Monday 29th January 2024

Permitting Service,
Natural Resources Wales,
Cambria House,
29 Newport Road,
Cardiff
CF24 0TP

Ref: **Operator's Report on NRW Permit No.EPR/BB3097ZS for 2023**

Dear Sir/Madam,
Please find below our report on the performance of the activities over the previous year.

1) Emissions monitoring was undertaken on 19th December 2023 by Element Materials Technology Environmental UK Limited in accordance with the requirements of the Permit. The reports for the individual combustion plant can be found at Appendices 2, 3, & 4 to this report.

2) We are unable to report the results of the annual steam generation for the site due to ongoing multiple failures on our client's steam metering system since June 2021, Whilst these failures have now been rectified as of October 2023, we are unable to report an accurate figure on the gross thermal efficiency of the plant for the full year. However, we have provided an indication in Table 1 (below) of plant performance based on the ratio of gas consumed to the volume of feedwater through the boilers.
Note: The trailer boiler utilised during Q1 & Q2 was fired only on natural gas after 27th December 2022 and so has now been taken into account in the below Tables.

Veolia would like to reiterate the fact that the site steam meters are the responsibility of our client and are outside the boundary of our Permitted operation.

Steam Generation
Due to the ongoing issues with the site steam meters, the assumed gross thermal efficiency of the plant is not reported for 2023. Figures for the utilisation of gas and the consumption of water are demonstrated in the following tables;

Table 1.

Year	Total Feedwater m3	Total Gas m3	Ratio m3 of Gas per m3 Feedwater
2023	99,395 (inc trailer boiler)	6,920,906	69.63032604
2022	96,352	6,576,520	68.25514952
2021	105,037	6,813,147	64.86425736
2020	109,586	7,036,402	64.20895005
2019	98,356	6,440,016	65.47659523
2018	97,231	6,498,485	66.83552571

If we compare the figures for feedwater and gas metering for the like reporting periods we can see that the gas utilisation has decreased slightly on previous years (69.6m3 of gas per m3 of feedwater).

We believe that the decrease in utilisation of gas is due primarily to the prolonged period of reliance on the trailer boiler during Q1 & Q2, which was not fitted with a flue gas economiser.

Table 2.

	Feedwater by boiler, Nm3				
	Boiler 1	Boiler 2	Boiler 3	Trailer Boiler	Total
2023	17,601	11,745	54,514	15,535*	99,395
2022	40,098	16,301	39,953	n/a	96,352
2021	35,902	1,902	67,233	n/a	105,037
2020	40,566	7,350	61,670	n/a	109,586
2019	35,451	5,753	57,152	n/a	98,356
2018	25,932	20,872	50,427	n/a	97,231

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Table 3.

Feedwater, by individual boiler as % of Total Feedwater				
	Boiler 1	Boiler 2	Boiler 3	Trailer Boiler
2023	12	17	55	16
2022	42	17	41	n/a
2021	34	2	64	n/a
2020	37	7	56	n/a
2019	36	6	58	n/a
2018	27	21	52	n/a

Table 4.

Feedwater, by boiler as average % of MCR (kg/hr F&A 100degC)			
	Boiler 1	Boiler 2	Boiler 3
MCR	6,921	6,908	8,665
2023	25	16	61
2022	56	23	45
2021	50	3	75
2020	57	10	69
2019	50	8	64
2018	36	29	56

3) During Q1 & Q2 of 2023 there was extensive maintenance undertaken to all site boilers. This planned work, in conjunction with the replacement of the control system on Boiler 3, necessitated the trailer boiler installed during October 2022 remain on site until completion of all works in June 2023.

4) The performance parameters as set out in Schedule 4, Table 4.3 of the Permit are discussed below. The report as per Schedule 4 Table 4.4 of the Permit is attached as Appendix 1;

Water Usage - The figure for the exact 'raw' water usage of the boiler plant must be calculated (as opposed to measured) due to the mechanism by which our client supplies the boilerhouse; i.e., that our client supplies us with softened water which is mixed with condensate and returned via the condensate return vessel. This supply to the boilerhouse is metered by the client.
This meter has recorded 96,957m3 in 2023.

We also utilise two supplies in addition to the above, for emergency filling of the hotwell when our client is unable to supply us with sufficient water through the usual process. These are described as "Grade 1" and "Grade 3" and the meters report volumes of 58m3 and 2380m3 respectively for 2023.

