Application for an environmental permit: Part A – About you

Fill in this part A if you are applying for a new permit, applying to change or surrender an existing permit, or want to transfer an existing permit to yourself. Please check that this is the latest version of the form available from our website. Please read through this form and the guidance notes that come with it. All relevant guidance documents can be found on our website. Where you see the term 'document reference' on the form,	give the document references and send the documents with the application form when you've completed it. Contents 1 About you 2 Applications from individuals 3 Applications from organisations of individuals 4 Applications from public bodies 5 Applications from a registered company or other corporate body 6 Your address 7 Contact details

1 About you

Are you applying as an individual, an organisation of individuals (for example, a partnership), a company (this includes Limited Liability Partnerships) or a public body?

An individual	☐	*Go to section 2*
An organisation of individuals (for example, a partnership)	☐	*Go to section 3*
A public body (such as a local council)	☐	*Go to section 4*
A registered company or other corporate body	☒	*Go to section 5*

2 Applications from individuals

2a Please give us the following details

Title		
First name		
Last name		*Go to section 6*

3 Applications from organisations of individuals

3a Organisation details

Organisation name	
Type of organisation	
If 'Other', please specify	

3b Main representative's details

Title	
First name	

Last name

3c Second representative's details:

Title

First name

Last name

3d Other representative's details

If relevant, please provide details of all other representatives on a separate sheet and tick here to show that you have done so. ☐ *Go to section 6*

4 Applications from public bodies

4a Public body details

Public body name

Type of public body

If 'Other', please specify

4b Executive officer's details

The executive is an officer of the public body authorised to sign on your behalf.

Title

First name

Last name

Position *Go to section 6*

5 Applications from a registered company or other corporate body

5a Company details

Company name: GS Yuasa Battery Manufacturing UK Limited

Company registration number: 1561536

Date of registration: 14/05/1981

If you are applying as a corporate organisation that is now a limited company, please provide evidence of your status and tell us the reference number you have given this document with this evidence.

Document reference *Go to section 6*

6 Your address

6a Your main (registered office) address

For companies this *must* be the address on record at Companies House.

Address: Unit 22

	Rassau Industrial Estate
	Ebbw Vale
	Gwent
Postcode	NP23 5SD
Telephone - mobile	
Telephone - office	01495 354000
Email address	masao.yamamura@yuasaeurope.com

If you are applying as an organisation of individuals, every partner needs to give us their details, including their title. If necessary, continue on a separate sheet and tell us the reference you have given the sheet.

Document reference	

6b UK business address *only* if different from above

Address	As above
Postcode	
Telephone - mobile	
Telephone - office	
Email address	

Go to section 7

7 Contact details

7a Who can we talk to about your application?

This can be someone acting as a consultant or 'agent' for you.

Title	Dr
First name	Amanda
Last name	Owen
Address	Environmental Visage Limited
	Stroud House

	Russell Street
	Stroud, Gloucestershire
Postcode	GL5 3AN
Telephone - mobile	07970 712243
Telephone - office	01453 752731
Email address	Aowen@En-Visage.co.uk

7b Who can we talk to about your operation?

Same as the application contact in 7a	☐
Title	Mr
First name	Selwyn
Last name	Thomas
Address	GS Yuasa Battery Manufacturing UK Limited
	Unit 22, Rassau Industrial Estate
	Ebbw Vale
	Gwent
Postcode	NP23 5SD
Telephone - mobile	
Telephone - office	01495 354071
Email address	Selwyn.thomas@yuasaeurope.com

7c Who can we talk to about your billing or invoice?

Same as the application contact in 7a	☐
Same as the operation contact in 7b	☒
Title	
First name	
Last name	
Address	

Postcode	
Telephone - mobile	
Telephone - office	
Email address	

Application for an environmental permit:
Part C2 – General: Varying a bespoke permit

Fill in this part of the form, together with part A, the relevant parts of C3 to C7 and part F1 or F2.

Please check that this is the latest version of the form available from our website.

Note: If you are applying to convert your existing permit to a standard permit or add a standard facility you need to fill out form C1.

If you want to make an administrative change, you should complete form C0.5.

You only need to give us details in this application for the parts of the permit that will be affected (for example, if you are adding a new facility or changing existing ones).

You do not need to resend any information from your original permit application.

Please read through this form and the guidance notes that came with it. All relevant guidance documents can be found on our website.

Contents

1 About the permit
2 About your proposed changes
3 Your ability as an operator
4 Consultation
5 Supporting information
6 Environmental risk assessment
Appendix 1 – Low impact installation checklist

1 About the permit

1a Discussions before your application

If you have had discussions with us before your application, give us the case reference number or details on a separate sheet.

Case or document reference	BV5386IX

1b Permit number

Permit number this application relates to?	BV5386IX

1c Site details

What is the name, address and postcode of the site?

