

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

GS Yuasa Battery Manufacturing UK
Limited

Rassau Battery Manufacturing Site
Unit 22
Rassau Industrial Estate
Ebbw Vale
Gwent
NP23 5SD

Permit number
EPR/BV5386IX

Rassau Battery Manufacturing Site

Permit number EPR/BV5386IX

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

GS Yuasa Battery Manufacturing UK Limited (Yuasa) at Rassau Battery Manufacturing Site in Ebbw Vale manufactures valve regulated, sealed, lead acid batteries. The main raw materials used are lead and sulphuric acid. The site also manufactures lead oxide by the Shimadzu process, an essential ingredient in the production of batteries. The site operates to a certified ISO 14001 Environment Management System.

Several batch processes take place to produce the batteries, including melting of lead ingots to form the battery plates and pellets, production of lead oxide from lead pellets in rotary mills, production of lead paste for the manufacture of the battery plates, injection moulding of battery cases, and final charging of the batteries.

There is a total of 67 releases to air. There are two releases to sewer from the two on site effluent treatment plants and one release of uncontaminated surface water to Cwm Nant Melyn. Ambient monitoring for lead is undertaken around the site and at a local sensitive receptor.

The status log of the permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application BV5386IX received	24/12/04	
Response to request for information	Request dated 11/02/05 and 23/03/05	Response dated 15/02/05, 16/02/05, 25/02/05, 28/02/05, 02/03/05, 23/03/05, 24/03/05
Permit determined	09/05/05	Permit issued to Yuasa Battery (UK) Limited
Variation application VP3731UW received	03/09/07	
Response to request for information	Request dated 15/09/07, 30/10/07, 09/11/07	Response dated 21/09/07, 22/10/07, 25/10/07, 07/11/07, 09/11/07
Variation notice VP3731UW issued	19/12/07	

Variation application EPR/BV5386IX/V003 received & duly made	17/07/13	
Variation EPR/BV5386IX/V003 determined	17/10/13	Varied permit issued
Regulation 60(1) Notice of request for information	25/07/16	
Regulation 60(1) response received	28/10/16	Implementation of BAT conclusions under IED
Variation EPR/BV5386IX/V004	Received 03/04/17	Operator initiated variation to incorporate change to air emission points A5 and A27 with sector review variation.
Variation EPR/BV5386IX/V004 determined following non ferrous metal sector review and incorporation of variation to update emission points	13/06/17	Consolidated permit issued to GS Yuasa Battery Manufacturing UK Limited
NRW-led variation determined EPR/BV5386IX/V005	31/07/19	Regulator initiated variation to correct table S3.1 reference period for Lead.
Variation application EPR/BV5386IX/V006 received	Duly made 02/11/2020	
Request for further information	Request dated 16/12/2020	Response dated 24/02/2021
Variation EPR/BV5386IX/V006 determined	07/05/2021	Varied and consolidated permit issued to GS Yuasa Battery Manufacturing UK Limited

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number
EPR/BV5386IX

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BV5386IX/V006 authorising,

GS Yuasa Battery Manufacturing UK Limited (“the operator”),
whose registered office is

Unit 22
Rassau Industrial Estate
Ebbw Vale
Gwent
NP23 5SD

company registration number **01561536**
to operate an installation at

Rassau Battery Manufacturing Site
Unit 22
Rassau Industrial Estate
Ebbw Vale
Gwent
NP23 5SD

to the extent authorised by and subject to the conditions of this permit.

Signed

Date

Holly Noble	7th May 2021
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Authorised on behalf of Natural Resources Wales

Conditions

Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
- (b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.2 Energy efficiency

1.2.1 The operator shall:

- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
- (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
- (c) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

1.3.1 The operator shall:

- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
- (b) maintain records of raw materials and water used in the activities;
- (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
- (d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

1.4.1 The operator shall take appropriate measures to ensure that:

- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
- (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and

- (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.
- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1
 - (a) The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by Natural Resources Wales.
 - (b) If notified by Natural Resources Wales that the activities are giving rise to pollution, the operator shall submit to Natural Resources Wales for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.
- 2.3.2 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
 - (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;
 - (d) the hazardous property associated with the waste, if applicable; and
 - (e) the waste code of the waste.
- 2.3.3 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by Natural Resources Wales.

