Reporting of Emission to Surface Water for the period from 1st January to 30th June 2019.

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		<40 µg/l		05/03/2019	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		18.70 µg/l				
	Boron, Dissolved		10700 µg/l				
	Cadmium, Dissolved		0.570 µg/l				
	Calcium, Dissolved		900 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		5.580 µg/l				
	Magnesium, Dissolved		64.0 mg/l				
	Manganese, Dissolved		459.0 µg/l				
	Molybdenum, Dissolved		4050 µg/l				
	Nickel, Dissolved		0.95 µg/l				
	Selenium Dissolved		9.91 µg/l				
	Vanadium, Dissolved		46 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		mg/l				
	Conductivity at 20C		13400 µS/cm				
	Potassium, Dissolved		190 mg/l				
	Sodium, Dissolved		2500 mg/l				
	Sulphate, Dissolved as SO4		1390 mg/l				
	Nitrogen : Total Oxidised as N		4.97 mg/l				
	Chloride		4190 mg/l				
	Fluoride		0.066 mg/l				
	Ammoniacal Nitrogen as N		4.970 mg/l				
	Carbon, Organic : Total as C :- {TOC}		4.60 mg/l				
	pH		7.21 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		46 µg/l		11/06/2019	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		17.00 µg/l				
	Boron, Dissolved		11000 µg/l				
	Cadmium, Dissolved		0.62 µg/l				
	Calcium, Dissolved		880 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		20.000 µg/l				
	Magnesium, Dissolved		60 mg/l				
	Manganese, Dissolved		380.0 µg/l				
	Molybdenum, Dissolved		4600 µg/l				
	Nickel, Dissolved		1.10 µg/l				
	Selenium Dissolved		33 µg/l				
	Vanadium, Dissolved		32 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		90.00 mg/l				
	Conductivity at 20C		14000 uS/cm				
	Potassium, Dissolved		190 mg/l				
	Sodium, Dissolved		2600 mg/l				
	Sulphate, Dissolved as SO4		1400 mg/l				
	Nitrogen : Total Oxidised as N		6.80 mg/l				
	Chloride		4800 mg/l				
	Fluoride		0.06 mg/l				
	Ammoniacal Nitrogen as N		1.600 mg/l				
	Carbon, Organic : Total as C :- {TOC}		6.30 mg/l				
	pH		7.10 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
Eastern Perimeter Drain	Aluminium, Dissolved		<40 µg/l		05/03/2019	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		1.70 µg/l				
	Boron, Dissolved		2660 µg/l				
	Cadmium, Dissolved		0.095 µg/l				
	Calcium, Dissolved		201 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.341 µg/l				
	Magnesium, Dissolved		18.8 mg/l				
	Manganese, Dissolved		171.0 µg/l				
	Molybdenum, Dissolved		445 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		mg/l				
	Conductivity at 20C		1640 uS/cm				
	Potassium, Dissolved		22 mg/l				
	Sodium, Dissolved		167 mg/l				
	Sulphate, Dissolved as SO4		315 mg/l				
	Nitrogen : Total Oxidised as N		0.03 mg/l				
	Chloride		238 mg/l				
	Fluoride		0.093 mg/l				
	Ammoniacal Nitrogen as N		0.027 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1.60 mg/l				
	pH		8.05 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		<40 µg/l		11/06/2019	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		2.10 µg/l				
	Boron, Dissolved		2700 µg/l				
	Cadmium, Dissolved		0.061 µg/l				
	Calcium, Dissolved		170 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.680 µg/l				
	Magnesium, Dissolved		18 mg/l				
	Manganese, Dissolved		110.0 µg/l				
	Molybdenum, Dissolved		520 µg/l				
	Nickel, Dissolved		0.84 µg/l				
	Selenium Dissolved		5 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		256.00 mg/l				
	Conductivity at 20C		1400 uS/cm				
	Potassium, Dissolved		20 mg/l				
	Sodium, Dissolved		130 mg/l				
	Sulphate, Dissolved as SO4		280 mg/l				
	Nitrogen : Total Oxidised as N		2.00 mg/l				
