

Form Number : MR1 Reporting of Mass Emissions to Sewer for the period from ...1 January 2021.....to...31 December 2021.....

Emission Point	Substance / Parameter	Emission Limit Value	Result ^[1]	Annual mass ^[2]
S1 and S2	Mercury and its compounds	0.005 mg/l	<0.00001mg/l	
S1 and S2	Mercury and its compounds	0.9 g		0 g/m ³
S1 and S2	Cadmium and its compounds	0.01 mg/l	<0.00007mg/l	
S1 and S2	Cadmium and its compounds	0.3 g		0 g/m ³

[1] The result is given as a mass balance calculation, definition as given in condition 6.1.1

[2] The Annual Mass is given as a mass balance calculation, definition as given in condition 6.1.1

Signed ...
(a

.....
ve of the Operator)

Date...26 JAN 2022

Form Number : R1 Reporting of Waste Disposal for the year 2021

Waste Disposal & Recovery

Waste Description	Disposal		Recovery	
	Route	Tonnes	Tonnes	
1) Hazardous Wastes				
Lead and lead oxide waste	EnviroWales	924.28	924.28	
Other hazardous waste	See below	212.18	22.43	
Total hazardous waste		1136.46		
2) Non-Hazardous Wastes	See below	360.52	187.47	
Total non-hazardous waste		360.52	187.47	
TOTAL WASTE	-	1496.98	931.854	

Trends in Waste Disposal and Recovery

Year	Parameter		Total Waste	
	Hazardous waste			
	Tonnes	per unit output [1]	Tonnes	per unit output [1]
2013	1053.352	0.0542732	1264.863	0.0651712
2014	1054.71	0.0653937	1260.908	0.0781783
2015	1088.849	0.0649330	1249.611	0.0745200
2016	1116.079	0.0649365	1276.536	0.0742724
2017	1404.312	0.0794441	1645.108	0.0930663
2018	1133.9434	0.0610909	1395.0634	0.0751587
2019	1046.445	0.0575286	1330.159	0.0731259
2020	958.54	0.0529232	1174.104	0.0648250
2021	1136.46	0.0630102	1496.984	0.0829993

[1] Waste per unit output should be quoted in units of waste produced from battery process / tonnes of battery produced per year.

Operator's comments :

A review of waste has again been undertaken throughout 2021 to ensure the accuracy of the figures reported.

Hazardous and total waste has increased when compared with 2020 (reduced production due to covid) and a full description, along with an analysis of changes between 2020 and 2021 is appended to this report.

Signed
(authoritative of the Operator)

Date: 26 Jan 2022

Water Usage			Trends in Water Usage		
Water Source	Annual Usage (m ³)	Water per unit output ⁽¹⁾ (m ³ /t)	Year	Parameter	Water per unit output ⁽¹⁾
Abstraction Borehole	14228.00m ³		2016	Total Water usage	5.0484031
Mains water	45809.00m ³		2017		5.5428841
Recycled Effluent	14359.00m ³		2018		4.8598272
			2019		4.1400267
			2020		4.2230286
TOTAL WATER USAGE	74396.00m ³	4.1248385	2021		4.1248385

[1] Water per unit output should be quoted in units of total water use / tonnes of battery produced per year.

Operator's comments :
Abstracted water:-

Borehole A = 8181m³, Borehole B = 6047m³, Total Abstracted = 14228m³
Mains Water total = 45809m³

No water has been extracted from Boreholes A and B since June 2021 due to levels of manganese in domestic water.

Total water consumption has reduced in 2021 by 2091m³ and the amount of recycled water also decreased by 1241 m³.

Signed Date: 26 Jan 2022
(a representative of the Operator)

Form Number : E1 Reporting of Energy Usage for the 2021

Energy Usage			
Energy Source	Energy Usage		CO ₂ Produced (tonnes)
	Quantity	Primary Energy (MWh)	
Electricity *	21016.69 MWh	50440.06	5273.398
Natural Gas	6662.056 MWh	6662.056	1222.395
TOTAL	27678.746 MWh	57102.116	6495.793

Trends in Energy Usage			
Year	Parameter	CO ₂ produced	CO ₂ per unit output ^[1]
2017	Primary Energy usage	56257.718	0.5145636
2018	59302.1274	7939.776	0.4277535
2019	58576.7598	7238.58	0.3979432
2020	58002.7822	6653.342	0.3673467
2021	57102.116	6495.793	0.3601556

* Conversion factor for delivered electricity to primary energy = 2.4

[1] CO₂ per unit output should be quoted in units of total CO₂ produced / tonnes of battery produced per year.

Operator's comments :

CO₂ emissions are calculated using the DEFRA CO₂ emission factors, which includes factors for electricity transmission and distribution. Primary energy has continued to be calculated using the 2.4 conversion factor above.

Energy efficiency continues to be an objective and target for continued improvement.

Signed
(authoritative of the Operator)

Date: 26 Jan 2022

Permit Reference Number : EPR/BV5386IX Operator : GS Yuasa Battery Manufacturing UK Ltd Installation : GS Yuasa Battery Manufacturing UK Ltd

Form Number : P11 Reporting of Performance Indicators for the year ...2021.....

Annual Production/Treatment

Production of batteries produced per year

18036.10 tonnes

Environmental Performance Indicators

Performance Indicators

Parameter [1]	Annual Mass	Units
COD	0.02158116	kg/tonne
Mass of lead released from A1 – A7 and A9 - A26	0.00180920	kg/tonne
Mass of lead released to sewer	0.00869888	kg/tonne

Trends in Environmental Performance

Year	Parameter [1]		
2014	0.1252405	0.0048269	0.0112394
2015	0.1387867	0.0051848	0.0104550
2016	0.0687224	0.0028735	0.0041387
2017	0.1018004	0.0027847	0.0081119
2018	0.1076151	0.0023237	0.0123617
2019	0.0977397	0.0025575	0.0083109
2020	0.0757503	0.0015204	0.0051065
2021	0.0215811	0.0018092	0.0086988

[1] Performance indicators should be quoted in units of parameter / tonnes of battery produced per year

Operator's comments

- COD mass to sewer = 389.24 kg/year / 18036.10 tonnes of battery produced = 0.0215811 kg/tonne.
- Lead mass from stacks = 32.632 kg/year / 18036.10 tonnes of battery produced = 0.0018092 kg/tonne.
- Lead mass to sewer = 156.894 kg/year / 18036.10 tonnes of battery produced = 0.00869888 kg/tonne.
- COD to Sewer: - Annual COD release has been calculated from the average of the maximum monthly figures recorded from both AL5 and Dwr Cymru quarterly samples. Samples were taken in each month of January to December and for factories 2 and 4.
- Stacks:- In 2021 there has been an increase in the lead mass from stacks compared to 2020 as production was suspended for a number of months in 2020 due to covid
- Lead to Sewer: - The annual Lead release for S1 and S2 has been calculated from the average of the maximum monthly GS Yuasa figures recorded for each month of 2020.
- Total Lead to sewer has increased in 2021 consistent with pre-covid levels of 2019.

Signed ...

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ve of the Operator)

Date...

26 Jan 2022

EPR/BV5386IX

July 2017