Reporting of Emission to Groundwater for the period from ...1st January 2016..to...30th June 2016…

Operator : RWE Generation UK plc **Form:** Groundwater1

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]
BH3	Aluminium, Dissolved		<40 µg/l		17/02/2016	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		15 µg/l				
	Arsenic Dissolved	310	191 µg/l				
	Boron, Dissolved	60000	22500 µg/l				
	Cadmium, Dissolved	15	0.14 µg/l				
	Calcium, Dissolved		408 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		<0.2 µg/l				
	Magnesium, Dissolved		209 mg/l				
	Manganese, Dissolved		264 µg/l				
	Molybdenum, Dissolved	9000	2360 µg/l				
	Nickel, Dissolved		0.4 µg/l				
	Selenium Dissolved	350	12.50 µg/l				
	Vanadium, Dissolved		39 µg/l				
	Mercury, Dissolved	20	<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		230 mg/l				
	Conductivity at 20C		5860 uS/cm				
	Potassium, Dissolved		104 mg/l				
	Sodium, Dissolved		765 mg/l				
	Sulphate, Dissolved as SO4		1660 mg/l				
	Nitrogen : Total Oxidised as N		0.81 mg/l				
	Chloride		1170 mg/l				
	Fluoride		<0.05 mg/l				
	Ammoniacal Nitrogen as N	6.6	0.39 mg/l				
	Carbon, Organic : Total as C :- {TOC}		<0.7 mg/l				
	pH		7.83 pH Units				
	Ionic Balance		1.73 %				
	Electrical Conductivity		4600 µS/cm	Field Measurements			
	Temperature		12.0 deg C				
	Dissolved Oxygen		1.67 mg/l				
	pH		6.53 pH Units				
	Groundwater Level		5.19 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH3	Aluminium, Dissolved		<40 µg/l		04/05/2016	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved	310	116 µg/l				
	Boron, Dissolved	60000	23100 µg/l				
	Cadmium, Dissolved	15	0.12 µg/l				
	Calcium, Dissolved		755 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		3.92 µg/l				
	Magnesium, Dissolved		233 mg/l				
	Manganese, Dissolved		664 µg/l				
	Molybdenum, Dissolved	9000	4000 µg/l				
	Nickel, Dissolved		1.1 µg/l				
	Selenium Dissolved	350	5.93 µg/l				
	Vanadium, Dissolved		23 µg/l				
	Mercury, Dissolved	20	<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		190 mg/l				
	Conductivity at 20C		14300 uS/cm				
	Potassium, Dissolved		234 mg/l				
	Sodium, Dissolved		2480 mg/l				
	Sulphate, Dissolved as SO4		1930 mg/l				
	Nitrogen : Total Oxidised as N		0.46 mg/l				
	Chloride		4180 mg/l				
	Fluoride		0.21 mg/l				
	Ammoniacal Nitrogen as N	6.6	1.80 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1 mg/l				
	pH		7.48 pH Units				
	Ionic Balance		2.62 %				
	Electrical Conductivity		14920 µS/cm	Field Measurements			
	Temperature		12.8 deg C				
	Dissolved Oxygen		2.19 mg/l				
	pH		7.24 pH Units				
	Groundwater Level		6.60 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH5	Aluminium, Dissolved		<10 µg/l		17/02/2016	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		369 µg/l				
	Cadmium, Dissolved		<0.1 µg/l				
	Calcium, Dissolved		211 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		1.86 µg/l				
	Magnesium, Dissolved		15 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		<3 µg/l				
	Nickel, Dissolved		<1 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		366 mg/l				
	Conductivity at 20C		1120 uS/cm				
	Potassium, Dissolved		2 mg/l				
	Sodium, Dissolved		41 mg/l				
	Sulphate, Dissolved as SO4		213 mg/l				
	Nitrogen : Total Oxidised as N		1.60 mg/l				
	Chloride		70 mg/l				
	Fluoride		0.11 mg/l				
	Ammoniacal Nitrogen as N		<0.03 mg/l				
	Carbon, Organic : Total as C :- {TOC}		3 mg/l				
	pH		7.01 pH Units				
	Ionic Balance		-0.79 %				
	Electrical Conductivity		1030 µS/cm	Field Measurements			
	Temperature		10.1 deg C				
	Dissolved Oxygen		2.01 mg/l				
	pH		6.73 pH Units				