If we strip these volumes out from the recorded total volume for the site boiler feedwater meters (83,860m3), we get a calculated figure of 81,422m3 that was supplied to us (through the condensate return vessel) by the client in 2023, which is 84% of the figure reported by the client's own meter referenced in the paragraph above.
The discrepancy is accounted for by the utilisation of the trailer boiler noted in Para.3 and Tables 2 & 3, above, however at the time there were no metered connections to the unit and so we are unable to give specific consumption data relating to this item. This has been rectified for 2024 and all figures will be recorded going forward.

*The figures indicate that 15,535m3 of water was utilised by the trailer boiler.

Energy Usage - In 2023 we consumed 75,361 MWh of Natural Gas. As per para. (2) above, no calculated gross thermal efficiency is reported due to the client's steam meter failure.

No gasoil was consumed in 2023 due to the trailer boiler natural gas main extension.

[redacted]
Contracts Manager

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Appendix 1

EPR-BB3097ZS-A001 Permit - PB Gelatins Boiler Unit 2023 report.pdf

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Permit Number: EPR/BB3097ZS Operator: Veolia Energy & Utility Services UK Plc

Facility: PB Gelatins boiler house Form Number: Air1 / 11/01/19

Reporting of emissions to air for the period from 31/12/2022 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]
EP1	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	No limit set	Hourly average	199 mg/m3	TGN M5	19/12/2023 11:00 - 12:00	+/- 8.7
EP1	Carbon monoxide	No limit set	Hourly average	1.6 mg/m3	TGN M5	19/12/2023 11:00 - 12:00	+/- 1.1
EP2	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	No limit set	Hourly average	91.5 mg/m3	TGN M5	19/12/2023 12:15 - 13:15	+/- 4.4
EP2	Carbon monoxide	No limit set	Hourly average	1.4 mg/m3	TGN M5	19/12/2023 12:15 - 13:15	+/- 0.98
EP3	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	No limit set	Hourly average	132 mg/m3	TGN M5	19/12/2023 13:20 - 14:20	+/- 6.9
EP3	Carbon monoxide	No limit set	Hourly average	1.3 mg/m3	TGN M5	19/12/2023 13:20 - 14.20	+/- 0.89

[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 .....[redacted]..... Date. Tuesday 30th January 2024
(Authorised to sign as representative of Operator)

Permit Number:	EPR/BB3097ZS	Operator:	Veolia Energy & Utility Services UK Plc
Facility:	PB Gelatins boiler house	Form Number:	WaterUsage1 / 11/01/19

Reporting of Water Usage for the year 31/12/2022 to 31/12/2023

Water Source	Usage (m^3/year	Specific Usage (m^3/unit output)
Mains water Grade 1/Grade 3	58m3/2380m3	
TOTAL WATER USAGE	2438m3	Not Applicable (see 'Operator's Comments)

Operator's comments

The Grade 1/Grade 3 water supplies noted above only represent emergency supplies to the boilerhouse, with the remainder of the process water being supplied by the client.

Signed [redacted] Date. Tuesday 30th January 2024

(authorised to sign as representative of Operator)

Permit Number: EPR/BB3097ZS Operator: Veolia Energy & Utility Services UK Plc

Facility: PB Gelatins boiler house Form Number: Energy1 / 11/01/19

Reporting of Energy Usage for the year 31/12/2022 to 31/12/2023

Energy Source	Energy Usage Quantity	Primary Energy (MWh)	Specific Usage (MWh/unit output)
Natural Gas	MWh	75,361	N/A
Gas Oil	tonnes	0	N/A
TOTAL	-	75,361	N/A

Operator's comments :
No specific usage is reported for the period due to a failure of the client's steam meters

Signed [redacted] Date Tuesday 30th January 2024

(Authorised to sign as representative of Operator)

Permit Number: EPR/BB3097ZS Operator: Veolia Energy & Utility Services UK Plc

Facility: PB Gelatins boiler house Form Number: Performance1 / 11/01/19

Reporting of other performance indicators for the period 31/12/2022 to 31/12/2023

Parameter	Units
Steam production	tonnes N/A

Operator's comments :

Steam generation not reported for the period due to a failure of the client's steam meters.

Signed [redacted] Date. Tuesday 30th January 2024

(Authorised to sign as representative of Operator)