- 2.4.2 Except in the case of an improvement which consists only of a submission to Natural Resources Wales, the operator shall notify Natural Resources Wales within 14 days of completion of each improvement.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1, S3.2 and S3.3.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Total annual emissions from the emission points set out in tables schedule 3 S3.1, S3.2 and S3.3 of a substance listed in schedule 3 table S3.4 shall not exceed the relevant limit in table S3.4.
- 3.1.4 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
- (a) if notified by Natural Resources Wales that the activities are giving rise to pollution, submit to Natural Resources Wales for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.3.2 The operator shall:

- (a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to odour, submit to Natural Resources Wales for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
- (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.4.2 The operator shall:
 - (a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to noise and vibration, submit to Natural Resources Wales for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
 - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by Natural Resources Wales, undertake the monitoring specified in the following tables in schedule 3 to this permit:
 - (a) point source emissions specified in tables S3.1, S3.2 and S3.3;
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by Natural Resources Wales.
- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.2 and S3.3 unless otherwise agreed in writing by Natural Resources Wales.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

- (a) be legible;
- (b) be made as soon as reasonably practicable;
- (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
- (d) be retained, unless otherwise agreed in writing by Natural Resources Wales, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by Natural Resources Wales.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to Natural Resources Wales using the contact details supplied in writing by Natural Resources Wales.

4.2.2 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 Resources Wales) each year. The report(s) 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 Natural Resources Wales, submit reports of 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 from such results and assessments as may be required by the forms specified in those tables.

- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to Natural Resources Wales, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 Notifications

- 4.3.1 (a) In the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
- (i) inform Natural Resources Wales,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) in the event of a breach of any permit condition the operator must immediately—
- (i) inform Natural Resources Wales, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where Natural Resources Wales has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform Natural Resources Wales when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to Natural Resources Wales at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 Natural Resources Wales shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and
 - (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
- Where the operator is a corporate body other than a registered company:
- (a) any change in the operator's name or address; and
 - (b) any steps taken with a view to the dissolution of the operator.
- In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
 - (b) any change in the operator's name(s) or address(es); and
 - (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
 - (a) Natural Resources Wales shall be notified at least 14 days before making the change; and
 - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.6 Natural Resources Wales shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.4 Interpretation

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "without delay", in which case it may be provided by telephone.

Schedule 1 - Operations

Table S1.1 activities

Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A1	S2.2 A(1)(a) Producing non-ferrous metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic activities.	Melting and casting of primary lead in 1 furnace processing <4 tonnes per day.	From receipt of raw materials to production and storage of lead ingots, disposal of waste and emission of exhaust gases.
A2	S2.2 A(2)(a) Melting, including making alloys of, non-ferrous metals, including recovered products and operating of non-ferrous metal foundries where the plant has a melting capacity of more than 4 tonnes per day for lead or cadmium or 20 tonnes per day for all other metals, and – (i) no furnace (other than a vacuum furnace), bath or other holding vessel used in the plant for the melting has a design holding capacity of 5 or more tonnes.	Melting and casting of secondary lead in 11 furnaces with >4 tonnes per day capacity.	From receipt of raw materials to production of lead grids, disposal of waste and emission of exhaust gases.
A3	S2.2 B(a) Melting, including making alloys of, non-ferrous metals (other than tin or any alloy which in molten form contains 50 per cent or more by weight of tin), including recovered products (such as refining or foundry casting) in plant with a melting capacity of 4 tonnes or less per day for lead or cadmium or 20 tonnes or less per day for all other metals.	Melting and casting of secondary lead in 4 furnaces with <4 tonnes per day capacity.	From receipt of raw materials to production of strip cast lead, disposal of waste and emission of exhaust gases.
A4	S4.2 A(1)(a) Producing inorganic chemicals such as - (v) non-metals, metal oxides, metal carbonyls or other inorganic compounds (for example calcium carbide, silicon, silicon carbide, titanium dioxide).	Production of lead oxide from lead pellets.	From receipt of lead pellets to production and storage of lead oxide, waste and emission of exhaust gases.