	Groundwater Level		10.34 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH5	Aluminium, Dissolved		<10 µg/l		04/05/2016	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		815 µg/l				
	Cadmium, Dissolved		<0.1 µg/l				
	Calcium, Dissolved		243 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		<1 µg/l				
	Magnesium, Dissolved		17 mg/l				
	Manganese, Dissolved		11 µg/l				
	Molybdenum, Dissolved		<3 µg/l				
	Nickel, Dissolved		<1 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		338 mg/l				
	Conductivity at 20C		1210 uS/cm				
	Potassium, Dissolved		1 mg/l				
	Sodium, Dissolved		48 mg/l				
	Sulphate, Dissolved as SO4		320 mg/l				
	Nitrogen : Total Oxidised as N		0.70 mg/l				
	Chloride		68 mg/l				
	Fluoride		0.07 mg/l				
	Ammoniacal Nitrogen as N		0.03 mg/l				
	Carbon, Organic : Total as C :- {TOC}		2 mg/l				
	pH		6.93 pH Units				
	Ionic Balance		0.80 %				
	Electrical Conductivity		1300 µS/cm	Field Measurements			
	Temperature		12.0 deg C				
	Dissolved Oxygen		2.30 mg/l				
	pH		6.75 pH Units				
	Groundwater Level		8.99 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH6	Aluminium, Dissolved		<40 µg/l		17/02/2016	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		6 µg/l				
	Boron, Dissolved		21100 µg/l				
	Cadmium, Dissolved		0.41 µg/l				
	Calcium, Dissolved		1020 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		<0.2 µg/l				
	Magnesium, Dissolved		214 mg/l				
	Manganese, Dissolved		1630 µg/l				
	Molybdenum, Dissolved		3560 µg/l				
	Nickel, Dissolved		8.5 µg/l				
	Selenium Dissolved		8.28 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		345 mg/l				
	Conductivity at 20C		12800 uS/cm				
	Potassium, Dissolved		148 mg/l				
	Sodium, Dissolved		2040 mg/l				
	Sulphate, Dissolved as SO4		1780 mg/l				
	Nitrogen : Total Oxidised as N		23.20 mg/l				
	Chloride		3640 mg/l				
	Fluoride		0.07 mg/l				
	Ammoniacal Nitrogen as N		1.28 mg/l				
	Carbon, Organic : Total as C :- {TOC}		2 mg/l				
	pH		7.34 pH Units				
	Ionic Balance		4.65 %				
	Electrical Conductivity		929 µS/cm	Field Measurements			
	Temperature		11.2 deg C				
	Dissolved Oxygen		1.96 mg/l				
	pH		7.01 pH Units				
	Groundwater Level		9.64 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH6	Aluminium, Dissolved		<40 µg/l		04/05/2016	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		37 µg/l				
	Boron, Dissolved		27100 µg/l				
	Cadmium, Dissolved		0.12 µg/l				
	Calcium, Dissolved		681 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		<0.2 µg/l				
	Magnesium, Dissolved		233 mg/l				
	Manganese, Dissolved		1440 µg/l				
	Molybdenum, Dissolved		3840 µg/l				
	Nickel, Dissolved		4.2 µg/l				
	Selenium Dissolved		18.10 µg/l				
	Vanadium, Dissolved		30 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		325 mg/l				
	Conductivity at 20C		6200 uS/cm				
	Potassium, Dissolved		87 mg/l				
	Sodium, Dissolved		716 mg/l				
	Sulphate, Dissolved as SO4		2200 mg/l				
	Nitrogen : Total Oxidised as N		16.10 mg/l				
	Chloride		1090 mg/l				
	Fluoride		0.20 mg/l				
	Ammoniacal Nitrogen as N		0.25 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1 mg/l				
	pH		7.34 pH Units				
	Ionic Balance		2.01 %				
	Electrical Conductivity		5635 µS/cm	Field Measurements			
	Temperature		13.0 deg C				
	Dissolved Oxygen		2.19 mg/l				
	pH		7.16 pH Units				
	Groundwater Level		8.51 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH7	Aluminium, Dissolved		<40 ug/l		18/02/2016	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved	310	7 µg/l				
	Boron, Dissolved	60000	21200 µg/l				
	Cadmium, Dissolved	15	0.30 µg/l				
	Calcium, Dissolved		746 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		<0.2 µg/l				