Site name	GS Yuasa Battery Manufacturing UK Limited
Address	Unit 22
	Rassau Industrial Estate
	Ebbw Vale
	Gwent
Postcode	NP23 5SD

2 About your proposed changes

2a Type of variation

What type of variation are you applying for? (Please tick)

Standalone water discharge activity or point source groundwater activity ☐

Minor technical	☒
Normal variation	☐
Substantial	☐

2b Provide a non-technical summary of your application

Please give us brief details of all the proposed changes to current activities, and any new activities you want to add to your permit.

You can use the box below, inTable 1 below. Or, you can use a separate sheet and send it to us with your application form. Tell us below the reference you have given this document.

Document reference	See Supporting Documentation Application Form C2 Q2b

Table 1 – Details of the proposed changes

2c Consolidating existing permits into the modern style

Consolidating you permit can mean:

- combining the original permit and all subsequent changes into a single document (modern permit), or

- combining two pr more environmental permits for the same operator and site into a single permit.

Note: In both cases we may require additional information from you about, for example your management system. Therefore we would always advise you to talk to us before you submit any application to modernise or consolidate permits.

2c1 Do you want to have a modern style (consolidated) permit?

No ☐ *Go to section 2d*

Yes ☒ *Please note: An additional charge may apply for modernising your permit(s).*

2c2 Identify all the permits you want to consolidate by listing the permit numbers/ versions in Table 2 below.

Table 2 – Permit numbers
EPR/BV5386IX, EPR/BV5386IX/V002 and EPR/BV5386IX/V003

2d Low impact installations (installations only)

Are any of the regulated facilities low impact installations?

No ☒ *Go to section 2e*

Yes ☐

Please give us a description of your proposed activity telling us how you meet the conditions for a low impact installation and send it to us with your application form.

Document reference

Tick the box to confirm you have filled in the low impact insallation checklist in Appendix 1 for each regulated facility. ☐

2e Treating batteries

Are you planning to treat batteries? (See the guidance notes on part C2.)

No ☐

Yes ☒ Tell us how you will do this, send us a copy of your explanation and tell us the reference you have given this explanation.

Document reference: See Supporting Documentation Application Form C2 Q2e

3 Your ability as an operator

If you are only applying to change or add a water discharge activity, you only have to fill in question 3d.

If you are applying to add waste installations or waste operations to a permit that has not previously had them, you need to fill in all of section 3.

If you are applying to consolidate two or more permits or have an updated permit you must fill in question 3d.

3a Relevant offences - installations and waste operations only (See guidance notes on part C2)

Have you, or any other relevant person, been convicted of any relevant offence?

No ☒ *Go to section 3b*

Yes ☐ Please give details below

Title

First name

Last name

Date of birth (DD/MM/YYYY)

Position held at the time of the offence

Name of the court where the case was dealt with

Date of conviction (DD/MM/YYYY)

Offence and penalty set

Date any appeal against the conviction will be heard (DD/MM/YYYY)

If necessary, use a separate sheet to give us details of other relevant offences, and tell us below the reference number you have given the extra sheet.

Document reference

3b Technical ability - relevant waste operations only (see the guidance notes on part C2)

3b1 Which approved scheme are you using to show you have the suitable technical skills and knowledge to manage your facility?

CIWM / WAMITAB ☐

ESA / EU ☐

3b2 Do you already hold the relevant, formal qualifications to manage your facility?

Yes ☐ Tick to confirm you've included all original *and* continuing compentence evidence. ☐

No ☐ Tick to confirm you've included evidence you've registered with a Scheme. ☐

3c Finances (installations, waste operations and mining waste operations only)

Do you or any relevant person have current or past bankruptcy or insolvency proceedings against you?

No ☒ *Go to section 3d.*

Yes ☐ Please give details of the required set-up (including infrastructure), maintenance and clean up costs for the proposed facility, against which a credit check may be assessed.

Please note: We may want to contact a credit reference agency for a report about your business's finances.

Landfill, Category A mining waste facilities and mining waste facilities for hazardous waste only

How do you plan to make financial provision (to operate a landfill or a mining waste facility you need to show us that you are financially capable of meeting the obligations of closure and aftercare)?

Bonds ☐

Escrow account ☐

Trust fund ☐

Lump sum ☐

Other ☐

Provide a plan of your estimated expenditure on each phase of the landfill or mining waste facility.

Document reference

3d Management systems (all)

You can find guidance on management systems in both 'How to Comply' and 'Horizontal Guidance Note 6 – Environmental Management Systems'. We have also developed environmental management toolkits for some business sectors which you can use to produce your own management system. You can get these by calling 0300 065 3000 or by downloading them from our guidance webpages.

3d1 Does your management system meet the conditions set out in our guidance?

