Permit Number: EPR/BV4177IS Operator: Volac International Ltd

Facility: Volac Felinfach Form Number: Air1 / 25/01/2023

Reporting of emissions to air for the period from 01/01/2022 **to** 31/12/2022

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Monitoring frequency	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty[4]
A15	1BSulphur Dioxide (SO_2)	30 mg/m^3	Periodic	Annual	0.10	BS EN 14791	31/08/2022	052 (MU)+/-
A15	2BOxides of Nitrogen (NO and NO_2 expressed as NO_2)	250 mg/m^3	Periodic	Annual	80.6	BS EN 14792	31/08/2022	129 (MU)+/-
A15	3BTotal Particulate Matter (PM)	10 mg/m^3	Periodic	Annual	9.9	BS EN 13284-1	31/08/2022	6.8 (MU)+/-
A15	4BCarbon Monoxide (CO)	150 mg/m^3	Periodic	Annual	12.6	BS EN 15058	31/08/2022	757 (MU)+/-
A15	5BCarbon Monoxide (CO)	150 mg/m^3	Hourly average	Continuous Measurement	28.7	BS EN 14181[5]	31/08/2022	11%

Signed …… …… Date….25/01/2023

(Authorised to sign as representative of Operator)

Operator's comment:
The rationale for using 11% O2 for the 2020 annual monitoring exercise at emission point A15 is advise from DEFRA volume components of the concentration and the specific flue gas volume need to be the same – a dry flue gas at 0°C, 101.3 kPa and at the same defined oxygen concentration. Typically, the reference oxygen content for wood combustion is 6, 10 or 11%"

[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] CEMs which meet the MCERTS requirements should also follow the principles of EN 14181 (i.e. QAL2/AST and QAL3) but a reduced number of parallel measurements may be acceptable (subject to NRW approval).

Permit Number: EPR/BV4177IS Operator: Volac International Ltd

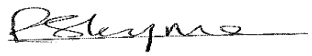
Facility: Volac Felinfach Form Number: Water1 / 25/01/2023

Reporting of emissions to water (other than to sewer) and land for the period from 01/01/2022 **to** 31/12/2022

Monthly visual inspection of discharge to waterway W1 and W2

Emission Point	Permit Limit	Test Method	Month	Result	Inspection Date	Name
W1	Visible solids, oil or grease	Visual check	January	Free of any of the stated substances.	10/01/2022 09:25	P Skyme
			February	Free of any of the stated substances.	07/02/2022 09:40	P Skyme
			March	Free of any of the stated substances.	07/03/2022 10:00	P Skyme
			April	Free of any of the stated substances.	04/04/2022 09:20	P Skyme
			May	Free of any of the stated substances.	10/05/2022 09:10	P Skyme
			June	Free of any of the stated substances.	06/06/2022 09:25	P Skyme
			July	Free of any of the stated substances.	04/07/2022 09:00	P Skyme
			August	Free of any of the stated substances.	08/08/2022 09:30	P Skyme
			September	Free of any of the stated substances.	05/09/2022 09:00	P Skyme
			October	Free of any of the stated substances.	03/10/2022 08:55	P Skyme
			November	Free of any of the stated substances.	07/11/2022 09:05	P Skyme
			December	Free of any of the stated substances.	05/12/2022 09:00	P Skyme

W2	Visible solids, oil or grease	Visual check	January	Free of any of the stated substances.	10/01/2022 09:25	P Skyme
			February	Free of any of the stated substances.	07/02/2022 09:40	P Skyme
			March	Free of any of the stated substances.	07/03/2022 10:00	P Skyme
			April	Free of any of the stated substances.	04/04/2022 09:20	P Skyme
			May	Free of any of the stated substances.	10/05/2022 09:10	P Skyme
			June	Free of any of the stated substances.	06/06/2022 09:25	P Skyme
			July	Free of any of the stated substances.	04/07/2021 09:00	P Skyme
			August	Free of any of the stated substances.	08/08/2022 09:35	P Skyme
			September	Free of any of the stated substances.	05/09/2022 09:00	P Skyme
			October	Free of any of the stated substances.	03/10/2022 08:55	P Skyme
			November	Free of any of the stated substances.	07/11/2022 09:05	P Skyme
			December	Free of any of the stated substances.	05/12/2022 09:00	P Skyme



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(Authorised to sign as representative of Operator)

Date…25/01/2023……...

Reporting of other performance indicators for the period 01/01/2022 **to** 31/12/2022

Parameter	Quantity	Units
Total production	58,364	tonnes
		tonnes

Operator's comments:
Genesis Dryer 32,113T Aeron Dryer 9,692T Lactose Dryer 16,558T

Signed ……. Date…26 January 2023……...
(Authorised to sign as representative of Operator)