	Magnesium, Dissolved		116 mg/l				
	Manganese, Dissolved		1270 µg/l				
	Molybdenum, Dissolved	9000	3060 µg/l				
	Nickel, Dissolved		<0.3 µg/l				
	Selenium Dissolved	350	<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved	20	<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		320 mg/l				
	Conductivity at 20C		11900 uS/cm				
	Potassium, Dissolved		265 mg/l				
	Sodium, Dissolved		2120 mg/l				
	Sulphate, Dissolved as SO4		1730 mg/l				
	Nitrogen : Total Oxidised as N		<0.2 mg/l				
	Chloride		3210 mg/l				
	Fluoride		0.42 mg/l				
	Ammoniacal Nitrogen as N	6.6	3.13 mg/l				
	Carbon, Organic : Total as C :- {TOC}		2 mg/l				
	pH		7.35 pH Units				
	Ionic Balance		4.57 %				
	Electrical Conductivity		13110 µS/cm	Field Measurements			
	Temperature		12.6 deg C				
	Dissolved Oxygen		1.04 mg/l				
	pH		7.17 pH Units				
	Groundwater Level		2.50 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH7	Aluminium, Dissolved		<40 µg/l		04/05/2016	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved	310	9 µg/l				
	Boron, Dissolved	60000	20800 µg/l				
	Cadmium, Dissolved	15	0.06 µg/l				
	Calcium, Dissolved		806 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		<0.2 µg/l				
	Magnesium, Dissolved		120 mg/l				
	Manganese, Dissolved		1260 µg/l				
	Molybdenum, Dissolved	9000	3300 µg/l				
	Nickel, Dissolved		<0.3 µg/l				
	Selenium Dissolved	350	<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved	20	<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		305 mg/l				
	Conductivity at 20C		12500 uS/cm				
	Potassium, Dissolved		266 mg/l				
	Sodium, Dissolved		2150 mg/l				
	Sulphate, Dissolved as SO4		1830 mg/l				
	Nitrogen : Total Oxidised as N		<0.2 mg/l				
	Chloride		3470 mg/l				
	Fluoride		0.46 mg/l				
	Ammoniacal Nitrogen as N	6.6	3.12 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1 mg/l				
	pH		7.18 pH Units				
	Ionic Balance		2.82 %				
	Electrical Conductivity		14220 µS/cm	Field Measurements			
	Temperature		13.2 deg C				
	Dissolved Oxygen		1.15 mg/l				
	pH		6.97 pH Units				
	Groundwater Level		2.31 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH8	Aluminium, Dissolved		<40 µg/l		17/02/2016	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		1840 µg/l				
	Cadmium, Dissolved		<0.03 µg/l				
	Calcium, Dissolved		195 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		<0.2 µg/l				
	Magnesium, Dissolved		387 mg/l				
	Manganese, Dissolved		64 µg/l				
	Molybdenum, Dissolved		<30 µg/l				
	Nickel, Dissolved		<0.3 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		725 mg/l				
	Conductivity at 20C		18200 uS/cm				
	Potassium, Dissolved		121 mg/l				
	Sodium, Dissolved		3810 mg/l				
	Sulphate, Dissolved as SO4		406 mg/l				
	Nitrogen : Total Oxidised as N		<0.2 mg/l				
	Chloride		6310 mg/l				
	Fluoride		0.54 mg/l				
	Ammoniacal Nitrogen as N		6.07 mg/l				
	Carbon, Organic : Total as C :- {TOC}		4.8 mg/l				
	pH		7.31 pH Units				
	Ionic Balance		2.27 %				
	Electrical Conductivity		13580 µS/cm	Field Measurements			
	Temperature		11.7 deg C				
	Dissolved Oxygen		0.60 mg/l				
	pH		6.75 pH Units				
	Groundwater Level		6.50 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH8	Aluminium, Dissolved		<40 µg/l		04/05/2016	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		1860 µg/l				
	Cadmium, Dissolved		<0.03 µg/l				
	Calcium, Dissolved		207 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		<0.2 µg/l				
	Magnesium, Dissolved		402 mg/l				
	Manganese, Dissolved		76 µg/l				
	Molybdenum, Dissolved		<30 µg/l				
	Nickel, Dissolved		<0.3 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		700 mg/l				