Yes ☒

No ☐

3d2 What management system will you provide for your regulated facility?

EC Eco-Management and Audit Scheme (EMAS)	☐
ISO 14001	☒
BS 8555 (Phases 1–5)	☐
Green Dragon	☐
Own management system	☐

3d3 Make sure you include a summary of your management system which sets out any changes or additional measures you will put in place to the address risks from the proposed changes. Tick the box to confirm you've done this and tell us the reference below. ☒

Document reference	See Supporting Documentation Application Form C2 Q3d3

Water discharge activities: *Go to section 5.*

4 Consultation (fill in 4a to 4c for installations and waste operations and 4d for installations only)

Could the waste operation or installation involve releasing any substance into any of the following?

4a A sewer managed by a sewerage undertaker

No ☐

Yes ☒ Please name the sewerage undertaker | Dwr Cymru Welsh Water

4b A harbour managed by a harbour authority

No ☒

Yes ☐ Please name the harbour authority |

4c Direct into relevant territorial waters or coastal waters within the sea fisheries district of a local fisheries

No ☒

Yes ☐ Please name the fisheries committee |

4d Is the installation on a site for which:

4d1 a nuclear site licence is needed under section 1 of the Nuclear Installations Act 1965?

No ☒

Yes ☐

4d2 a policy document for preventing major accidents is needed under regulation 5 of the Control of Major Accident Hazards

No ☒

Yes ☐

5 Supporting information

5a Provide a plan or plans for the site (see guidance notes on part C2 for what needs to be marked on the plan)

Document reference	See Supporting Documentation Application Form C2 Q5a

5b Do any of the variations you plan to make need extra land to be included in the permit?

No ☒

Yes ☐ Please provide a site report for the extra land.

Document reference

5c Adding an installation

If you are applying to add an installation, tick the box to confirm that you have sent in a baseline report and provide a reference. ☐

Document reference

6 Environmental risk assessment - if you need one (see the guidance notes on part C2)

Provide an assessment of the risks each of your proposed activities cause to the environment. The risk assessment must use H1 or an equal method.

Document reference

See H1 Assessment and Supporting Documentation C2 Q6

Appendix 1 – Low impact installation checklist (see guidance notes on part C2)

Intallation reference					
Condition	**Response**				**Do you meet this?**
A – Management techniques	Provide references to show how your application meets A.				Yes ☐ No ☐
	References				
B – Aqueous waste	Effluent created		m3/day		Yes ☐ No ☐
C – Abatement systems	Provide references to show how your application meets C.				Yes ☐ No ☐
	References				
D - Groundwater	Do you plan to release any hazardous substances or non-hazardous pollutants into the ground?		Yes ☐ No ☐		Yes ☐ No ☐
E – Producing waste	Hazardous waste		Tonnes per year		Yes ☐ No ☐
	Non-hazardous waste		Tonnes per year		
F – Using energy	Peak energy consumption		MW		Yes ☐ No ☐
G – Preventing accidents	Do you have appropriate measures to prevent spills and major releases of liquids? (See 'How to comply'.)		Yes ☐ No ☐		Yes ☐ No ☐
	Provide references to show how your application meets G.				
	Reference				
H - Noise	Provide references to show how your application meets H.				Yes ☐ No ☐
	Reference				
I - Emissions of polluting substances	Provide references to show how your application meets I.				Yes ☐ No ☐
	Reference				
J – Odours	Provide references to show how your application meets J.				Yes ☐ No ☐
	Reference				
K – History of keeping to the regulations	Say here whether you have been involved in any enforcement action as described in Compliance History Appendix 1 explanatory notes.		Yes ☐ No ☐		

Application for an environmental permit: Part C3 – Variation to a bespoke installation permit

Fill in this part of the form, together with parts A, C2 and F1, If you are varying a bespoke permit for an installation.

Please check that this is the latest version of the form available from our website.

Please read through this form and the guidance notes that came with it. All relevant guidance documents can be found on our website.

Contents

1 What activities are you applying to vary?
2 Emissions to air, water and land
3 Operating techniques
4 Monitoring
5 Environmental impact assessment
6 Resource efficiency and climate change
Appendix 1 – Specific questions for the combustion sector
Appendix 2 – Specific questions for the chemical sector
Appendix 3 – Specific questions for the intensive farming sector
Appendix 4 – Specific questions for the clinical waste sector
Appendix 5 – Specific questions for the hazardous and non-hazardous waste recovery and disposal sector
Appendix 6 – Specific questions for the waste incineration sector
Appendix 7 – Specific questions for the landfill sector

1 About your activities

1a Tell us about the activities you want to do.

Fill in Table 1a below with details of all the activities listed in schedule 1 of the Environmental Permitting Regulations (EPR) and all directly associated activities (DAAs) (in separate rows) that you propose to carry out at the installation.

