

## 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	December 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	Exceedance (yes/no)	Comments
Dec-18	Chlorine (free residual)	milligrams per litre	Monthly	1	12/12/2018	0.11	0.11	0.11	0.2	No	
Dec-18	Temperature	degrees celsius	Continuous	100%	Dec-18	27.4	32.6	36.6	37.5	No	
Dec-18	Oil and Grease	Visible	Continuous	100%	Dec-18	NIL	NIL	NIL			No visible oil or grease detected during December 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
Dec-18	Ammonia	milligrams per litre	Quarterly								
Dec-18	Cadmium	milligrams per litre	Quarterly								
Dec-18	Copper	milligrams per litre	Quarterly								
Dec-18	Lead	milligrams per litre	Quarterly								
Dec-18	Manganese	milligrams per litre	Quarterly								
Dec-18	Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Quarterly	1	12/12/2018	0.01	0.01	0.01			
Dec-18	Nitrogen (total)	milligrams per litre	Quarterly								
Dec-18	pH	pH	Monthly	1	12/12/2018		8.25	8.25	6.5 - 9.5	No	
Dec-18	Phosphorus (total)	milligrams per litre	Monthly	1	12/12/2018	<0.05	<0.05	<0.05			
Dec-18	Reactive Phosphorus	milligrams per litre	Monthly	1	12/12/2018	0.06	0.06	0.06			
Dec-18	Selenium	milligrams per litre	Quarterly								
Dec-18	Total Kjeldahl Nitrogen	milligrams per litre	Quarterly								
Dec-18	Total Suspended Solids	milligrams per litre	Fortnightly	3	Dec-18	<2	5.7	9	50	No	
Dec-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
Dec-18	Ammonia	milligrams per litre	Quarterly								
Dec-18	Cadmium	milligrams per litre	Quarterly								
Dec-18	Copper	milligrams per litre	Quarterly								
Dec-18	Lead	milligrams per litre	Quarterly								
Dec-18	Manganese	milligrams per litre	Quarterly								
Dec-18	Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Monthly	1	12/12/2018						** Seepage water sampled is captured and pumped back to the ash dam. There was no licence 'discharge to waters' (i.e. to Mannering Bay ) during December 2018.
Dec-18	Nitrogen (total)	milligrams per litre	Quarterly								
Dec-18	pH	pH	Monthly	1	12/12/2018						
Dec-18	Phosphorus (total)	milligrams per litre	Monthly	1	12/12/2018						
Dec-18	Selenium	milligrams per litre	Quarterly								
Dec-18	Total Kjeldahl Nitrogen	milligrams per litre	Quarterly								
Dec-18	Total Suspended Solids	milligrams per litre	Monthly	1	12/12/2018				50	No	
Dec-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
Dec-18	Ammonia	milligrams per litre	Daily for discharge >2 hrs								
Dec-18	Cadmium	milligrams per litre	Daily for discharge >2 hrs								
Dec-18	Copper	milligrams per litre	Daily for discharge >2 hrs								
Dec-18	Lead	milligrams per litre	Daily for discharge >2 hrs								
Dec-18	Manganese	milligrams per litre	Daily for discharge >2 hrs								
Dec-18	Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Daily for discharge >2 hrs								
Dec-18	Nitrogen (total)	milligrams per litre	Daily for discharge >2 hrs								No discharge from EPA Point 18 during December 2018
Dec-18	pH	pH	Daily for discharge >2 hrs						6.5 - 9.0		
Dec-18	Phosphorus (total)	milligrams per litre	Daily for discharge >2 hrs								
Dec-18	Selenium	milligrams per litre	Daily for discharge >2 hrs								
Dec-18	Total Kjeldahl Nitrogen	milligrams per litre	Daily for discharge >2 hrs								
Dec-18	Total Suspended Solids	milligrams per litre	Daily for discharge >2 hrs						50		
Dec-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 Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments	
Dec-18	Arsenic	milligrams per litre	Quarterly									
Dec-18	Cadmium	milligrams per litre	Quarterly									
Dec-18	Calcium	milligrams per litre	Quarterly									
Dec-18	Chromium	milligrams per litre	Quarterly									
Dec-18	Copper	milligrams per litre	Quarterly									