	Conductivity at 20C		18400 uS/cm				
	Potassium, Dissolved		118 mg/l				
	Sodium, Dissolved		3640 mg/l				
	Sulphate, Dissolved as SO4		422 mg/l				
	Nitrogen : Total Oxidised as N		<0.2 mg/l				
	Chloride		6240 mg/l				
	Fluoride		0.59 mg/l				
	Ammoniacal Nitrogen as N		6.20 mg/l				
	Carbon, Organic : Total as C :- {TOC}		4.4 mg/l				
	pH		7.09 pH Units				
	Ionic Balance		1.45 %				
	Electrical Conductivity		21000 µS/cm	Field Measurements			
	Temperature		12.2 deg C				
	Dissolved Oxygen		0.28 mg/l				
	pH		6.75 pH Units				
	Groundwater Level		4.54 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH9	Aluminium, Dissolved		<10 µg/l		17/02/2016	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		109 µg/l				
	Cadmium, Dissolved		<0.1 µg/l				
	Calcium, Dissolved		86.8 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		<1 µg/l				
	Magnesium, Dissolved		20.7 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		<3 µg/l				
	Nickel, Dissolved		<1 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		266 mg/l				
	Conductivity at 20C		591 uS/cm				
	Potassium, Dissolved		2.02 mg/l				
	Sodium, Dissolved		21.3 mg/l				
	Sulphate, Dissolved as SO4		29.3 mg/l				
	Nitrogen : Total Oxidised as N		2.89 mg/l				
	Chloride		34.0 mg/l				
	Fluoride		0.16 mg/l				
	Ammoniacal Nitrogen as N		<0.03 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1 mg/l				
	pH		7.49 pH Units				
	Ionic Balance		-0.58 %				
	Electrical Conductivity		860 µS/cm	Field Measurements			
	Temperature		11.1 deg C				
	Dissolved Oxygen		5.52 mg/l				
	pH		7.50 pH Units				
	Groundwater Level		5.06 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH9	Aluminium, Dissolved		14 µg/l		04/05/2016	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		128 µg/l				
	Cadmium, Dissolved		<0.1 µg/l				
	Calcium, Dissolved		76 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		<1 µg/l				
	Magnesium, Dissolved		17 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		11 µg/l				
	Nickel, Dissolved		<1 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		227 mg/l				
	Conductivity at 20C		518 uS/cm				
	Potassium, Dissolved		1.65 mg/l				
	Sodium, Dissolved		19.3 mg/l				
	Sulphate, Dissolved as SO4		27.4 mg/l				
	Nitrogen : Total Oxidised as N		2.71 mg/l				
	Chloride		32.9 mg/l				
	Fluoride		0.16 mg/l				
	Ammoniacal Nitrogen as N		0.03 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1 mg/l				
	pH		7.46 pH Units				
	Ionic Balance		-1.43 %				
	Electrical Conductivity		1142 µS/cm	Field Measurements			
	Temperature		12.5 deg C				
	Dissolved Oxygen		4.36 mg/l				
	pH		7.21 pH Units				
	Groundwater Level		4.35 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH10	Aluminium, Dissolved		<40 µg/l		17/02/2016	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		43 µg/l				
	Boron, Dissolved		10600 µg/l				
	Cadmium, Dissolved		<0.03 µg/l				
	Calcium, Dissolved		395 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		<0.2 µg/l				
	Magnesium, Dissolved		446 mg/l				
	Manganese, Dissolved		653 µg/l				
	Molybdenum, Dissolved		650 µg/l				
	Nickel, Dissolved		<0.3 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		920 mg/l				
	Conductivity at 20C		17900 uS/cm				
	Potassium, Dissolved		170 mg/l				
	Sodium, Dissolved		3570 mg/l				
	Sulphate, Dissolved as SO4		962 mg/l				
	Nitrogen : Total Oxidised as N		<0.2 mg/l				
	Chloride		5820 mg/l				
	Fluoride		0.20 mg/l				
	Ammoniacal Nitrogen as N		29.90 mg/l				
	Carbon, Organic : Total as C :- {TOC}		8 mg/l				
	pH		7.46 pH Units				
	Ionic Balance		3.19 %				
	Electrical Conductivity		13000 µS/cm	Field Measurements			
