrs								
Sep-18	Selenium	milligrams per litre	Daily for discharge >2 hrs								
Sep-18	Total Kjeldahl Nitrogen	milligrams per litre	Daily for discharge >2 hrs								
Sep-18	Total Suspended Solids	milligrams per litre	Daily for discharge >2 hrs						50		
Sep-18	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	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Sep-18	Arsenic	milligrams per litre	Quarterly								
Sep-18	Cadmium	milligrams per litre	Quarterly								
Sep-18	Calcium	milligrams per litre	Quarterly								
Sep-18	Chromium	milligrams per litre	Quarterly								
Sep-18	Copper	milligrams per litre	Quarterly								
Sep-18	Electrical conductivity	microsiemens per centimetre	Quarterly								
Sep-18	Iron	milligrams per litre	Quarterly								
Sep-18	Lead	milligrams per litre	Quarterly								(next quarterly sample scheduled for October 2018)
Sep-18	Magnesium	milligrams per litre	Quarterly								
Sep-18	Manganese	milligrams per litre	Quarterly								
Sep-18	Nickel	milligrams per litre	Quarterly								
Sep-18	pH	pH	Quarterly								
Sep-18	Potassium	milligrams per litre	Quarterly								
Sep-18	Selenium	milligrams per litre	Quarterly								
Sep-18	Sodium	milligrams per litre	Quarterly								
Sep-18	Standing Water Level	metres	Quarterly								
Sep-18	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	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Sep-18	Arsenic	milligrams per litre	Quarterly								
Sep-18	Cadmium	milligrams per litre	Quarterly								
Sep-18	Calcium	milligrams per litre	Quarterly								
Sep-18	Chromium	milligrams per litre	Quarterly								
Sep-18	Copper	milligrams per litre	Quarterly								
Sep-18	Electrical conductivity	microsiemens per centimetre	Quarterly								
Sep-18	Iron	milligrams per litre	Quarterly								
Sep-18	Lead	milligrams per litre	Quarterly								(next quarterly sample scheduled for October 2018)
Sep-18	Magnesium	milligrams per litre	Quarterly								
Sep-18	Manganese	milligrams per litre	Quarterly								
Sep-18	Nickel	milligrams per litre	Quarterly								
Sep-18	pH	pH	Quarterly								
Sep-18	Potassium	milligrams per litre	Quarterly								
Sep-18	Selenium	milligrams per litre	Quarterly								
Sep-18	Sodium	milligrams per litre	Quarterly								
Sep-18	Standing Water Level	metres	Quarterly								
Sep-18	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	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Sep-18	Arsenic	milligrams per litre	Quarterly								
Sep-18	Cadmium	milligrams per litre	Quarterly								
Sep-18	Calcium	milligrams per litre	Quarterly								
Sep-18	Chromium	milligrams per litre	Quarterly								
Sep-18	Copper	milligrams per litre	Quarterly								
Sep-18	Electrical conductivity	microsiemens per centimetre	Quarterly								
Sep-18	Iron	milligrams per litre	Quarterly								
Sep-18	Lead	milligrams per litre	Quarterly								(next quarterly sample scheduled for October 2018)
Sep-18	Magnesium	milligrams per litre	Quarterly								
Sep-18	Manganese	milligrams per litre	Quarterly								
Sep-18	Nickel	milligrams per litre	Quarterly								
Sep-18	pH	pH	Quarterly								
Sep-18	Potassium	milligrams per litre	Quarterly								
Sep-18	Selenium	milligrams per litre	Quarterly								
Sep-18	Sodium	milligrams per litre	Quarterly								
Sep-18	Standing Water Level	metres	Quarterly								
Sep-18	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
Sep-18	Arsenic	milligrams per litre	Quarterly								
Sep-18	Cadmium	milligrams per litre	Quarterly								
Sep-18	Calcium	milligrams per litre	Quarterly								
Sep-18	Chromium	milligrams per litre	Quarterly								
Sep-18	Copper	milligrams per litre	Quarterly								
Sep-18	Electrical conductivity	microsiemens per centimetre	Quarterly								
Sep-18	Iron	milligrams per litre	Quarterly								
Sep-18	Lead	milligrams per litre	Quarterly								
Sep-18	Magnesium	milligrams per litre	Quarterly								(next quarterly sample scheduled for October 2018)
Sep-18	Manganese	milligrams per litre	Quarterly								
Sep-18	Nickel	milligrams per litre	Quarterly								
Sep-18	pH	pH	Quarterly								
Sep-18	Potassium	milligrams per litre	Quarterly								
Sep-18	Selenium	milligrams per litre	Quarterly								
Sep-18	Sodium	milligrams per litre	Quarterly								