Dec-18	Electrical conductivity	microsiemens per centimetre	Quarterly									
Dec-18	Iron	milligrams per litre	Quarterly									
Dec-18	Lead	milligrams per litre	Quarterly								(next quarterly sample scheduled for January 2018)	
Dec-18	Magnesium	milligrams per litre	Quarterly									
Dec-18	Manganese	milligrams per litre	Quarterly									
Dec-18	Nickel	milligrams per litre	Quarterly									
Dec-18	pH	pH	Quarterly									
Dec-18	Potassium	milligrams per litre	Quarterly									
Dec-18	Selenium	milligrams per litre	Quarterly									
Dec-18	Sodium	milligrams per litre	Quarterly									
Dec-18	Standing Water Level	metres	Quarterly									
Dec-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 Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments	
Dec-18	Arsenic	milligrams per litre	Quarterly									
Dec-18	Cadmium	milligrams per litre	Quarterly									
Dec-18	Calcium	milligrams per litre	Quarterly									
Dec-18	Chromium	milligrams per litre	Quarterly									
Dec-18	Copper	milligrams per litre	Quarterly									
Dec-18	Electrical conductivity	microsiemens per centimetre	Quarterly									
Dec-18	Iron	milligrams per litre	Quarterly									
Dec-18	Lead	milligrams per litre	Quarterly									
Dec-18	Magnesium	milligrams per litre	Quarterly								(next quarterly sample scheduled for January 2018)	
Dec-18	Manganese	milligrams per litre	Quarterly									
Dec-18	Nickel	milligrams per litre	Quarterly									
Dec-18	pH	pH	Quarterly									
Dec-18	Potassium	milligrams per litre	Quarterly									
Dec-18	Selenium	milligrams per litre	Quarterly									
Dec-18	Sodium	milligrams per litre	Quarterly									
Dec-18	Standing Water Level	metres	Quarterly									
Dec-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 Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments	
Dec-18	Arsenic	milligrams per litre	Quarterly									
Dec-18	Cadmium	milligrams per litre	Quarterly									
Dec-18	Calcium	milligrams per litre	Quarterly									
Dec-18	Chromium	milligrams per litre	Quarterly									
Dec-18	Copper	milligrams per litre	Quarterly									
Dec-18	Electrical conductivity	microsiemens per centimetre	Quarterly									
Dec-18	Iron	milligrams per litre	Quarterly									
Dec-18	Lead	milligrams per litre	Quarterly								(next quarterly sample scheduled for January 2018)	
Dec-18	Magnesium	milligrams per litre	Quarterly									
Dec-18	Manganese	milligrams per litre	Quarterly									
Dec-18	Nickel	milligrams per litre	Quarterly									
Dec-18	pH	pH	Quarterly									
Dec-18	Potassium	milligrams per litre	Quarterly									
Dec-18	Selenium	milligrams per litre	Quarterly									
Dec-18	Sodium	milligrams per litre	Quarterly									
Dec-18	Standing Water Level	metres	Quarterly									
Dec-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	
Dec-18	Arsenic	milligrams per litre	Quarterly									
Dec-18	Cadmium	milligrams per litre	Quarterly									
Dec-18	Calcium	milligrams per litre	Quarterly									
Dec-18	Chromium	milligrams per litre	Quarterly									
Dec-18	Copper	milligrams per litre	Quarterly									
Dec-18	Electrical conductivity	microsiemens per centimetre	Quarterly									
Dec-18	Iron	milligrams per litre	Quarterly									
Dec-18	Lead	milligrams per litre	Quarterly									
Dec-18	Magnesium	milligrams per litre	Quarterly								(next quarterly sample scheduled for January 2018)	
Dec-18	Manganese	milligrams per litre	Quarterly									
Dec-18	Nickel	milligrams per litre	Quarterly									
Dec-18	pH	pH	Quarterly									
Dec-18	Potassium	milligrams per litre	Quarterly									
Dec-18	Selenium	milligrams per litre	Quarterly									
Dec-18	Sodium	milligrams per litre	Quarterly									
Dec-18	Standing Water Level	metres	Quarterly									
