Reporting of Emission to Surface Water for the period from ……1st January 2018…….to….30th June 2018……

Operator : RWE Generation UK plc **Form:** Water1

Location: Aberthaw Ash Disposal Site

Permit/Variation Number: DP3432SW

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
S1 (Group Five Spring)	Aluminium, Dissolved		84 µg/l		21/02/2018	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		13.10 µg/l				
	Boron, Dissolved		9560 µg/l				
	Cadmium, Dissolved		0.430 µg/l				
	Calcium, Dissolved		742 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		1.080 µg/l				
	Magnesium, Dissolved		67.9 mg/l				
	Manganese, Dissolved		647.0 µg/l				
	Molybdenum, Dissolved		3610 µg/l				
	Nickel, Dissolved		0.67 µg/l				
	Selenium Dissolved		7.59 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		0 mg/l				
	Conductivity at 20C		11900 µS/cm				
	Potassium, Dissolved		159 mg/l				
	Sodium, Dissolved		2140 mg/l				
	Sulphate, Dissolved as SO4		1240 mg/l				
	Nitrogen : Total Oxidised as N		14.80 mg/l				
	Chloride		3700 mg/l				
	Fluoride		0.093 mg/l				
	Ammoniacal Nitrogen as N		6.210 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1.60 mg/l				
	pH		7.67 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
S1 (Group Five Spring)	Aluminium, Dissolved		89 µg/l		29/05/2018	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		20.60 µg/l				
	Boron, Dissolved		12500 µg/l				
	Cadmium, Dissolved		0.58 µg/l				
	Calcium, Dissolved		976 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.557 µg/l				
	Magnesium, Dissolved		77 mg/l				
	Manganese, Dissolved		455.0 µg/l				
	Molybdenum, Dissolved		5750 µg/l				
	Nickel, Dissolved		0.65 µg/l				
	Selenium Dissolved		14 µg/l				
	Vanadium, Dissolved		56 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		130.00 mg/l				
	Conductivity at 20C		15400 uS/cm				
	Potassium, Dissolved		221 mg/l				
	Sodium, Dissolved		2960 mg/l				
	Sulphate, Dissolved as SO4		1570 mg/l				
	Nitrogen : Total Oxidised as N		12.30 mg/l				
	Chloride		5040 mg/l				
	Fluoride		0.08 mg/l				
	Ammoniacal Nitrogen as N		3.570 mg/l				
	Carbon, Organic : Total as C :- {TOC}		6.20 mg/l				
	pH		7.43 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
Eastern Perimeter Drain	Aluminium, Dissolved		45 µg/l		21/02/2018	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		1.48 µg/l				
	Boron, Dissolved		2100 µg/l				
	Cadmium, Dissolved		0 µg/l				
	Calcium, Dissolved		199 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		1.710 µg/l				
	Magnesium, Dissolved		17.6 mg/l				
	Manganese, Dissolved		272.0 µg/l				
	Molybdenum, Dissolved		325 µg/l				
	Nickel, Dissolved		0.93 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		0 mg/l				
	Conductivity at 20C		1560 uS/cm				
	Potassium, Dissolved		19 mg/l				
	Sodium, Dissolved		151 mg/l				
	Sulphate, Dissolved as SO4		264 mg/l				
	Nitrogen : Total Oxidised as N		3.05 mg/l				
	Chloride		232 mg/l				
	Fluoride		0.107 mg/l				
	Ammoniacal Nitrogen as N		0.029 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1.60 mg/l				
	pH		8.02 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
Eastern Perimeter Drain	Aluminium, Dissolved		73 µg/l		29/05/2018	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		1.37 µg/l				
	Boron, Dissolved		3160 µg/l				
	Cadmium, Dissolved		0 µg/l				
	Calcium, Dissolved		236 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.711 µg/l				
	Magnesium, Dissolved		22 mg/l				
	Manganese, Dissolved		210.0 µg/l				
	Molybdenum, Dissolved		643 µg/l				
	Nickel, Dissolved		1.09 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		265.00 mg/l				
	Conductivity at 20C		2220 uS/cm				
	Potassium, Dissolved		25 mg/l				
	Sodium, Dissolved		236 mg/l				
	Sulphate, Dissolved as SO4		392 mg/l				
	Nitrogen : Total Oxidised as N		2.03 mg/l				
	Chloride		407 mg/l				
	Fluoride		0.11 mg/l				
	Ammoniacal Nitrogen as N		0 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1.70 mg/l				
	pH		8.11 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
S3 (River Thaw)	Aluminium, Dissolved		115 µg/l		21/02/2018	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		<700 µg/l				