Sep-18	Standing Water Level	metres	Quarterly								
Sep-18	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
Sep-18	Arsenic	milligrams per litre	Quarterly								
Sep-18	Cadmium	milligrams per litre	Quarterly								
Sep-18	Calcium	milligrams per litre	Quarterly								
Sep-18	Chromium	milligrams per litre	Quarterly								
Sep-18	Copper	milligrams per litre	Quarterly								
Sep-18	Electrical conductivity	microsiemens per centimetre	Quarterly								
Sep-18	Iron	milligrams per litre	Quarterly								
Sep-18	Lead	milligrams per litre	Quarterly								
Sep-18	Magnesium	milligrams per litre	Quarterly								(next quarterly sample scheduled for October 2018)
Sep-18	Manganese	milligrams per litre	Quarterly								
Sep-18	Nickel	milligrams per litre	Quarterly								
Sep-18	pH	pH	Quarterly								
Sep-18	Potassium	milligrams per litre	Quarterly								
Sep-18	Selenium	milligrams per litre	Quarterly								
Sep-18	Sodium	milligrams per litre	Quarterly								
Sep-18	Standing Water Level	metres	Quarterly								
Sep-18	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
Sep-18	Cadmium	milligrams per cubic metre	Yearly						1	No	Annual stack gas testing to be undertaken before 1 July 2019
Sep-18	Chlorine	milligrams per cubic metre	Yearly						200	No	
Sep-18	Copper	milligrams per cubic metre	Yearly								
Sep-18	Hydrogen chloride	milligrams per cubic metre	Yearly						100	No	
Sep-18	Mercury	milligrams per cubic metre	Yearly						1	No	
Sep-18	Moisture	percent	Yearly								
Sep-18	Molecular weight of stack gases	grams per gram mole	Yearly								
Sep-18	Nitrogen Oxides	milligrams per cubic metre	Continuous	100%	Sep-18				1500	No	Unit not in operation during September 2018 (see General Comments)
Sep-18	Sulfuric acid mist and sulfur trioxide (as SO3)	milligrams per cubic metre	Yearly						100	No	
Sep-18	Sulphur dioxide	parts per million	Continuous	100%	Sep-18				600	No	Unit not in operation during September 2018 (see General Comments)
Sep-18	Temperature	degrees Celsius	Yearly								
Sep-18	Total Fluoride	milligrams per cubic metre	Yearly						50	No	
Sep-18	Total Solid Particles	milligrams per cubic metre	Yearly						100	No	
Sep-18	Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Yearly						5	No	
Sep-18	Undifferentiated Particulates	milligrams per cubic metre	Continuous	100%	Sep-18						Unit not in operation during September 2018 (see General Comments)
Sep-18	Velocity	metres per second	Yearly								
Sep-18	Volatile organic compounds	parts per million	Yearly								
Sep-18	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
Sep-18	Cadmium	milligrams per cubic metre	Yearly						1	No	Annual stack gas testing to be undertaken before 1 July 2019
Sep-18	Chlorine	milligrams per cubic metre	Yearly						200	No	
Sep-18	Copper	milligrams per cubic metre	Yearly								
Sep-18	Hydrogen chloride	milligrams per cubic metre	Yearly						100	No	
Sep-18	Mercury	milligrams per cubic metre	Yearly						1	No	
Sep-18	Moisture	percent	Yearly								
Sep-18	Molecular weight of stack gases	grams per gram mole	Yearly								
Sep-18	Nitrogen Oxides	milligrams per cubic metre	Continuous	100%	Sep-18	615	921	1101	1500	No	
Sep-18	Sulfuric acid mist and sulfur trioxide (as SO3)	milligrams per cubic metre	Yearly						100	No	
Sep-18	Sulphur dioxide	parts per million	Continuous	100%	Sep-18	181	281	368	600	No	
Sep-18	Temperature	degrees Celsius	Yearly								
Sep-18	Total Fluoride	milligrams per cubic metre	Yearly						50	No	
Sep-18	Total Solid Particles	milligrams per cubic metre	Yearly						100	No	
Sep-18	Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Yearly						5	No	
Sep-18	Undifferentiated Particulates	milligrams per cubic metre	Continuous	100%	Sep-18	31.1	46.0	66.7			
Sep-18	Velocity	metres per second	Yearly								
Sep-18	Volatile organic compounds	parts per million	Yearly								
Sep-18	Volumetric flowrate	cubic metres per second	Yearly								

  

<b>GENERAL COMMENTS</b>
Unit 5 (Point 11) was taken out of service on Saturday 4 August 2018 for a scheduled outage. The unit will be returned to service during October 2018.
*The concentration limit for TSS was exceeded at Point 2 on 5/9/2018. At the time of sampling background TSS levels measured in Lake Macquarie were also above 50mg/L.