Table S1.1 activities

Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A5	S4.2 A(1)(c) Unless falling within any other Section, any manufacturing activity (other than the application of a glaze or vitreous enamel) involving the use of, or the use or recovery of, any compound of any of the following elements - (vi) lead; where the activity may result in the release into the air of any of those elements or compounds or the release into water of any substance listed in paragraph 7(1) of Part 1 of this Schedule.	Manufacture of lead paste and cutting of lead sheet to form expanded grids.	From receipt of lead oxide to production of lead paste and manufacture of grids, disposal of waste, effluent and emission of exhaust gases.
Directly Associated Activity			
A6	Production, construction of charging batteries - including the preparation of moulded cases, assembly, sealing and charging.	-	From receipt of materials and components to dispatch of batteries, storage of waste for recycling or disposal and emission of exhaust gases.
A7	Quality control, fault testing and investigation of manufactured batteries - including voltage tests and manual disassembly of failed batteries to allow fault analysis.	-	From receipt of manufactured batteries to testing and recycling or disposal of waste. Activities shall comply with Annex III, Part A of Directive 2006/66/EC.
A8	Combustion processes that are <20MWth input	-	From receipt of raw materials to production and disposal of waste, effluent and emission of exhaust gases.
A9	Treatment of abstracted water	-	From receipt of raw materials and borehole water to dispatch within the installation.
A10	Effluent treatment	-	From receipt of raw materials and effluent to discharge of treated effluent to sewer.
A11	Surface water discharge	-	-

Table S1.2 Operating techniques

Description	Parts	Date Received
Application	The response to questions 2.1 and 2.2 given in the following sections of the application Section 2.1 Section 2.2 excluding tables 2.2.1, 2.2.1a & b, 2.2.2, 2.2.3, 2.2.4 and appendix Section 2.3 excluding appendices 2, 3, 4 & 5 Section 2.4 Section 2.5 excluding table 2.5.1 Section 2.6 Section 2.7 excluding table 2.7.3 and appendices 1, 2, 3 & 4 Section 2.8 excluding appendices 1 & 2 Section 2.9 excluding appendix 1 Section 2.10 excluding appendix 1 Section 2.11	24/12/04
Further information	Regarding above sections of the installation boundary	15/02/05, 16/02/05 and 25/02/05
Variation application VP3731UW	The response to question 2.1 – 2.11 given in the application, including the supplementary information; report detailing proposed modifications to battery storage	09/07/07
Response to Regulation 60 Notice	All parts	28/10/16
Variation application EPR/BV5386IX/V004	Supporting documentation – Application form C3	03/04/17
Variation application EPR/BV5386IX/V006	Application forms and supporting documentation	30/06/20
Further information provided for variation application EPR/BV5396IX/V006	Environmental Visage report titled 'Additional Information for Application PAN-010830' Environmental Visage report titled 'Detailed Air Quality Assessment of Lead Emissions from GS Yuasa Battery Manufacturing UK Rassau Industrial Estate, Ebbw Vale	24/02/21

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
1	The operator shall submit, for approval by Natural Resources Wales, a report setting out progress to achieving the BAT Conclusions and BAT-AEL's where BAT is currently not achieved but will be achieved by the 30th June 2020. The report shall include, but not be limited to, the following: 1. Current performance against the BAT Conclusions and BAT-AEL. 2. Methodology for reaching the AELs. 3. Associated targets / timelines for reaching compliance by 30th June 2020. The report shall address all of the relevant BAT Conclusions	Completed
2	Submit a written plan to NRW assessing sampling techniques against ISO 5667. The plan must contain dates for the implementation of individual measures necessary to demonstrate adherence to ISO 5667. The notification requirements of condition 2.4.2 will be deemed to have been complied with on submission of the plan.	Completed

Schedule 2 - Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels

Raw materials and fuel description	Specification
-	-

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1, Factory 2 ^[1]	New Oxide Mill No.8	Lead	0.5mg/m ³	Periodic over minimum 30 minutes, maximum 8 hour period	Quarterly	BS EN 14385:2004
A2, Factory 2 ^[1]	Oxide Mill No.5					
A3, Factory 1 ^[1]	New Cutting/Brushing Extraction	Lead	0.1mg/m ³	Periodic over minimum 30 minutes, maximum 8 hour period	Quarterly	BS EN 14385:2004
A4, Factory 1 ^[1]	Casting Ladles 1-16	Lead	0.5mg/m ³	Periodic over minimum 30 minutes, maximum 8 hour period	Quarterly	BS EN 14385:2004
A5, Factory 2 ^[1]	Pellet Caster					
A6, Factory 1 ^[1]	Pasting Machine Mixers 2 & 3	Lead	<1 mg/m ³	Periodic over minimum 30 minutes, maximum 8 hour period	Quarterly	BS EN 14385:2004
A7, Factory 1 ^[1]	Expanded Grid Line and Flash Drying Oven No.1	Lead	<1 mg/m ³	Periodic over minimum 30 minutes, maximum 8 hour period	Quarterly	BS EN 14385:2004
A9, Factory 1 ^[1]	Lead Recycling	Lead	0.5mg/m ³	Periodic over minimum 30 minutes, maximum 8 hour period	Quarterly	BS EN 14385:2004
A10, Factory 1 ^[2]	Aging Oven 1	-	-	-	-	-
A11, Factory 2 ^[1]	Assembly Line 9A	Lead	0.5mg/m ³	Periodic over minimum 30 minutes, maximum 8 hour period	Quarterly	BS EN 14385:2004