Dec-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	
Dec-18	Arsenic	milligrams per litre	Quarterly									
Dec-18	Cadmium	milligrams per litre	Quarterly									
Dec-18	Calcium	milligrams per litre	Quarterly									
Dec-18	Chromium	milligrams per litre	Quarterly									
Dec-18	Copper	milligrams per litre	Quarterly									
Dec-18	Electrical conductivity	microsiemens per centimetre	Quarterly									
Dec-18	Iron	milligrams per litre	Quarterly									
Dec-18	Lead	milligrams per litre	Quarterly									
Dec-18	Magnesium	milligrams per litre	Quarterly								(next quarterly sample scheduled for January 2018)	
Dec-18	Manganese	milligrams per litre	Quarterly									
Dec-18	Nickel	milligrams per litre	Quarterly									
Dec-18	pH	pH	Quarterly									
Dec-18	Potassium	milligrams per litre	Quarterly									
Dec-18	Selenium	milligrams per litre	Quarterly									
Dec-18	Sodium	milligrams per litre	Quarterly									
Dec-18	Standing Water Level	metres	Quarterly									
Dec-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	
Dec-18	Cadmium	milligrams per cubic metre	Yearly						1	No	Annual stack gas testing to be undertaken before 1 July 2019	
Dec-18	Chlorine	milligrams per cubic metre	Yearly						200	No		
Dec-18	Copper	milligrams per cubic metre	Yearly									
Dec-18	Hydrogen chloride	milligrams per cubic metre	Yearly						100	No		
Dec-18	Mercury	milligrams per cubic metre	Yearly						1	No		
Dec-18	Moisture	percent	Yearly									
Dec-18	Molecular weight of stack gases	grams per gram mole	Yearly									
Dec-18	Nitrogen Oxides	milligrams per cubic metre	Continuous	100%	Dec-18	308	583	713	1500	No		
Dec-18	Sulfuric acid mist and sulfur trioxide (as SO3)	milligrams per cubic metre	Yearly						100	No		
Dec-18	Sulphur dioxide	parts per million	Continuous	100%	Dec-18	168	279	371	600	No		
Dec-18	Temperature	degrees Celsius	Yearly									
Dec-18	Total Fluoride	milligrams per cubic metre	Yearly						50	No		
Dec-18	Total Solid Particles	milligrams per cubic metre	Yearly						100	No		
Dec-18	Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Yearly						5	No		
Dec-18	Undifferentiated Particulates	milligrams per cubic metre	Continuous	100%	Dec-18	18.0	28.9	65.9				
Dec-18	Velocity	metres per second	Yearly									
Dec-18	Volatile organic compounds	parts per million	Yearly									
Dec-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
Dec-18	Cadmium	milligrams per cubic metre	Yearly						1	No	Annual stack gas testing to be undertaken before 1 July 2019
Dec-18	Chlorine	milligrams per cubic metre	Yearly						200	No	
Dec-18	Copper	milligrams per cubic metre	Yearly								
Dec-18	Hydrogen chloride	milligrams per cubic metre	Yearly						100	No	
Dec-18	Mercury	milligrams per cubic metre	Yearly						1	No	
Dec-18	Moisture	percent	Yearly								
Dec-18	Molecular weight of stack gases	grams per gram mole	Yearly								
Dec-18	Nitrogen Oxides	milligrams per cubic metre	Continuous	100%	Dec-18	536	797	1044	1500	No	
Dec-18	Sulfuric acid mist and sulfur trioxide (as SO3)	milligrams per cubic metre	Yearly						100	No	
Dec-18	Sulphur dioxide	parts per million	Continuous	100%	Dec-18	167	277	419	600	No	
Dec-18	Temperature	degrees Celsius	Yearly								
Dec-18	Total Fluoride	milligrams per cubic metre	Yearly						50	No	
Dec-18	Total Solid Particles	milligrams per cubic metre	Yearly						100	No	
Dec-18	Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Yearly						5	No	
Dec-18	Undifferentiated Particulates	milligrams per cubic metre	Continuous	100%	Dec-18	31.0	52.1	83.0			
Dec-18	Velocity	metres per second	Yearly								
Dec-18	Volatile organic compounds	parts per million	Yearly								
Dec-18	Volumetric flowrate	cubic metres per second	Yearly								

**GENERAL COMMENTS**