

**Reporting of Emission to Groundwater for the period from 1st January 2021 to 30th June 2021.**

**Operator : RWE Generation UK plc**

**Form:** Groundwater1

**Location: Aberthaw Power Station**

**Permit/Variation Number: RP3133LD**

| Emission point | Substance/<br>Parameter               | Emission Limit Value | Result <sup>[1]</sup> | Test<br>Method <sup>[2]</sup> | Sample<br>Date and Times <sup>[3]</sup> | Accreditation/<br>Certification <sup>[4]</sup> | Uncertainty<br><sup>[5]</sup> |
|----------------|---------------------------------------|----------------------|-----------------------|-------------------------------|---|--|-------------------------------|
| BH12           | Aluminium, Dissolved                  |                      | <3.5 µg/l             |                               | 29/04/2021                              | Sampling Amec / Testing<br>ALS                 |                               |
|                | Antimony, Dissolved                   |                      | <1.3 µg/l             |                               |   |  |                               |
|                | Arsenic Dissolved                     |                      | 0.5 µg/l              |                               |   |  |                               |
|                | Boron, Dissolved                      |                      | 467 µg/l              |                               |   |  |                               |
|                | Cadmium, Dissolved                    |                      | <0.20 µg/l            |                               |   |  |                               |
|                | Calcium, Dissolved                    |                      | 327 mg/l              |                               |   |  |                               |
|                | Chromium, Dissolved                   |                      | <0.20 µg/l            |                               |   |  |                               |
|                | Copper, Dissolved                     |                      | <4.0 µg/l             |                               |   |  |                               |
|                | Magnesium, Dissolved                  |                      | 129 mg/l              |                               |   |  |                               |
|                | Manganese, Dissolved                  |                      | 31.0 µg/l             |                               |   |  |                               |
|                | Molybdenum, Dissolved                 |                      | <25.0 µg/l            |                               |   |  |                               |
|                | Nickel, Dissolved                     |                      | 1.9 µg/l              |                               |   |  |                               |
|                | Selenium Dissolved                    |                      | n/t µg/l              |                               |   |  |                               |
|                | Vanadium, Dissolved                   |                      | 1.1 µg/l              |                               |   |  |                               |
|                | Zinc, Dissolved                       |                      | 12.0 µg/l             |                               |   |  |                               |
|                | Mercury, Dissolved                    |                      | <0.01 µg/l            |                               |   |  |                               |
|                | Alkalinity to pH 4.5 as CaCO3         |                      | 283 mg/l              |                               |   |  |                               |
|                | Conductivity at 20C                   |                      | 6180 uS/cm            |                               |   |  |                               |
|                | Potassium, Dissolved                  |                      | 27.0 mg/l             |                               |   |  |                               |
|                | Sodium, Dissolved                     |                      | 1100 mg/l             |                               |   |  |                               |
|                | Sulphate, Dissolved as SO4            |                      | 315 mg/l              |                               |   |  |                               |
|                | Nitrogen : Total Oxidised as N        |                      | 2.00 mg/l             |                               |   |  |                               |
|                | Chloride                              |                      | 2010 mg/l             |                               |   |  |                               |
|                | Fluoride                              |                      | 0.30 mg/l             |                               |   |  |                               |
|                | Ammoniacal Nitrogen as N              |                      | <0.06 mg/l            |                               |   |  |                               |
|                | Carbon, Organic : Total as C :- {TOC} |                      | 2.4 mg/l              |                               |   |  |                               |
|                | pH                                    |                      | 7.40 pH Units         |                               |   |  |                               |