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A18, Factory 1 ^[1]	Cutting Machines 1 - 7 Vacuum	Lead	<1 mg/m ³	Periodic over minimum 30 minutes, maximum 8 hour period	Quarterly	BS EN 14385:2004
A19, Factory 1 ^[1]	Dross Bins 1-8	Lead	0.5mg/m ³	Periodic over minimum 30 minutes, maximum 8 hour period	Quarterly	BS EN 14385:2004
A20, Factory 2 ^[1]	Oxide Mill No.6					
A21, Factory 1 ^[2]	Aging Oven 2	-	-	-	-	-
A23, Factory 2 ^[1]	Oxide Mill No.7	Lead	0.5mg/m ³	Periodic over minimum 30 minutes, maximum 8 hour period	Quarterly	BS EN 14385:2004
A24, Factory 2 ^[1]	Assembly Line 9 Extraction					
A26, Factory 1 ^[1]	Casting Pots 1-8					
A27, Factory 2 ^[1]	New Small Parts Furnace	Lead	<1 mg/m ³	Periodic over minimum 30 minutes, maximum 8 hour period	Quarterly	BS EN 14385:2004
A35, Factory 1 ^[2]	Hydro- setting Oven Lane 1	-	-	-	-	-
A36, Factory 1 ^[2]	Hydro- setting Oven Lane 2	-	-	-	-	-
A37, Factory 1 ^[2]	Pasting Machine No.2 Take Off	-	-	-	-	-
A38, Factory 2 ^[2]	Pellet Caster Gas Burner Stack 1	-	-	-	-	-
A39, Factory 2 ^[2]	Pellet Caster Gas Burner Stack 2	-	-	-	-	-
A40, Factory 2 ^[2]	Mill Extraction 8	-	-	-	-	-
A41, Factory 2 ^[2]	Mill Extraction 5	-	-	-	-	-
A42, Factory 2 ^[2]	Mill Extraction 6	-	-	-	-	-

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A43, Factory 2 ^[2]	Mill Extraction 7	-	-	-	-	-
A44, Factory 1 ^[2]	Flash Drying Oven No.2	-	-	-	-	-
A45, Factory 1 ^[2]	Flash Drying Oven No.3	-	-	-	-	-
A46, Factory 1 ^[2]	Gas Drying Oven No.1 Burner	-	-	-	-	-
A47, Factory 1 ^[2]	Gas Drying Oven No.1 Steam	-	-	-	-	-
A48, Factory 1 ^[2]	Gas Drying Oven No.2 Burner	-	-	-	-	-
A49, Factory 1 ^[2]	Gas Drying Oven No.2 Steam	-	-	-	-	-
A50, Factory 1 ^[2]	Gas Drying Oven No.3 Burner	-	-	-	-	-
A51, Factory 1 ^[2]	Gas Drying Oven No.3 Steam	-	-	-	-	-
A52, Factory 1 ^[2]	Gas Drying Oven No.9 Burner	-	-	-	-	-
A53, Factory 1 ^[2]	Gas Drying Oven No.9 Steam	-	-	-	-	-
A54, Factory 1 ^[2]	Gas Drying Oven No.10 Burner	-	-	-	-	-
A55, Factory 1 ^[2]	Gas Drying Oven No.10 Steam	-	-	-	-	-
A56, Factory 3 ^[2]	Combat Heater No.1, Factory 3 SW (outside canteen)	-	-	-	-	-
A57, Factory 3 ^[2]	Combat Heater No.2, Factory 3 SE (near shrink wrap machine)	-	-	-	-	-
A58, Factory 3 ^[2]	Combat Heater No.3, Factory 3 NE	-	-	-	-	-

