

Permit number: EPR/DP3333TA

Operator: RWE Generation UK plc

Installation: Pembroke Power Station

Form number: Water 1 (10/11/11)

Quarterly reporting of sampling and analysis of emissions to water (other than sewer) for the period Q3 2020

| Emission Point | Pollutant/measure | Emission Limit Value | Reference Period | Result ¹ | | Test Method ² | Sample Date and Time ₃ | Uncertainty ⁴ |
|----------------|--------------------------------------|--------------------------------|-----------------------------|-----------------------|------------|--------------------------|---|--------------------------|
| | | | | Month | Value | | | |
| W1 | Flow | 40 m ³ /sec | Maximum | Month 1 | 39m3/s | Flow Meter | CW system operational 95% of time. Meters available 94% of period. ⁹ | +/- 8% |
| | | | | Month 2 | 39m3/s | | | |
| | | | | Month 3 | 39m3/s | | | |
| | Temperature | 30.4°C | Absolute maximum | Month 1 | 27.2°C | Standard Thermocouple | CW system operational 95% of time. Instruments available 100% of period. | +/- 0.3°C |
| | | | | Month 2 | 28.8°C | | | |
| | | | | Month 3 | 25.9°C | | | |
| | | 7.6°C above intake temperature | Daily average ⁵ | Month 1 | 7.1°C | Standard Thermocouple | CW system operational 95% of time. Instruments available 100% of period. | +/- 0.3°C |
| | | | | Month 2 | 7.3°C | | | |
| | | | | Month 3 | 7.3°C | | | |
| | Total residual oxidant (as chlorine) | 50µg/l | Daily average ⁶ | Month 1 | No dosing | DPD Colormetric | CW system operational 95% of time. No dosing throughout period. | +/- 20µg/l |
| Month 2 | | | | No dosing | | | | |
| Month 3 | | | | No dosing | | | | |
| W1 (continued) | pH | 6-9 (inclusive) | - | Month 1 | 7.3 to 8.0 | BS60682.50:1995 | CW system operational 95% of time. Instruments available 99.9% of period. | +/- 0.01 |
| | | | | Month 2 | 6.9 to 8.6 | | | |
| | | | | Month 3 | 7.0 to 8.1 | | | |
| W1 (a) | Flow | 7.48 l/s | Annual average ⁷ | No Reporting Required | | Flow Meter | Annual Average | +/- 8% |
| | Ammonia | 0.297 mg/l | | No Reporting Required | | BS 6068:2.11 | Annual Average | +/- 20% |
| | Nitrate | 12.1 mg/l | | No Reporting Required | | BS EN ISO 13395:1996 | Annual Average | +/- 20% |
| | Calcium | 59.0 mg/l | | No Reporting Required | | BS EN ISO 11885 | Annual Average | +/- 20% |
| | Phosphate | 0.460 mg/l | | No Reporting Required | | | Annual Average | +/- 20% |