| Emission point | Substance/<br>Parameter               | Emission Limit Value | Result <sup>[1]</sup> | Test<br>Method <sup>[2]</sup> | Sample<br>Date and Times <sup>[3]</sup> | Accreditation/<br>Certification <sup>[4]</sup> | Uncertainty<br><sup>[5]</sup> |
|----------------|---------------------------------------|----------------------|-----------------------|-------------------------------|---|--|-------------------------------|
| BH12           | Aluminium, Dissolved                  |                      | <3.5 µg/l             |                               | 30/06/2021                              | Sampling Amec / Testing<br>ALS                 |                               |
|                | Antimony, Dissolved                   |                      | <1.3 µg/l             |                               |   |  |                               |
|                | Arsenic Dissolved                     |                      | 0.5 µg/l              |                               |   |  |                               |
|                | Boron, Dissolved                      |                      | 243 µg/l              |                               |   |  |                               |
|                | Cadmium, Dissolved                    |                      | <0.02 µg/l            |                               |   |  |                               |
|                | Calcium, Dissolved                    |                      | 108 mg/l              |                               |   |  |                               |
|                | Chromium, Dissolved                   |                      | <0.20 µg/l            |                               |   |  |                               |
|                | Copper, Dissolved                     |                      | <4.0 µg/l             |                               |   |  |                               |
|                | Magnesium, Dissolved                  |                      | 25 mg/l               |                               |   |  |                               |
|                | Manganese, Dissolved                  |                      | 11.0 µg/l             |                               |   |  |                               |
|                | Molybdenum, Dissolved                 |                      | 3.8 µg/l              |                               |   |  |                               |
|                | Nickel, Dissolved                     |                      | <1.0 µg/l             |                               |   |  |                               |
|                | Selenium Dissolved                    |                      | n/t µg/l              |                               |   |  |                               |
|                | Vanadium, Dissolved                   |                      | 0.6 µg/l              |                               |   |  |                               |
|                | Zinc, Dissolved                       |                      | 19.0 µg/l             |                               |   |  |                               |
|                | Mercury, Dissolved                    |                      | 0.02 µg/l             |                               |   |  |                               |
|                | Alkalinity to pH 4.5 as CaCO3         |                      | 316 mg/l              |                               |   |  |                               |
|                | Conductivity at 20C                   |                      | 1280 uS/cm            |                               |   |  |                               |
|                | Potassium, Dissolved                  |                      | 8.9 mg/l              |                               |   |  |                               |
|                | Sodium, Dissolved                     |                      | 160 mg/l              |                               |   |  |                               |
|                | Sulphate, Dissolved as SO4            |                      | 81 mg/l               |                               |   |  |                               |
|                | Nitrogen : Total Oxidised as N        |                      | 1.40 mg/l             |                               |   |  |                               |
|                | Chloride                              |                      | 226 mg/l              |                               |   |  |                               |
|                | Fluoride                              |                      | 0.30 mg/l             |                               |   |  |                               |
|                | Ammoniacal Nitrogen as N              |                      | <0.06 mg/l            |                               |   |  |                               |
|                | Carbon, Organic : Total as C :- {TOC} |                      | 2.1 mg/l              |                               |   |  |                               |
|                | pH                                    |                      | 7.50 pH Units         |                               |   |  |                               |

| Emission point | Substance/<br>Parameter               | Emission Limit Value | Result <sup>[1]</sup> | Test<br>Method <sup>[2]</sup> | Sample<br>Date and Times <sup>[3]</sup> | Accreditation/<br>Certification <sup>[4]</sup> | Uncertainty<br><sup>[5]</sup> |
|----------------|---------------------------------------|----------------------|-----------------------|-------------------------------|---|--|-------------------------------|
| BH13           | Aluminium, Dissolved                  |                      | <3.5 µg/l             |                               | 29/04/2021                              | Sampling Amec / Testing<br>ALS                 |                               |
|                | Antimony, Dissolved                   |                      | <1.3 µg/l             |                               |   |  |                               |
|                | Arsenic Dissolved                     |                      | 0.3 µg/l              |                               |   |  |                               |
|                | Boron, Dissolved                      |                      | 214 µg/l              |                               |   |  |                               |
|                | Cadmium, Dissolved                    |                      | <0.02 µg/l            |                               |   |  |                               |
|                | Calcium, Dissolved                    |                      | 85 mg/l               |                               |   |  |                               |
|                | Chromium, Dissolved                   |                      | <0.20 µg/l            |                               |   |  |                               |
|                | Copper, Dissolved                     |                      | <4.0 µg/l             |                               |   |  |                               |
|                | Magnesium, Dissolved                  |                      | 32 mg/l               |                               |   |  |                               |
|                | Manganese, Dissolved                  |                      | 14.0 µg/l             |                               |   |  |                               |
|                | Molybdenum, Dissolved                 |                      | 4.7 µg/l              |                               |   |  |                               |
|                | Nickel, Dissolved                     |                      | <1.0 µg/l             |                               |   |  |                               |
|                | Selenium Dissolved                    |                      | n/t µg/l              |                               |   |  |                               |
|                | Vanadium, Dissolved                   |                      | 0.2 µg/l              |                               |   |  |                               |
|                | Zinc, Dissolved                       |                      | <5.0 µg/l             |                               |   |  |                               |
|                | Mercury, Dissolved                    |                      | <0.01 µg/l            |                               |   |  |                               |
|                | Alkalinity to pH 4.5 as CaCO3         |                      | 390 mg/l              |                               |   |  |                               |
|                | Conductivity at 20C                   |                      | 1270 uS/cm            |                               |   |  |                               |
|                | Potassium, Dissolved                  |                      | 6.2 mg/l              |                               |   |  |                               |
|                | Sodium, Dissolved                     |                      | 190 mg/l              |                               |   |  |                               |
|                | Sulphate, Dissolved as SO4            |                      | 93 mg/l               |                               |   |  |                               |
|                | Nitrogen : Total Oxidised as N        |                      | 2.60 mg/l             |                               |   |  |                               |
|                | Chloride                              |                      | 215 mg/l              |                               |   |  |                               |
|                | Fluoride                              |                      | 0.30 mg/l             |                               |   |  |                               |
|                | Ammoniacal Nitrogen as N              |                      | <0.06 mg/l            |                               |   |  |                               |
|                | Carbon, Organic : Total as C :- {TOC} |                      | 1.1 mg/l              |                               |   |  |                               |
|                | pH                                    |                      | 7.80 pH Units         |                               |   |  |                               |