Facility: Volac Felinfach Form Number: S1 / 25/01/2023

Reporting of Emissions to Sewer for the period from 01.01.22 to 31.12.22

Emissions to Sewer							
Emission Point	**Substance / Parameter**	**Emission Limit Value**	**Result [1]**	**Test Method [2]**	**Sample Date and Times [3]**	**Accreditation/ Certification [4]**	**Uncertainty [5]**
S1	Biological oxygen demand	10,000 mg/l [6]	3.330	*WAS001*	*May 2022*	*ALS Environmental*	
S1	Chemical oxygen demand	22,162 mg/l [6]	*5280*	*WAS040*	*June 2022*	*UKAS*	
S1	Copper	1.0 mg/l [6]	*0.019*	*WAS049*	*Mar 2022*	*1314*	
S1	Lead	1.0 mg/l [6]	*0.006*	*WAS049*	*June 2022*	*0897*	
S1	Nitrogen, Total Oxidised as N	50 mg/l [6]	*16.0*	*WAS036*	*Dec 2022*	*1229*	
S1	Phosphate as P	150 mg/l [6]	*147*	*WAS036*	*Jul 2022*	*1510*	
S1	Suspended solids	3,324 mg/l [6]	*360*	*WAS006*	*Jan 2022*	*4409*	
S1	Flow	No limit applies to flow	*99.66m3*	*meter*	*07/07/2022*	*MCERTS*	*+/- 0.2%*

[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.

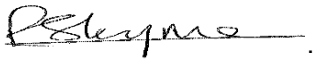
[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. colorimetry.

[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. The following uncertainties are quoted on a different basis (basis as stated) – {The basis of any other uncertainty figure needs to be stated. Where no figure is available the Agency will need to agree an appropriate uncertainty value.}

[6] The emission limit values for biological oxygen demand, cadmium and its compounds, chemical oxygen demand, copper, lead, mercury and its compounds, nitrogen, phosphate and suspended solids are expressed as a maximum individual value.

Signed ……  …. Date……26 January 2023 ……..

(Authorised to sign as representative of the Operator)

Permit Number: EPR/BV4177IS Operator: Volac International Ltd

Facility: Volac Felinfach Form Number: R1 / 25/01/2023

Reporting of Waste Disposal and Recovery for the year 01.01.22 to 31.12.22

Waste Disposal & Recovery			
Waste Description	Disposal		Recovery
	Route	Tonnes	Tonnes
1) Hazardous Wastes			
Named haz. Waste		5.47	0
Other hazardous wastes			
Total hazardous waste		5.47	0
2) Non-Hazardous Wastes	Land Fill	81.25	35.52
Named non-haz. Waste	Land Injected	0	0
Other non-hazardous wastes		0	0
Total non-hazardous waste		81.25	35.52
TOTAL WASTE		86.72	35.52

Trends in Waste Disposal and Recovery			
Year	Parameter		
	Named Waste	Total Waste	Waste per unit output
2020	Recovery	92.759	0.00143
2020	Land Fill	48.802	0.00075
2020	Land Injected	0	0
2021	Recovery	96.09	0.00218
2021	Land Fill	43.761	0.00099
2021	Land Injected	0	0
2022	Recovery	35.52	0.060
2022	Land Fill	81.25	0.139
2022	Land Injected	0	0

Operator's comments...

Increase in waste to landfill due to onsite project and contractor works.

Signed …….. Date……26 January 2023 ……..

(Authorised to sign as representative of the Operator)

Permit Number: EPR/BV4177IS Operator: Volac International Ltd

Facility: Volac Felinfach Form Number: WU1 / 25/01/2022

Reporting of Water Usage for the year 01.01.22 to 31.12.22

Water Usage		
Water Source	Usage (m^3)	Specific Usage (m^3/t)
Mains water	147,557	2.528*m3/T*
Site borehole	239,836	4.109*m3/T*
River abstraction		
TOTAL WATER USAGE	387,393	6.638*m3/T*

Trends in Water Usage			
Year	Parameter		
	Named Water source	Total Water usage	Water per unit output
2020	Mains	45,997	0.666m3/T
2020	Extracted Water	283,338	4.105m3/T
2021	Mains	132,218	2.197m3/T
2021	Extracted Water	284,025	4.719m3/T
2022	Mains	147,557	2.528m3/T
2022	Extracted Water	239,836	4.109m3/T

Operator's comments :

A rise in water use due to increased production has been noted in 2022. A bore hole was lost and this resulted in an increase in mains water use

Signed ……. Date……26 January 2023……..

(Authorised to sign as representative of the Operator)

Permit Number: EPR/BV4177IS Operator: Volac International Ltd

Facility: Volac Felinfach Form Number: E1 / 25/01/2022
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Reporting of Energy Usage for the year 01.01.22 to 31.12.22

Energy Usage			
Energy Source	Energy Usage		Specific Usage (MWh/unit output)
	Quantity	Primary Energy (MWh)	
Electricity *	19,044,090kWh	19,044	0.326 MWh per tonne of output
LNG	61,044,916 kWh	61,044	1.046 MWh per tonne of output
Kerosene	396,263 Ltr	4,101	0.070 MWh per tonne of output
Biomass wood	54,803 Tonnes	137,008**	
TOTAL		221,197	3.790 MWh per tonne of output

* Conversion factor for delivered electricity to primary energy = 2.6

Operator's comments :
*Electricity is grid power only. Remaining electricity was supplied from the VREL Biomass of which the biomass wood is the primary source
** Primary Energy – total tonnes of wood multiplied by 9 (avg. GJ /T) * 0.277778 = MWh

Signed ……. Date……26 January 2023……..
(Authorised to sign as representative of the Operator)