	Temperature		11.7 deg C				
	Dissolved Oxygen		2.16 mg/l				
	pH		7.03 pH Units				
	Groundwater Level		1.82 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH10	Aluminium, Dissolved		<40 µg/l		04/05/2016	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		13 µg/l				
	Boron, Dissolved		9000 µg/l				
	Cadmium, Dissolved		<0.03 µg/l				
	Calcium, Dissolved		377 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		<0.2 µg/l				
	Magnesium, Dissolved		528 mg/l				
	Manganese, Dissolved		446 µg/l				
	Molybdenum, Dissolved		307 µg/l				
	Nickel, Dissolved		<0.3 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		1010 mg/l				
	Conductivity at 20C		22100 uS/cm				
	Potassium, Dissolved		192 mg/l				
	Sodium, Dissolved		4310 mg/l				
	Sulphate, Dissolved as SO4		999 mg/l				
	Nitrogen : Total Oxidised as N		<0.2 mg/l				
	Chloride		7240 mg/l				
	Fluoride		0.23 mg/l				
	Ammoniacal Nitrogen as N		40.40 mg/l				
	Carbon, Organic : Total as C :- {TOC}		8 mg/l				
	pH		7.31 pH Units				
	Ionic Balance		1.86 %				
	Electrical Conductivity		12540 µS/cm	Field Measurements			
	Temperature		11.5 deg C				
	Dissolved Oxygen		2.69 mg/l				
	pH		7.00 pH Units				
	Groundwater Level		1.55 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH11	Aluminium, Dissolved		<40 µg/l		17/02/2016	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		30.3 µg/l				
	Boron, Dissolved		5370 µg/l				
	Cadmium, Dissolved		<0.03 µg/l				
	Calcium, Dissolved		207 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		<0.2 µg/l				
	Magnesium, Dissolved		78 mg/l				
	Manganese, Dissolved		571 µg/l				
	Molybdenum, Dissolved		230 µg/l				
	Nickel, Dissolved		<0.3 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		620 mg/l				
	Conductivity at 20C		1750 uS/cm				
	Potassium, Dissolved		31 mg/l				
	Sodium, Dissolved		122 mg/l				
	Sulphate, Dissolved as SO4		237 mg/l				
	Nitrogen : Total Oxidised as N		<0.2 mg/l				
	Chloride		186 mg/l				
	Fluoride		0.12 mg/l				
	Ammoniacal Nitrogen as N		0.99 mg/l				
	Carbon, Organic : Total as C :- {TOC}		2.5 mg/l				
	pH		7.53 pH Units				
	Ionic Balance		0.50 %				
	Electrical Conductivity		1530 µS/cm	Field Measurements			
	Temperature		12.9 deg C				
	Dissolved Oxygen		2.99 mg/l				
	pH		7.10 pH Units				
	Groundwater Level		4.45 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH11	Aluminium, Dissolved		<40 µg/l		04/05/2016	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		65 µg/l				
	Boron, Dissolved		9760 µg/l				
	Cadmium, Dissolved		<0.03 µg/l				
	Calcium, Dissolved		322 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		<0.2 µg/l				
	Magnesium, Dissolved		142 mg/l				
	Manganese, Dissolved		984 µg/l				
	Molybdenum, Dissolved		639 µg/l				
	Nickel, Dissolved		<0.3 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		680 mg/l				
	Conductivity at 20C		5450 uS/cm				
	Potassium, Dissolved		91.9 mg/l				
	Sodium, Dissolved		814 mg/l				
	Sulphate, Dissolved as SO4		734 mg/l				
	Nitrogen : Total Oxidised as N		<0.2 mg/l				
	Chloride		1230 mg/l				
	Fluoride		0.34 mg/l				
	Ammoniacal Nitrogen as N		4.27 mg/l				
	Carbon, Organic : Total as C :- {TOC}		4.2 mg/l				
	pH		7.30 pH Units				
	Ionic Balance		1.47 %				
	Electrical Conductivity		1600 µS/cm	Field Measurements			
	Temperature		12.9 deg C				
	Dissolved Oxygen		3.20 mg/l				
	pH		7.07 pH Units				
	Groundwater Level		3.94 mAOD				

[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 A.J.Gaukroger Date 27/07/2016

(authorised to sign as representative of the Operator)

Reporting of Emission to Surface Water for the period from ……1st Janauary 2016…….to….30th June 2016……..

