

Form Number : MR1 Reporting of Mass Emissions to Sewer for the period from ... 1 January 2024 to 31 December 2024.....

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 ..  Date 29.01.25

(authorised to sign as representative of the Operator)

Waste Disposal & Recovery			
Waste Description	Disposal Route	Tonnes	Recovery Tonnes
1) Hazardous Wastes			
Lead and lead oxide waste	EnviroWales	848.04	848.04
Other hazardous waste	See below	191.10	8.62
Total hazardous waste		1039.14	856.66
2) Non-Hazardous Wastes	See below	101.43	183.98
Total non-hazardous waste		101.43	183.98
TOTAL WASTE		1140.57	1040.64

Trends in Waste Disposal and Recovery				
Year	Parameter	Hazardous waste		Total Waste
	Tonnes	per unit output [1]	unit	Tonnes
2016	1116.079	0.0649365		1276.536
2017	1404.312	0.0794441		1645.108
2018	1133.9434	0.0610909		1395.0634
2019	1046.445	0.0575286		1330.159
2020	958.54	0.0529232		1174.104
2021	1136.46	0.0630102		1496.984
2022	1174.69	0.0696913		1421.393
2023	966.66	0.0629988		1211.073
2024	1039.14	0.0723907		1333.176

[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 :

Overall waste output in 2024 has increased from 2023 due to an increase in the battery tonnage over the period

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Water Usage		
Water Source	Annual Usage (m ³)	Water per unit output [1] (m ³ /t)
Abstraction Borehole	28532 m ³	
Mains water	41735 m ³	
Recycled Effluent	6626 m ³	
TOTAL WATER USAGE	76899 m³	5.35709

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

Trends in Water Usage		
Year	Parameter	
	Total Water usage	Water per unit output [1]
2019	75307.0m ³	4.140026
2020	76487.0m ³	4.223028
2021	74396.0m ³	4.124838
2022	78561.0m ³	4.660824
2023	71890.0m ³	4.685188
2024	76899 m ³	5.35709

Operator's comments :
 Abstracted water:-

Borehole A = 21641m³, Borehole B = 6891m³, Total Abstracted = 28532m³
 Mains Water total = 41735m³

Total water used = 76899 m³

Total water consumption has increased in 2024 by 5009 m³.

Sign 

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Energy Usage			
Energy Source	Energy Usage		CO ₂ Produced (tonnes)
	Quantity	Primary Energy (MWh)	
Electricity *	16481.928 MWh	32963.856	6825.516
Natural Gas	6243.061 MWh	6243.061	1265.1
Renewables	1627.09337 MWh	1627.9337	0.00
TOTAL	24352 MWh	40834.9507	8090.616

Trends in Energy Usage			
Year	Parameter	CO ₂ produced	CO ₂ per unit output (1)
2020	Primary Energy usage	58002.7822	6653.342
2021		57102.116	6495.793
2022		56807.704	5972.410
2023		47556.923	5237.435
2024		40834.9507	8090.616

* Conversion factor for delivered electricity to primary energy = 2.0
 [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 2.0 conversion factor above.

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

Annual Production/Treatment		15344.10 tonnes
Production of batteries produced per year		

Performance Indicators		Environmental Performance Indicators					
Parameter [1]	Annual Mass	Units	Trends in Environmental Performance				
			Year	Parameter [1]			
COD	0.20047	kg/tonne	2017	0.1018004	0.0027847	0.0081119	
Mass of lead released from A1 – A94	0.00127624	kg/tonne	2018	0.1076151	0.0023237	0.0123617	
			2019	0.0977397	0.0025575	0.0123617	
Mass of lead released to sewer	0.0039499	kg/tonne	2020	0.757503	0.0015204	0.0051065	
			2021	0.0215811	0.0018092	0.0086988	
			2022	0.0877180	0.0018092	0.0086988	
			2023	0.0231488	0.00235736	0.0031608	
			2024	0.20047	0.00127624	0.0039499	

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

Operator's comments

- COD mass to sewer = 332.29 kg/year / 14354.6tonnes of battery produced = 0.02314883 kg/tonne.
- Lead mass from stacks = 18.32 kg/year / 14354.6tonnes of battery produced = 0.00127624 kg/tonne.
- Lead mass to sewer = 56.70 kg/year / 14354.6tonnes of battery produced = 0.0039499 kg/tonne.
- COD to Sewer: - Annual COD release has been calculated from the average of the monthly figures. Samples were taken in each month of January to December and for factories 2 and 4.
- Stacks:- 2024 shows an reduction in stack emissions.
- Lead to Sewer: - The annual Lead release for S1 and S2 has been calculated from the average of the monthly GS Yuasa figures recorded for each month of 2024.
- Total Lead to sewer has reduced in 2024.

Signed [Redacted Signature] Date: 29.01.25
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