

Vales Point Power Station Monthly Environmental Data Summary

LICENCE NO	761	http://www.epa.nsw.gov.au/prpoeoapp/
LICENCE HOLDER	SUNSET POWER INTERNATIONAL PTY LTD	(t/a DELTA ELECTRICITY)
REPORTING PERIOD	November 2016	
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	98.5% limit	Exceedance (yes/no)	Comments
November 2016	Chlorine (free residual)	milligrams per litre	Monthly	1	10/11/2016	0.06	0.06	0.06	0.2		No	
November 2016	Temperature	degrees celsius	Continuous	100%	November 2016	27.9	32.4	34.2	37.5	35	No	98.5% limit not exceeded for year to date
November 2016	Oil and Grease	Visible	Continuous	100%	November 2016	NIL	NIL	NIL				No visible oil or grease detected during November 2016

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	
November 2016	Ammonia	milligrams per litre	Quarterly									
November 2016	Cadmium	milligrams per litre	Quarterly									
November 2016	Copper	milligrams per litre	Quarterly									
November 2016	Lead	milligrams per litre	Quarterly									
November 2016	Manganese	milligrams per litre	Quarterly									
November 2016	Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Monthly	1	10/11/2016	0.09	0.09	0.09				
November 2016	Nitrogen (total)	milligrams per litre	Quarterly									
November 2016	pH	pH	Monthly	1	10/11/2016	8.12	8.12	8.12	6.5 - 9.5	No		
November 2016	Phosphorus (total)	milligrams per litre	Monthly	1	10/11/2016	0.12	0.12	0.12				
November 2016	Reactive Phosphorus	milligrams per litre	Monthly	1	10/11/2016	0.06	0.06	0.06				
November 2016	Selenium	milligrams per litre	Quarterly									
November 2016	Total Kjeldahl Nitrogen	milligrams per litre	Quarterly									
November 2016	Total Suspended Solids	milligrams per litre	Fortnightly	4	9, 10, 22 & 29/11/2016	<2	15	28	50	No		
November 2016	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	
November 2016	Ammonia	milligrams per litre	Quarterly									
November 2016	Cadmium	milligrams per litre	Quarterly									
November 2016	Copper	milligrams per litre	Quarterly									
November 2016	Lead	milligrams per litre	Quarterly									
November 2016	Manganese	milligrams per litre	Quarterly									
November 2016	Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Monthly	1	10/11/2016	0.22	0.22	0.22				
November 2016	Nitrogen (total)	milligrams per litre	Quarterly								No discharge to Mannering Bay during November 2016	
November 2016	pH	pH	Monthly	1	10/11/2016	8.29	8.29	8.29				
November 2016	Phosphorus (total)	milligrams per litre	Monthly	1	10/11/2016	<0.05	<0.05	<0.05				
November 2016	Selenium	milligrams per litre	Quarterly									
November 2016	Total Kjeldahl Nitrogen	milligrams per litre	Quarterly									
November 2016	Total Suspended Solids	milligrams per litre	Monthly	1	10/11/2016	4	4	4	50	No		
November 2016	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	
November 2016	Ammonia	milligrams per litre	Daily for discharge >2 hrs									
November 2016	Cadmium	milligrams per litre	Daily for discharge >2 hrs									
November 2016	Copper	milligrams per litre	Daily for discharge >2 hrs									
November 2016	Lead	milligrams per litre	Daily for discharge >2 hrs									
November 2016	Manganese	milligrams per litre	Daily for discharge >2 hrs									
November 2016	Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Daily for discharge >2 hrs									
November 2016	Nitrogen (total)	milligrams per litre	Daily for discharge >2 hrs								No discharge from EPA Point 18 during November 2016	
November 2016	pH	pH	Daily for discharge >2 hrs						6.5 - 9.0			
November 2016	Phosphorus (total)	milligrams per litre	Daily for discharge >2 hrs									
November 2016	Selenium	milligrams per litre	Daily for discharge >2 hrs									
November 2016	Total Kjeldahl Nitrogen	milligrams per litre	Daily for discharge >2 hrs									
November 2016	Total Suspended Solids	milligrams per litre	Daily for discharge >2 hrs						50			
November 2016	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
November 2016	Arsenic	milligrams per litre	Quarterly								
November 2016	Cadmium	milligrams per litre	Quarterly								
November 2016	Calcium	milligrams per litre	Quarterly								