	Cadmium, Dissolved		0 µg/l				
	Calcium, Dissolved		119 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		1.340 µg/l				
	Magnesium, Dissolved		13.9 mg/l				
	Manganese, Dissolved		<20 µg/l				
	Molybdenum, Dissolved		<30 µg/l				
	Nickel, Dissolved		0.65 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		0 mg/l				
	Conductivity at 20C		717 uS/cm				
	Potassium, Dissolved		3 mg/l				
	Sodium, Dissolved		34 mg/l				
	Sulphate, Dissolved as SO4		28 mg/l				
	Nitrogen : Total Oxidised as N		4.24 mg/l				
	Chloride		59 mg/l				
	Fluoride		0.075 mg/l				
	Ammoniacal Nitrogen as N		0.025 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1.60 mg/l				
	pH		8.10 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
S3 (River Thaw)	Aluminium, Dissolved		98 µg/l		29/05/2018	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		<700 µg/l				
	Cadmium, Dissolved		0.03 µg/l				
	Calcium, Dissolved		123 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		1.070 µg/l				
	Magnesium, Dissolved		42.8 mg/l				
	Manganese, Dissolved		24.6 µg/l				
	Molybdenum, Dissolved		158 µg/l				
	Nickel, Dissolved		0.79 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		295 mg/l				
	Conductivity at 20C		1920 uS/cm				
	Potassium, Dissolved		12.60 mg/l				
	Sodium, Dissolved		269.0 mg/l				
	Sulphate, Dissolved as SO4		93.2 mg/l				
	Nitrogen : Total Oxidised as N		4.27 mg/l				
	Chloride		453.0 mg/l				
	Fluoride		0.101 mg/l				
	Ammoniacal Nitrogen as N		0.110 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1.70 mg/l				
	pH		8.20 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
Brackish Lagoon	Aluminium, Dissolved		<40 µg/l		21/02/2018	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		2.06 µg/l				
	Boron, Dissolved		1230 µg/l				
	Cadmium, Dissolved		0 µg/l				
	Calcium, Dissolved		152 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.979 µg/l				
	Magnesium, Dissolved		42.2 mg/l				
	Manganese, Dissolved		91.3 µg/l				
	Molybdenum, Dissolved		186 µg/l				
	Nickel, Dissolved		0.50 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		0 mg/l				
	Conductivity at 20C		2160 uS/cm				
	Potassium, Dissolved		20 mg/l				
	Sodium, Dissolved		297 mg/l				
	Sulphate, Dissolved as SO4		197 mg/l				
	Nitrogen : Total Oxidised as N		3.44 mg/l				
	Chloride		480 mg/l				
	Fluoride		0.131 mg/l				
	Ammoniacal Nitrogen as N		0.010 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1.30 mg/l				
	pH		8.17 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
Brackish Lagoon	Aluminium, Dissolved		43 µg/l		29/05/2018	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		4090 µg/l				
	Cadmium, Dissolved		0.053 µg/l				
	Calcium, Dissolved		267 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.385 µg/l				
	Magnesium, Dissolved		393 mg/l				
	Manganese, Dissolved		305.0 µg/l				
	Molybdenum, Dissolved		609 µg/l				
	Nickel, Dissolved		0.33 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		135 mg/l				
	Conductivity at 20C		17700 uS/cm				
	Potassium, Dissolved		166 mg/l				
	Sodium, Dissolved		3660 mg/l				
	Sulphate, Dissolved as SO4		1070 mg/l				
	Nitrogen : Total Oxidised as N		<0.200 mg/l				
	Chloride		6190 mg/l				
	Fluoride		0.39 mg/l				
	Ammoniacal Nitrogen as N		<0.0100 mg/l				
	Carbon, Organic : Total as C :- {TOC}		6.80 mg/l				
	pH		8.75 pH Units				

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. colorimetry.

[3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements, or flow/time proportional samples, the percentage of the process operating time covered by the monitoring is given.

[4] The accreditation status of the equipment and/or the monitoring organisation, as appropriate, for the methods used for both sampling and analysis.

[5] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

[6] The emission limit values for all substances is expressed as a maximum individual value, unless otherwise stated.

Signed … R. T. Powell …… Date 25/07/2018 (authorised to sign as representative of the Operator)

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]