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A61, Factory 1 ^[2]	Dross Recycling Burner	-	-	-	-	-
A62, Factory 1 ^[2]	Hydro- setting Oven Lanes 3&4 Steam	-	-	-	-	-
A63, Factory 2 ^[2]	Combat Heater No.5, Factory 2 Warehouse NE	-	-	-	-	-
A64, Factory 1 ^[2]	Combat Heater, Factory 1 Warehouse NE	-	-	-	-	-
A65, Factory 2 ^[2]	Assembly FT and Line 9A Lid Bonding and Terminal Seal	-	-	-	-	-
A66, Factory 2 ^[2]	Assembly Line 7 Lid Bonding and Terminal Seal	-	-	-	-	-
A67, Factory 2 ^[2]	Assembly Line 8 Lid Bonding and Terminal Seal	-	-	-	-	-
A68, Factory 2 ^[2]	Assembly Line 9 Lid Bonding and Terminal Seal	-	-	-	-	-
A69, Factory 4 ^[2]	Assembly Line 10 Heat Seal x 3 Workstations (1 stack)	-	-	-	-	-
A70, Factory 4 ^[2]	Assembly Line 10 Terminal Seal	-	-	-	-	-
A71, Factory 2 ^[2]	Assembly Ex Lines 1, 2 & 3 Lid Bonding and Terminal Seal	-	-	-	-	-

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A72, Factory 2 ^[2]	Assembly Charging Ex Lines 1, 2 & 3	-	-	-	-	-
A73, Factory 2 ^[2]	Assembly Charging Lines 7 & 9A	-	-	-	-	-
A74, Factory 2 ^[2]	Charging Line 8 Stack 1	-	-	-	-	-
A75, Factory 2 ^[2]	Charging Line 8 Stack 2	-	-	-	-	-
A76, Factory 2 ^[2]	Charging Line 8 Stack 3	-	-	-	-	-
A77, Factory 2 ^[2]	Charging Line 8 Stack 4	-	-	-	-	-
A78, Factory 1 ^[2]	Resin Decanting Room LEV	-	-	-	-	-
A79, Factory 1 ^[2]	Resin Mixing Room LEV	-	-	-	-	-
A80, Factory 1 ^[2]	Laboratory Fume Cabinet	-	-	-	-	-
A81, Factory 1 ^[2]	Laboratory Workbench LEV	-	-	-	-	-
A82, Factory 1 ^[2]	Laboratory AA Machine LEV	-	-	-	-	-
A83, Water Plant ^[2]	Water Treatment Plant Workbench LEV	-	-	-	-	-
A84, Factory 2 ^[2]	Welding Room LEV	-	-	-	-	-
A85 (Air Intake) ^[2]	Air Intake to No.2 Pasting Mixer	-	-	-	-	-

Note: [1] Emission points as shown on plan FPE-076-01, Revision G, received as part of additional information submitted for variation EPR/BV5386IX/V006

Note: [2] Emission points as shown on plan FPE-076-02, Revision E, received as part of variation application EPR/BV5386IX/V006

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
W1 on site drainage plan received 03/03/05 discharging to Cwm Nant Melyn	Uncontaminated site drainage	-	-	-	-	-

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1	Site effluent treatment plant at factory 1 and 2	Lead and its compounds expressed as lead (Total Pb)	10 mg/l	Spot Sample	Weekly	BS ISO 17294 – 2:2016. BS 6068 – 2.89
		Cadmium and its compounds expressed as cadmium (Total Cd)	0.01 mg/l		Annual	See Note [3]
		Mercury and its compounds, expressed as mercury (Total Hg)	0.005 mg/l		Annual	
		pH	6 - 11		Daily	-
S2	Site effluent treatment plant at factory 4	Lead and its compounds expressed as lead (Total Pb)	5 mg/l	Spot Sample	Weekly	BS ISO 17294 – 2:2016. BS 6068 – 2.89
		Cadmium and its compounds expressed as cadmium (Total Cd)	0.01 mg/l		Annual	See Note [3]
		Mercury and its compounds, expressed as mercury (Total Hg)	0.005 mg/l		Annual	
		pH	6 - 11		Daily	-

[3] Compliance based on Mass Balance Calculation.