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		50 µg/l		16/02/2016	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		13.40 µg/l				
	Boron, Dissolved		8580 µg/l				
	Cadmium, Dissolved		0 µg/l				
	Calcium, Dissolved		697 mg/l				
	Chromium, Dissolved		1 µg/l				
	Copper, Dissolved		5.430 µg/l				
	Magnesium, Dissolved		74.6 mg/l				
	Manganese, Dissolved		1660.0 µg/l				
	Molybdenum, Dissolved		2500 µg/l				
	Nickel, Dissolved		0.38 µg/l				
	Selenium Dissolved		6.36 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		0 µg/l				
	Conductivity at 20C		10700 µS/cm				
	Potassium, Dissolved		144 mg/l				
	Sodium, Dissolved		1930 mg/l				
	Sulphate, Dissolved as SO4		1050 mg/l				
	Nitrogen : Total Oxidised as N		12.30 mg/l				
	Chloride		3350 mg/l				
	Fluoride		0.119 mg/l				
	Ammoniacal Nitrogen as N		3.820 mg/l				
	Carbon, Organic : Total as C :- {TOC}		2.90 mg/l				
	pH		7.23 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		254 µg/l		15/05/2016	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		36.00 µg/l				
	Boron, Dissolved		11600 µg/l				
	Cadmium, Dissolved		0.18 µg/l				
	Calcium, Dissolved		902 mg/l				
	Chromium, Dissolved		3 µg/l				
	Copper, Dissolved		3.010 µg/l				
	Magnesium, Dissolved		75 mg/l				
	Manganese, Dissolved		541.0 µg/l				
	Molybdenum, Dissolved		4440 µg/l				
	Nickel, Dissolved		0.38 µg/l				
	Selenium Dissolved		19 µg/l				
	Vanadium, Dissolved		56 µg/l				
	Mercury, Dissolved		0 µg/l				
	Conductivity at 20C		14400 uS/cm				
	Potassium, Dissolved		194 mg/l				
	Sodium, Dissolved		2490 mg/l				
	Sulphate, Dissolved as SO4		1390 mg/l				
	Nitrogen : Total Oxidised as N		14.70 mg/l				
	Chloride		4430 mg/l				
	Fluoride		0.07 mg/l				
	Ammoniacal Nitrogen as N		2 mg/l				
	Carbon, Organic : Total as C :- {TOC}		5.70 mg/l				
	pH		7.06 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		64 µg/l		16/02/2016	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		1.66 µg/l				
	Boron, Dissolved		1810 µg/l				
	Cadmium, Dissolved		<0.03 µg/l				
	Calcium, Dissolved		181 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		1.290 µg/l				
	Magnesium, Dissolved		16.5 mg/l				
	Manganese, Dissolved		219.0 µg/l				
	Molybdenum, Dissolved		259 µg/l				
	Nickel, Dissolved		0.85 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Conductivity at 20C		1340 uS/cm				
	Potassium, Dissolved		13 mg/l				
	Sodium, Dissolved		130 mg/l				
	Sulphate, Dissolved as SO4		211 mg/l				
	Nitrogen : Total Oxidised as N		3.31 mg/l				
	Chloride		189 mg/l				
	Fluoride		0.106 mg/l				
	Ammoniacal Nitrogen as N		0.016 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1.80 mg/l				
	pH		8.03 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		12/05/2016	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		2.48 µg/l				
	Boron, Dissolved		920 µg/l				
	Cadmium, Dissolved		<0.03 µg/l				
	Calcium, Dissolved		125 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.539 µg/l				
	Magnesium, Dissolved		21 mg/l				
	Manganese, Dissolved		64.9 µg/l				
	Molybdenum, Dissolved		109 µg/l				
	Nickel, Dissolved		0.55 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Conductivity at 20C		939 uS/cm				
	Potassium, Dissolved		7 mg/l				
	Sodium, Dissolved		82 mg/l				
	Sulphate, Dissolved as SO4		141 mg/l				
	Nitrogen : Total Oxidised as N		2.77 mg/l				
	Chloride		119 mg/l				
	Fluoride		0.09 mg/l				
	Ammoniacal Nitrogen as N		<0.0100 mg/l				