| Emission point | Substance/<br>Parameter                   | Emission Limit Value | Result <sup>[1]</sup> | Test<br>Method <sup>[2]</sup> | Sample<br>Date and Times <sup>[3]</sup> | Accreditation/<br>Certification <sup>[4]</sup> | Uncertainty<br><sup>[5]</sup> |
|----------------|---|----------------------|-----------------------|-------------------------------|---|--|-------------------------------|
| BH13           | Aluminium, Dissolved                      |                      | <3.5 µg/l             |                               | 30/06/2021                              | Sampling Amec / Testing<br>ALS                 |                               |
|                | Antimony, Dissolved                       |                      | <1.3 µg/l             |                               |   |  |                               |
|                | Arsenic Dissolved                         |                      | 0.3 µg/l              |                               |   |  |                               |
|                | Boron, Dissolved                          |                      | 204 µg/l              |                               |   |  |                               |
|                | Cadmium, Dissolved                        |                      | <0.02 µg/l            |                               |   |  |                               |
|                | Calcium, Dissolved                        |                      | 86 mg/l               |                               |   |  |                               |
|                | Chromium, Dissolved                       |                      | <0.20 µg/l            |                               |   |  |                               |
|                | Copper, Dissolved                         |                      | <4.0 µg/l             |                               |   |  |                               |
|                | Magnesium, Dissolved                      |                      | 25 mg/l               |                               |   |  |                               |
|                | Manganese, Dissolved                      |                      | 2.9 µg/l              |                               |   |  |                               |
|                | Molybdenum, Dissolved                     |                      | 3.1 µg/l              |                               |   |  |                               |
|                | Nickel, Dissolved                         |                      | <1.0 µg/l             |                               |   |  |                               |
|                | Selenium Dissolved                        |                      | n/t µg/l              |                               |   |  |                               |
|                | Vanadium, Dissolved                       |                      | 0.2 µg/l              |                               |   |  |                               |
|                | Zinc, Dissolved                           |                      | <5.0 µg/l             |                               |   |  |                               |
|                | Mercury, Dissolved                        |                      | <0.01 µg/l            |                               |   |  |                               |
|                | Alkalinity to pH 4.5 as CaCO <sub>3</sub> |                      | 315 mg/l              |                               |   |  |                               |
|                | Conductivity at 20C                       |                      | 1120 uS/cm            |                               |   |  |                               |
|                | Potassium, Dissolved                      |                      | 6.5 mg/l              |                               |   |  |                               |
|                | Sodium, Dissolved                         |                      | 160 mg/l              |                               |   |  |                               |
|                | Sulphate, Dissolved as SO <sub>4</sub>    |                      | 82 mg/l               |                               |   |  |                               |
|                | Nitrogen : Total Oxidised as N            |                      | <0.7 mg/l             |                               |   |  |                               |
|                | Chloride                                  |                      | 171 mg/l              |                               |   |  |                               |
|                | Fluoride                                  |                      | 0.30 mg/l             |                               |   |  |                               |
|                | Ammoniacal Nitrogen as N                  |                      | <0.06 mg/l            |                               |   |  |                               |
|                | Carbon, Organic : Total as C :- {TOC}     |                      | 1.8 mg/l              |                               |   |  |                               |
|                | pH  |                      | 7.50 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

17/09/2021 (Reissued 26/01/2022)

(authorised to sign as representative of the Operator)