

Permit Number: SP3537VQ

Operator: Biogen UK Limited

Facility: Bryn Pica Anaerobic Digestion Site

Form Number: Air1 / 17/08/2022

Reporting of emissions to air for the period from 01/01/2023 to 31/12/2023

| Emission Point | Substance / Parameter | Emission Limit Value | Reference Period | Result ^[1] | Test Method ^[2] | Sample Date and Times ^[3] | Uncertainty ^[4] |
|----------------|--|------------------------|------------------|--|----------------------------------|--|----------------------------|
| A1 | Oxides of nitrogen (NO and NO ₂ expressed as NO ₂) | 500 mg/m ³ | Hourly mean | 422 mg/m ³ | BS EN 14792 | 04/10/2023 10:35 – 11:35 | ± 17.7 |
| A1 | Carbon monoxide | 1400 mg/m ³ | Hourly mean | 810 mg/m ³ | BS EN 15058 | 04/10/2023 10:35 – 11:35 | ± 33.9 |
| A1 | Total Volatile Organic Compounds (VOCs) | 1000 mg/m ³ | Hourly mean | 636 mg/m ³ | BS EN12619:1999 or 13526:2002 | 04/10/2023 10:35 – 11:35 | ± 27.6 |
| A1 | Sulphur Dioxide | 350 mg/m ³ | Hourly mean | 217 mg/m ³ | BS EN 14791 | 04/10/2023 10:35 – 11:35 | ± 12.5 |
| A2 | Oxides of nitrogen (NO and NO ₂ expressed as NO ₂) ^[5] | 150 mg/m ³ | Hourly mean | N/A | BS EN 14792 | N/A | N/A |
| A2 | Carbon monoxide ^[5] | 50 mg/m ³ | Hourly mean | N/A | BS EN 15058 | N/A | N/A |
| A2 | Total Volatile Organic Compounds (VOCs) ^[5] | 10 mg/m ³ | Hourly mean | N/A | BS EN12619:1999 or 13526:2002 | N/A | N/A |
| A5 | Ammonia (NH ₃) ^[6] | 20 mg/m ³ | Every 6 months | 0.68 mg/m ³ 1.24 mg/m ³ | EN ISO 21877 | 30/08/2023 10:58 – 11:28 30/11/2023 11:03 – 11:33 | N/A |

| Emission Point | Substance / Parameter | Emission Limit Value | Reference Period | Result ^[1] | Test Method ^[2] | Sample Date and Times ^[3] | Uncertainty ^[4] |
|----------------|---|----------------------|------------------|-----------------------|--|--|----------------------------|
| A5 | Hydrogen sulphide (H ₂ S) ^[6] | No Set Limit | Every 6 months | 1.32 <1.33 | US EPA Method 11 (Impinger method), and CEN TS 13649 (Charcoal tube), US EPA Method 15 | 30/08/2023 09:12 – 09:42 30/11/2023 09:00 – 09:30 | N/A |

[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 Natural Resources Wales is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.

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

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

[5] Monitoring of flare emissions is only necessary when the flare operated in excess of 10% of the time

[6] Where emissions are unlikely to impact on sensitive receptors, operators can choose whether to monitor for odour or ammonia and hydrogen sulphide. Operators will need to justify that their choice demonstrates the continued efficacy of their abatement equipment and that the environment is protected.

Signed 

(Authorised to sign as representative of Operator)

Date.....25/01/2024.....

Permit Number: SP3537VQ

Operator: Biogen UK Limited

Facility: Bryn Pica Anaerobic Digestion Site

Form Number: Water1 / 14/01/2021

Reporting of emissions to water (other than to sewer) and land for the period from 01/01/2023 to 31/12/2023

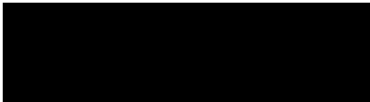
| Emission Point | Substance / Parameter | Emission Limit Value | Reference Period | Result ^[1] | Test Method ^[2] | Sample Date and Times ^[3] | Uncertainty ^[4] |
|----------------|-----------------------|----------------------|-------------------------------|---------------------------|----------------------------|--------------------------------------|----------------------------|
| W1 | Oil and grease | None visible | Periodic (prior to discharge) | No visible oil and grease | Visual check | 01/01/2023 - 31/12/2023 | N/A |

[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 Natural Resources Wales is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.

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

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

Signed 
(Authorised to sign as representative of Operator)

Date.....25/01/2024.....

Permit Number: SP3537VQ

Operator: Biogen UK Limited

Facility: Bryn Pica Anaerobic Digestion Site

Form Number: WaterUsage1 / 17/08/2022

Reporting of Water Usage for the year 2023

| Water Source | Usage (m ³ /year) | Specific Usage (m ³ /unit output) |
|-------------------|------------------------------|--|
| Mains water | 585 m ³ | 0.026 m ³ /tonne |
| Bund Water | 825 m ³ | |
| TOTAL WATER USAGE | 1410 m ³ | |

Operator's comments:
Water usage has been divided by tonnes into the Plant rather than tonnes out as, due to the nature of the process, this is more meaningful.

Signed 
(authorised to sign as representative of Operator)

Date...25/01/2024.....

Permit Number: SP3537VQ

Operator: Biogen UK Limited

Facility: Bryn Pica Anaerobic Digestion Site

Form Number: Energy1 / 17/08/2022


Reporting of Energy Usage for the year 2023

| Energy Source | Energy Usage | | Specific Usage (MWh/unit output) |
|--------------------|--------------|-------------------------|-------------------------------------|
| | Quantity | Primary Energy (MWh) | |
| Electricity * | 222.36 MWh | 533.66 MWh | 0.024 MWh/tonne |
| Natural Gas | N/A | N/A | N/A |
| Gas Oil | N/A | N/A | N/A |
| Recovered Fuel Oil | N/A | N/A | N/A |
| TOTAL | 222.36 MWh | 533.66 MWh | 0.024 MWh/tonne |

* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments:

1 Calculated as: parasitic energy usage (221.02 MWh) + imported electricity usage (1.34 MWh).
2 Electricity usage has been divided by tonnes into the Plant rather than tonnes out as, due to the nature of the process, this is more meaningful.

Signed 
(Authorised to sign as representative of Operator)

Date.....25/01/2024....

Permit Number: SP3537VQ

Operator:

Biogen UK Limited

Facility: Bryn Pica Anaerobic Digestion Site


Form Number:

Performance1 / 17/08/2022

Reporting of other performance indicators for the period 01/01/2023 to 31/12/2023

| Parameter | Units |
|--|-----------------------------|
| Total raw material used | 22,539 tonnes |
| Total amounts of waste treated | 22,539 tonnes |
| Biogas produced by AD Facility | 3,530,898 m ³ |
| Power output - electricity | 10,125.17 MWh |
| Energy efficiency | 97.9% |
| Electrical energy exported to the grid | 9,374 MWh |
| Electrical energy drawn from the grid | 1.34 MWh |
| Operational time of emergency flare | 1% |
| Amount of gas sent to emergency flare | 87,026 m ³ |
| Generation of residue waste | 843.48 Tonnes |
| Generation of wastewater | 0 m ³ |
| Amount of biogas combusted in the CHP unit per day | 9673.69 m ³ /day |

Operator's comments:

Signed 
(Authorised to sign as representative of Operator)

Date.....25/01/2024.....