November 2016	Chromium	milligrams per litre	Quarterly								
November 2016	Copper	milligrams per litre	Quarterly								
November 2016	Electrical conductivity	microsiemens per centimetre	Quarterly								
November 2016	Iron	milligrams per litre	Quarterly								
November 2016	Lead	milligrams per litre	Quarterly								
November 2016	Magnesium	milligrams per litre	Quarterly								(next quarterly samples scheduled for January 2017)
November 2016	Manganese	milligrams per litre	Quarterly								
November 2016	Nickel	milligrams per litre	Quarterly								
November 2016	pH	pH	Quarterly								
November 2016	Potassium	milligrams per litre	Quarterly								
November 2016	Selenium	milligrams per litre	Quarterly								
November 2016	Sodium	milligrams per litre	Quarterly								
November 2016	Standing Water Level	metres	Quarterly								
November 2016	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
November 2016	Arsenic	milligrams per litre	Quarterly								
November 2016	Cadmium	milligrams per litre	Quarterly								
November 2016	Calcium	milligrams per litre	Quarterly								
November 2016	Chromium	milligrams per litre	Quarterly								
November 2016	Copper	milligrams per litre	Quarterly								
November 2016	Electrical conductivity	microsiemens per centimetre	Quarterly								
November 2016	Iron	milligrams per litre	Quarterly								
November 2016	Lead	milligrams per litre	Quarterly								
November 2016	Magnesium	milligrams per litre	Quarterly								(next quarterly samples scheduled for January 2017)
November 2016	Manganese	milligrams per litre	Quarterly								
November 2016	Nickel	milligrams per litre	Quarterly								
November 2016	pH	pH	Quarterly								
November 2016	Potassium	milligrams per litre	Quarterly								
November 2016	Selenium	milligrams per litre	Quarterly								
November 2016	Sodium	milligrams per litre	Quarterly								
November 2016	Standing Water Level	metres	Quarterly								
November 2016	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
November 2016	Arsenic	milligrams per litre	Quarterly								
November 2016	Cadmium	milligrams per litre	Quarterly								
November 2016	Calcium	milligrams per litre	Quarterly								
November 2016	Chromium	milligrams per litre	Quarterly								
November 2016	Copper	milligrams per litre	Quarterly								
November 2016	Electrical conductivity	microsiemens per centimetre	Quarterly								
November 2016	Iron	milligrams per litre	Quarterly								
November 2016	Lead	milligrams per litre	Quarterly								
November 2016	Magnesium	milligrams per litre	Quarterly								(next quarterly samples scheduled for January 2017)
November 2016	Manganese	milligrams per litre	Quarterly								
November 2016	Nickel	milligrams per litre	Quarterly								
November 2016	pH	pH	Quarterly								
November 2016	Potassium	milligrams per litre	Quarterly								
November 2016	Selenium	milligrams per litre	Quarterly								
November 2016	Sodium	milligrams per litre	Quarterly								
November 2016	Standing Water Level	metres	Quarterly								
November 2016	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
November 2016	Arsenic	milligrams per litre	Quarterly								
November 2016	Cadmium	milligrams per litre	Quarterly								
November 2016	Calcium	milligrams per litre	Quarterly								
November 2016	Chromium	milligrams per litre	Quarterly								
November 2016	Copper	milligrams per litre	Quarterly								
November 2016	Electrical conductivity	microsiemens per centimetre	Quarterly								
November 2016	Iron	milligrams per litre	Quarterly								
November 2016	Lead	milligrams per litre	Quarterly								
November 2016	Magnesium	milligrams per litre	Quarterly								(next quarterly samples scheduled for January 2017)
November 2016	Manganese	milligrams per litre	Quarterly								
November 2016	Nickel	milligrams per litre	Quarterly								
November 2016	pH	pH	Quarterly								
November 2016	Potassium	milligrams per litre	Quarterly								
November 2016	Selenium	milligrams per litre	Quarterly								
November 2016	Sodium	milligrams per litre	Quarterly								
November 2016	Standing Water Level	metres	Quarterly								