Table S3.4 Annual limits

Substance	Medium	Limit (including unit)
Mercury	Water	0.9 g in a year
Cadmium	Water	0.3g in a year

Table S3.5 Process monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
A27 – A37	Temperature of the furnace to be maintained at <500°C. If temperature is >500°C for more than 1 hour the Operator shall notify NRW	Continuous	Not applicable	-
A1, A2, A20 and A23 abatement	Maintain pressure drop across the abatement between 2 and 6 inch water gauge.	Continuous	Not applicable	-
A35, A36, A38, A39, A46, A48, A50, A52, A54, A56 –A58, A62 – A64	Annual efficiency testing to be carried out at each combustion source of each release point.	Annual	Not applicable	-

Schedule 4 - Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Lead mg/m ³ .	A1 – A7, A9, A11, A18 – A20, A23, A24, A26 and A27	Quarterly	17/10/2003
pH	S1 and S2	Quarterly	
Lead mg/l	S1 and S2	Quarterly	
Cadmium and its compounds mg/l	S1 and S2	Annual	
Mercury and its compounds mg/l	S1 and S2	Annual	
Cadmium and its compounds g	S1 and S2	Annual	
Mercury and its compounds g	S1 and S2	Annual	
Copper and its compounds	S1 and S2	Six monthly	
Zinc and its compounds	S1 and S2	Six monthly	
Nickel and its compounds	S1 and S2	Six monthly	
Chromium and its compounds	S1 and S2	Six monthly	
Chemical Oxygen Demand mg/l	S1 and S2	Six monthly	
Total suspended solids mg/l	S1 and S2	Six monthly	
Sulphate mg/l	S1 and S2	Six monthly	
Flow m ³ /day	S1 and S2	Annual	
Lead µg/m ³	Ambient monitors No.1228 (NE of the site) And No.1227 (SW of the site)	Annual	
Lead mg/m ³ (from continuous particulate monitors)	Particulate Monitors (PCME DT990)	Quarterly	
Combustion source efficiency	A35, A36, A38, A39, A46, A48, A50, A52, A54, A56 – A58, A62 – A64	Annual when in service	
Water usage	Installation	Annual	
Energy usage	Installation	Annual	
Waste disposal and/or recovery	Installation	Annual	

Table S4.2: Annual production

Parameter	Units
Batteries produced per year	tonnes

Table S4.3 Performance parameters

Parameter	Frequency of assessment	Units
COD	Annually	COD kg/t
Mass of lead released at A1 – A7, A9, A11, A18 – A20, A23, A24, A26 and A27	Annually	kg/t

Table S4.3 Performance parameters

Parameter	Frequency of assessment	Units
Mass release of lead to sewer	Annually	kg/t

Table S4.4 Reporting forms

Media/parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by Natural Resources Wales	17/10/2013
Sewer	Form sewer 1 or other form as agreed in writing by Natural Resources Wales	09/05/2005
Mass release	MR1	09/05/2005
Ambient	Annual Report	09/05/2005
Water usage	Form water usage 1 or other form as agreed in writing by Natural Resources Wales	09/05/2005
Energy usage	Form energy 1 or other form as agreed in writing by Natural Resources Wales	09/05/2005
Waste Return	Waste Return form available from http://naturalresources.wales/waste/new-wales-operator-waste-return	-
Other performance indicators	Form performance 1 or other form as agreed in writing by Natural Resources Wales	09/05/2005

Schedule 5 - Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any activity that gives rise to an incident or accident which significantly affects or may significantly affect the environment	
To be notified Immediately	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a permit condition	
To be notified immediately	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) In the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment:	
To be notified immediately	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B - to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 - Interpretation

“*accident*” means an accident that may result in pollution.

“*application*” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“*authorised officer*” means any person authorised by Natural Resources Wales under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“*background concentration*” means such concentration of that substance as is present in:

- for emissions to surface water, the surface water quality up-gradient of the site; or
- for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

emissions to land” includes emissions to groundwater.

“*EP Regulations*” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“*emissions of substances not controlled by emission limits*” means emissions of substances to air, water or land from the activities, ***either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit.***

“*groundwater*” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“*Industrial Emissions Directive*” means *DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions*

“*MCERTS*” means the Environment Agency’s Monitoring Certification Scheme.

“*quarter*” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

““*Waste code*” means the six digit code referable to a type of waste in accordance with the list of wastes established by Commission Decision 2000/532/EC as amended from time to time (the ‘List of Wastes Decision’) and in relation to hazardous waste, includes the asterisk.

“*Waste Framework Directive*” or “*WFD*” means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste

“*year*” means calendar year ending 31 December.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- (a) in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or

in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

Schedule 7 – Site Plan



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