	Carbon, Organic : Total as C :- {TOC}		<1.0 mg/l				
	pH		8.16 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		258 µg/l		16/02/2016	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		127 mg/l				
	Chromium, Dissolved		1 µg/l				
	Copper, Dissolved		1.360 µg/l				
	Magnesium, Dissolved		14.3 mg/l				
	Manganese, Dissolved		34.4 µg/l				
	Molybdenum, Dissolved		<30 µg/l				
	Nickel, Dissolved		0.61 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Conductivity at 20C		625 uS/cm				
	Potassium, Dissolved		2 mg/l				
	Sodium, Dissolved		22 mg/l				
	Sulphate, Dissolved as SO4		24 mg/l				
	Nitrogen : Total Oxidised as N		3.87 mg/l				
	Chloride		32 mg/l				
	Fluoride		0.076 mg/l				
	Ammoniacal Nitrogen as N		0.018 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1.50 mg/l				
	pH		8.06 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		344 µg/l		12/05/2016	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		<700 µg/l				
	Cadmium, Dissolved		0.08 µg/l				
	Calcium, Dissolved		86 mg/l				
	Chromium, Dissolved		0.69 µg/l				
	Copper, Dissolved		2.500 µg/l				
	Magnesium, Dissolved		12.1 mg/l				
	Manganese, Dissolved		50.9 µg/l				
	Molybdenum, Dissolved		<30 µg/l				
	Nickel, Dissolved		1.15 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		0 µg/l				
	Conductivity at 20C		616 uS/cm				
	Potassium, Dissolved		3.29 mg/l				
	Sodium, Dissolved		49.4 mg/l				
	Sulphate, Dissolved as SO4		26.1 mg/l				
	Nitrogen : Total Oxidised as N		3.31 mg/l				
	Chloride		78.0 mg/l				
	Fluoride		0.076 mg/l				
	Ammoniacal Nitrogen as N		0.214 mg/l				
	Carbon, Organic : Total as C :- {TOC}		8.50 mg/l				
	pH		7.85 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		78 µg/l		16/02/2016	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		1.80 µg/l				
	Boron, Dissolved		1560 µg/l				
	Cadmium, Dissolved		<0.03 µg/l				
	Calcium, Dissolved		164 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		1.060 µg/l				
	Magnesium, Dissolved		45.5 mg/l				
	Manganese, Dissolved		63.4 µg/l				
	Molybdenum, Dissolved		220 µg/l				
	Nickel, Dissolved		0.41 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Conductivity at 20C		2370 uS/cm				
	Potassium, Dissolved		24 mg/l				
	Sodium, Dissolved		349 mg/l				
	Sulphate, Dissolved as SO4		222 mg/l				
	Nitrogen : Total Oxidised as N		3.14 mg/l				
	Chloride		564 mg/l				
	Fluoride		0.131 mg/l				
	Ammoniacal Nitrogen as N		<0.0100 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1.90 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		<40 µg/l		12/05/2016	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		3050 µg/l				
	Cadmium, Dissolved		<0.03 µg/l				
	Calcium, Dissolved		227 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.577 µg/l				
	Magnesium, Dissolved		200 mg/l				
	Manganese, Dissolved		448.0 µg/l				
	Molybdenum, Dissolved		458 µg/l				
	Nickel, Dissolved		0.53 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Conductivity at 20C		8590 uS/cm				
	Potassium, Dissolved		79 mg/l				
	Sodium, Dissolved		1640 mg/l				
	Sulphate, Dissolved as SO4		631 mg/l				
	Nitrogen : Total Oxidised as N		1.26 mg/l				
	Chloride		2660 mg/l				
	Fluoride		0.22 mg/l				
	Ammoniacal Nitrogen as N		0.07 mg/l				
	Carbon, Organic : Total as C :- {TOC}		2.20 mg/l				
	pH		8.34 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 ..... Date..... (authorised to sign as representative of the Operator)