Bridgend Waste Facility

EPR Ref: PP3430UL

Report for 2023

Introduction

The permit was varied and reissued on the 7th May 2021 following the regulatory initiated review (Regulation 61 notice) following the publication of the revised Best Available Techniques (BAT) Reference Document (BREF) for Waste Treatment.

Condition 4.2.2 and 4.2.3 of the above permit requires the following:

4.2.2 For the following activities referenced in schedule 1, table S1.1 (A1 to A2 inclusive). A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resource Wales) each year. The reports shall include as a minimum:

(a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;

(b) the annual production /treatment data set out in schedule 4 table S4.2; and

(c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Natural Resources Wales, submit reports on the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

(a) In *respect of the parameters and emission points specified in schedule 4 table S4.1*

(b) For the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4 : and

(c) giving the information form such results and assessments as may be required by the forms specified in those tables.

A. Review of the results of the monitoring and assessment

Efficacy Tests

Number of Spore strips tested within Year	Number of Spore Strips that pass within Year	Pass Rate
96	90	93.75%

Any spore failures have been notified to the regulator as required by the permit.

Commissioning Report

The re-validation was carried out at the facility in 2019, and so was reported on during that period.

Bioaerosol Emission (Condition 3.3.1)

A summary of the results are included below. The samples were taken prior to the processing of seeded waste (control/reference samples), during the processing of the seeded waste and over two successive one-hour periods after the seeded waste had been processed.

Monitoring Location	Limit (cfu/m2 hr)	Pre dose (cfu/m2 hr)	1st hour post dose (cfu/m2 hr)	2nd hour post dose (cfu/m2 hr)	3rd hour post dose (cfu/m2 hr))
Air – sample points <10m from the treatment plant	*1000*	*<4*	*24*	*<4*	*<4*
Air – sample points >10m from the treatment plant	*300*	*<4*	*<4*	<4	<4
Surface – sample points <10m from the treatment plant	*20000*	*<191*	<154	*150*	*<152*
Surface – sample points >10m from the treatment plant	*5000*	*<172*	<83	<150	<143
Monitoring Location		At Dosing		20 minutes after dosing	
Discharge to water	*300*	<4		<4	

The Environmental monitoring continued to demonstrate that the Microbial counts were well within the Environmental Agency Benchmarks.

Emissions to Air (Condition 3.3.1 – Effective from 17th August 2022)

Form Number: Air1 / 17/08/2022

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Uncertainty [4]
A1	Dust	5 mg/Nm3	None set	2.39mg/m3	EN 13284-1	0.89mg/m3
A1	NH3	None set	None set	1.01mg/m3	No EN standard available	0.14mg/m3
A1	TVOC	None set	None set	94.88 mg/m3	EN 12619	1.99mg/m3
A2	Dust	5 mg/Nm3	None set	2.291mg/m3	EN 13284-1	0.91mg/m3
A2	NH3	None set	None set	13.35mg/m3	No EN standard available	1.60mg/m3
A2	TVOC	None set	None set	1295.3mg/m3	EN 12619	20.7mg/m3

[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.

Emissions to Sewer (Condition 3.3.1 – Effective from 17th August 2022)

Monitoring was undertaken at the Bridgend facility for the parameters listed below and the results submitted as part of the response for Improvement condition 4, with the report concluding:

"With regard to the parameters were listed for Physio-chemical, COD, Phenol Index, TOC and Total suspended solids have been eliminated as there is no direct discharge to receiving water.

In addition to these parameters, PFOA, PFOS, mercury, zinc, lead , nickel, copper, chromium, cadmium and arsenic have been ruled out from further analysis, as all samples for these were the limit of detection, and supporting the position that these parameters are not within the waste water inventory for the facility, and thereby no further monitoring requirement"

The maximum result from the samples have been reported below.

Form Number: Sewer1 / 17/08/2022

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
S1	Flow	l/hr	None set	18	To be agreed with the regulator	Max value from 13 results	
S1	Arsenic (As)	0.05 mg/l	None set	<0.5*	Various EN standards available (e.g. EN ISO 11885, EN ISO 17294-2, EN ISO 15586)		
S1	Cadmium (Cd)	0.05 mg/l	None set	<0.5*			
S1	Chromium (Cr)	0.15 mg/l	None set	<0.5*			
S1	Copper (Cu)	0.5 mg/l	None set	<0.5*			
S1	Lead (Pb)	0.1 mg/l	None set	<0.5*			
S1	Nickel (Ni)	0.5 mg/l	None set	<0.5*			
S1	Zinc (Zn)	1 mg/l	None set	<0.5*			
S1	Mercury (Hg)	5 µg/l	None set	<0.5*	Various EN standards available (i.e. EN ISO 17852, EN ISO 12846)		
S1	PFOA	None set	None set	<0.1	No EN standard available		
S1	PFOS	None set	None set	<0.1			

[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.

*Results are shown as <0.5 due to a change in the methodology used by our laboratory service provider following a review by UKAS. This has since been resolved and analysis is completed to a higher resolution. Unfortunately for 2023, we cannot provide results to a higher resolution.

B. Annual production/treatment data

The performance parameters for the facility were as follows:

Annual Production / Treatment		Units
Amount of waste treated in the heat disinfection unit	7369	Tonnes

C. Annual performance parameters

Energy Usage

Form Number: Energy1 / 07/05/21

Energy Source	Energy Usage Quantity	Primary Energy (MWh)	Specific Usage (MWh/unit output)
Electricity *	MWh	1314	0.18
Natural Gas	MWh	803	0.108
Gas Oil	tonnes		
Recovered Fuel Oil	tonnes		
TOTAL	-	2,117	

* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments :

Water Usage

Form Number: WaterUsage1 / 07/05/21

Water Source	Usage (m^3/year	Specific Usage (m^3/unit output)
Site borehole	N/A	N/A
River abstraction	N/A	N/A
Mains water	1070	0.145
TOTAL WATER USAGE	1070	0.145

Operator's comments :

Performance

Form Number: Performance1 / 07/05/21

Parameter		Units
Generation of residue waste	7369	Tonnes
Generation of waste water	1070	m^3
Total raw material used		tonnes

Operator's comments :