	Chloride		<300 mg/l				
	Fluoride		0.11 mg/l				
	Ammoniacal Nitrogen as N		0.02 mg/l				
	Carbon, Organic : Total as C :- {TOC}		2.60 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		266 µg/l		05/03/2019	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		<700 µg/l				
	Cadmium, Dissolved		0.068 µg/l				
	Calcium, Dissolved		110 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		2.120 µg/l				
	Magnesium, Dissolved		15.2 mg/l				
	Manganese, Dissolved		<20 µg/l				
	Molybdenum, Dissolved		<30 µg/l				
	Nickel, Dissolved		1.28 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		mg/l				
	Conductivity at 20C		847 uS/cm				
	Potassium, Dissolved		5 mg/l				
	Sodium, Dissolved		67 mg/l				
	Sulphate, Dissolved as SO4		35 mg/l				
	Nitrogen : Total Oxidised as N		0.03 mg/l				
	Chloride		107 mg/l				
	Fluoride		0.082 mg/l				
	Ammoniacal Nitrogen as N		0.030 mg/l				
	Carbon, Organic : Total as C :- {TOC}		3.60 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]
S3 (River Thaw)	Aluminium, Dissolved		150 µg/l		11/06/2019	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		99 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		1.900 µg/l				
	Magnesium, Dissolved		17.0 mg/l				
	Manganese, Dissolved		28.0 µg/l				
	Molybdenum, Dissolved		38 µg/l				
	Nickel, Dissolved		0.95 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		249 mg/l				
	Conductivity at 20C		860 uS/cm				
	Potassium, Dissolved		5.50 mg/l				
	Sodium, Dissolved		75.0 mg/l				
	Sulphate, Dissolved as SO4		47.0 mg/l				
	Nitrogen : Total Oxidised as N		3.90 mg/l				
	Chloride		<300 mg/l				
	Fluoride		0.086 mg/l				
	Ammoniacal Nitrogen as N		0.016 mg/l				
	Carbon, Organic : Total as C :- {TOC}		2.80 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		44 µg/l		05/03/2019	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		1.72 µg/l				
	Boron, Dissolved		2530 µg/l				
	Cadmium, Dissolved		0.074 µg/l				
	Calcium, Dissolved		206 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.320 µg/l				
	Magnesium, Dissolved		183.0 mg/l				
	Manganese, Dissolved		78.9 µg/l				
	Molybdenum, Dissolved		404 µg/l				
	Nickel, Dissolved		0.45 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		mg/l				
	Conductivity at 20C		8620 uS/cm				
	Potassium, Dissolved		78 mg/l				
	Sodium, Dissolved		1570 mg/l				
	Sulphate, Dissolved as SO4		561 mg/l				
	Nitrogen : Total Oxidised as N		0.02 mg/l				
	Chloride		2650 mg/l				
	Fluoride		0.237 mg/l				
	Ammoniacal Nitrogen as N		0.016 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1.60 mg/l				
	pH		8.27 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		11/06/2019	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		3.20 µg/l				
	Boron, Dissolved		4000 µg/l				
	Cadmium, Dissolved		0.094 µg/l				
	Calcium, Dissolved		270 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.330 µg/l				
	Magnesium, Dissolved		440 mg/l				
	Manganese, Dissolved		160.0 µg/l				
	Molybdenum, Dissolved		680 µg/l				
	Nickel, Dissolved		0.46 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		140 mg/l				
	Conductivity at 20C		19000 uS/cm				
	Potassium, Dissolved		180 mg/l				
	Sodium, Dissolved		3900 mg/l				
	Sulphate, Dissolved as SO4		1200 mg/l				
	Nitrogen : Total Oxidised as N		<0.20 mg/l				
	Chloride		7200 mg/l				
	Fluoride		0.42 mg/l				
	Ammoniacal Nitrogen as N		<0.010 mg/l				
	Carbon, Organic : Total as C :- {TOC}		5.30 mg/l				
	pH		8.70 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 27/07/2019 (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]