November 2016	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
November 2016	Arsenic	milligrams per litre	Quarterly								
November 2016	Cadmium	milligrams per litre	Quarterly								
November 2016	Calcium	milligrams per litre	Quarterly								
November 2016	Chromium	milligrams per litre	Quarterly								
November 2016	Copper	milligrams per litre	Quarterly								
November 2016	Electrical conductivity	microsiemens per centimetre	Quarterly								
November 2016	Iron	milligrams per litre	Quarterly								
November 2016	Lead	milligrams per litre	Quarterly								
November 2016	Magnesium	milligrams per litre	Quarterly								(next quarterly samples scheduled for January 2017)
November 2016	Manganese	milligrams per litre	Quarterly								
November 2016	Nickel	milligrams per litre	Quarterly								
November 2016	pH	pH	Quarterly								
November 2016	Potassium	milligrams per litre	Quarterly								
November 2016	Selenium	milligrams per litre	Quarterly								
November 2016	Sodium	milligrams per litre	Quarterly								
November 2016	Standing Water Level	metres	Quarterly								
November 2016	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
November 2016	Cadmium	milligrams per cubic metre	Yearly						1	No	
November 2016	Chlorine	milligrams per cubic metre	Yearly						200	No	
November 2016	Copper	milligrams per cubic metre	Yearly								
November 2016	Hydrogen chloride	milligrams per cubic metre	Yearly						100	No	
November 2016	Mercury	milligrams per cubic metre	Yearly						1	No	
November 2016	Moisture	percent	Yearly								
November 2016	Molecular weight of stack gases	grams per gram mole	Yearly								
November 2016	Nitrogen Oxides	milligrams per cubic metre	Continuous	100%	November 2016	462	595	760	1500	No	
November 2016	Sulfuric acid mist and sulfur trioxide (as SO3)	milligrams per cubic metre	Yearly						100	No	
November 2016	Sulphur dioxide	parts per million	Continuous	100%	November 2016	184	209	239	600	No	
November 2016	Temperature	degrees Celsius	Yearly								
November 2016	Total Fluoride	milligrams per cubic metre	Yearly						50	No	
November 2016	Total Solid Particles	milligrams per cubic metre	Yearly						100	No	
November 2016	Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Yearly						5	No	
November 2016	Undifferentiated Particulates	milligrams per cubic metre	Continuous	99.2%	November 2016	10.6	16.1	45.7			
November 2016	Velocity	metres per second	Yearly								
November 2016	Volatile organic compounds	parts per million	Yearly								
November 2016	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
November 2016	Cadmium	milligrams per cubic metre	Yearly						1	No	
November 2016	Chlorine	milligrams per cubic metre	Yearly						200	No	
November 2016	Copper	milligrams per cubic metre	Yearly								
November 2016	Hydrogen chloride	milligrams per cubic metre	Yearly						100	No	
November 2016	Mercury	milligrams per cubic metre	Yearly						1	No	
November 2016	Moisture	percent	Yearly								
November 2016	Molecular weight of stack gases	grams per gram mole	Yearly								
November 2016	Nitrogen Oxides	milligrams per cubic metre	Continuous	100%	November 2016	594	935	1130	1500	No	
November 2016	Sulfuric acid mist and sulfur trioxide (as SO3)	milligrams per cubic metre	Yearly						100	No	
November 2016	Sulphur dioxide	parts per million	Continuous	100%	November 2016	147	193	226	600	No	
November 2016	Temperature	degrees Celsius	Yearly								
November 2016	Total Fluoride	milligrams per cubic metre	Yearly						50	No	
November 2016	Total Solid Particles	milligrams per cubic metre	Yearly						100	No	
November 2016	Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Yearly						5	No	
November 2016	Undifferentiated Particulates	milligrams per cubic metre	Continuous	100%	November 2016	11.8	18.9	28.7			
November 2016	Velocity	metres per second	Yearly								
November 2016	Volatile organic compounds	parts per million	Yearly								
November 2016	Volumetric flowrate	cubic metres per second	Yearly								

GENERAL COMMENTS

Last annual stack test on Points 11 & 12 completed in March 2016 and reported in April 2016. Next annual stack test scheduled for February/March 2017.