| Emission Point | Pollutant/measure | Emission Limit Value | Reference Period | Result ¹ | Test Method ² | Sample Date and Time ₃ | Uncertainty ⁴ |
|----------------|---------------------|-----------------------|-----------------------------|-----------------------|--------------------------|-----------------------------------|--------------------------|
| | Iron | 2.17 mg/l | | No Reporting Required | | Annual Average | +/- 20% |
| | Aluminium | 13000 µg/l | | No Reporting Required | | Annual Average | +/- 20% |
| | Antimony | 6.65 µg/l | | No Reporting Required | | Annual Average | +/- 20% |
| | Chromium | 4.47 µg/l | | No Reporting Required | | Annual Average | +/- 20% |
| | Copper | 22.1 µg/l | | No Reporting Required | | Annual Average | +/- 20% |
| | Lead | 45.9 µg/l | | No Reporting Required | | Annual Average | +/- 20% |
| | Manganese | 151 µg/l | | No Reporting Required | | Annual Average | +/- 20% |
| | Nickel | 11.9 µg/l | | No Reporting Required | | Annual Average | +/- 20% |
| | Selenium | 6.84 µg/l | | No Reporting Required | | Annual Average | +/- 30% |
| | Zinc | 67.0 µg/l | | No Reporting Required | | Annual Average | +/- 20% |
| | Arsenic | 4.37 µg/l | | No Reporting Required | | Annual Average | +/- 20% |
| | Cadmium | 0.700 µg/l | | No Reporting Required | BS EN ISO 11969 | Annual Average | +/- 20% |
| | Chloride | 121 mg/l | | No Reporting Required | BS EN ISO 15682:2001 | Annual Average | +/- 20% |
| | Mercury | 0.370 µg/l | | No Reporting Required | BS EN ISO 17852:2008 | Annual Average | +/- 24% |
| W1 (b) | Flow | 16.8 l/s | Annual average ⁷ | No Reporting Required | Flow Meter | Annual Average | +/- 8% |
| | Ammonia | 0.776 mg/l | | No Reporting Required | BS 6068:2.11 | Annual Average | +/- 20% |
| | Aluminium | 10.0 µg/l | | No Reporting Required | BS EN ISO 11885 | Annual Average | +/- 20% |
| | Mercury | 0.0100 µg/l | | No Reporting Required | BS EN ISO 17852:2008 | Annual Average | +/- 24% |
| | Nickel | 1.00 µg/l | | No Reporting Required | BS EN ISO 11885 | Annual Average | +/- 20% |
| | Iron | 5.50 mg/l | | No Reporting Required | BS EN ISO 11885 | Annual Average | +/- 20% |
| | Silicate | 3.00 mg/l | | No Reporting Required | | Annual Average | +/- 20% |
| | Sodium & potassium | 3.00 mg/l | | No Reporting Required | | Annual Average | +/- 20% |
| W1 (c) | Flow | 23m ³ /day | Quarterly Average | 6m ³ /day | Flow Meter | Quarterly Average | +/- 8% |
| | Ammoniacal nitrogen | 20mg/l | Quarterly Average | 4mg/l | BS6068:2.1 | Quarterly Average | +/- 20% |

| Emission Point | Pollutant/measure | Emission Limit Value | Reference Period | Result ¹ | | Test Method ² | Sample Date and Time ₃ | Uncertainty ⁴ |
|----------------|---------------------------|----------------------|--------------------|---------------------|--------|--------------------------|-----------------------------------|--------------------------|
| | Biochemical oxygen demand | 20mg/l | Quarterly Average | 4mg/l | | BS EN 1899-1 | Quarterly Average | +/- 20% |
| | Suspended solids | 30mg/l | Quarterly Average | 11mg/l | | BS EN 872 | Quarterly Average | +/- 20% |
| W2 | Oil & Grease | No visible oil | Daily ⁸ | Month 1 | Absent | Visual Inspection | Daily | Not Applicable |
| | | | | Month 2 | Absent | | Daily | |
| | | | | Month 3 | Absent | | Daily | |

1 Where monthly reporting is specified, the result reported should be the highest value obtained in each calendar month of the quarter against the relevant reference period. Where the emission limit value is expressed as a range, the result reported should be the 'minimum – maximum' measured values.

2 Where an internationally recognised standard test method is used the reference number must be provided. Where another method that has been formally agreed with NRW is used, then the appropriate identifier should be given. In other cases the principal technique should be stated, e.g. gas chromatography.

3 For non-continuous measurements the date and time of the sample that produced the result should be given. For continuous measurements the percentage of the process operating time covered by the result should be given.

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

5 The highest daily average should be reported for each month.

6 Based on the mean of all valid samples obtained each day (taken at regular intervals), with a minimum of 20 valid samples to be taken each day). The highest daily average should be reported for each week.

7 Annual average is an annual calendar reporting requirement to be reported only in December returns.

8 The result should be reported as 'Present' or 'Absent' for each month of the quarter.

9 CW flowmeters unavailable during servicing work and during a failure of U51 CW Flowmeter where the calculated flow was used instead for reporting.

Signed on behalf of RWE Generation UK plc, by:

Danya Ismail

Date of return: 22/10/20