Fill in a separate table for each installation you are applying for. Use a separate sheet if you have a long list and send it to us with your application form. Tell us the document reference.

Document reference	See Supporting Documentation Application Form C3 Table 1a

Notes to help you complete Table 1a:

1 Quote the section number, part A1 or A2 or B, then paragraph and sub paragraph number as shown in part 2 of schedule 1 to the regulations.

2 Use the description from schedule 1 of the regulations. Include any extra detail that you think would help to accurately describe what you want to do.

3 By 'capacity', we mean:

- the total incineration capacity (tonnes every hour) for waste incinerators;
- the total landfill capacity (cubic metres) for landfills;
- the total treatment capacity (tonnes each day) for waste treatment;
- the total storage capacity (tonnes) for waste storage operations;
- the processing and production capacity for manufacturing operations; or
- the thermal input capacity for combustion activities.

4 The R (recovery) and D (disposal) codes are as set out in Annex I and/or Annex II of the European Waste Framework Directive (as amended).

5 Fill this in as a separate line for each directly associated activity and give an accurate description of any other activities associated with your schedule 1 activities.

6 By 'total storage capacity', we mean the maximum amount of waste, in tonnes, you are able to store on the site at any one time.

Table 1a – Types of activities

Important: Put your main activity first, when listing all of the activities you want to do. Note; some questions only apply to activities involving the acceptance of waste.

Schedule 1 listed activities				**For installations that take waste only**		
Installation name	Schedule 1 references (See note 1)	Description of the Activity (See note 2)	Activity capacity (See note 3)	Annex I and Annex 2 (disposal and recovery) codes (See note 4)	Hazardous waste treatment capacity (if this applies) (See note 3)	Non-hazardous waste treatment capacity (if this applies) (See note 3)

Directly associated activities (See note 5)

Name of DAA	Description of the DAA (please identify the schedule 1 activity it serves)

For installations that take waste	Total storage capacity of non-hazardous waste (See note 6)	
	Total storage capacity of hazardous waste (See note 6)	
	Annual throughput (tonnes each year)	

1b Do you intend to accept waste as part of your activities?

No ☒ *Go to section 2*

Yes ☐ Tell us about the waste types you want to accept. See notes below.

For each line in Table 1a (including DAAs), fill in a separate document to list those types of waste you will accept onto the site for that activity. Give the List of Wastes catalogue code and description.

If you need to exclude wastes from your activity or facility by restricting the description, quantity, physical nature, hazardous properties, composition or characteristic of the waste, include these in the document. Send it to us with your application form.

If you want to accept any waste with a code ending in 99, you must provide more information and a full description in the document. You can use Table 1b as a template.

Document references

Table 1b – Template example: types of waste accepted and restrictions	
Waste code	Description of waste
Example	Example
02 01 08*	Agrochemical waste containing dangerous substances
06 01 02*	Hydrochloric acid

2 Emissions to air, water and land

Fill in Table 2 below with details of the emissions that result from the operating techniques at each of your installations.

Fill in one table for each installation. You can use Table 2 as a template. Please provide the reference for each document.

Document references

See Supporting Documentation
Application Form C3 Table 2

Table 2 – Emissions (releases)				
Installation name				
Point source emissions to air				
Emission point reference and location	Source	Parameter	Quantity Unit	Unit
Point source emissions to water (other than sewers)				
Emission point reference and location	Source	Parameter	Quantity Unit	Unit
Point source emissions to sewers, effluent treatment plants or other transfers off site				

Emission point reference and location	Source	Parameter	Quantity Unit	Unit
Point source emissions to land				
Emission point reference and location	Source	Parameter	Quantity Unit	Unit

3 Operating techniques

3a Technical standards

Fill in Table 3a for each activity at the installation you have referred to in Table 1a above, and list the relevant technical guidance note (TGN) or notes you are planning to use. If you are planning to use the standards set out in the TGN, there is no need to justify using them.

You must justify your decisions in a separate document if:

- there is no technical standard;
- the technical guidance provides a choice of standards; or
- you plan to use another standard.

This justification could include a reference to the Environmental Risk Assessment provided in section 6 of part C2 (General Bespoke Permit) of the application form. The documents in Table 3a should summarise the main measures you use to control the main issues identified in the H1 assessment or technical guidance.

For each of the activities listed in Table 3a, describe the type of operation and the options you have chosen for controlling emissions from your process.

Fill in one table for each installation. You can use Table 3a as a template. Please provide the reference for each document.

Document references	See Supporting Documentation Application Form C3 Table 3a

Table 3a – Technical standards		
Installation name	**GS Yuasa Battery Manufacturing UK Limited**	
Schedule 1 activity or directly ssociated activity description	Relevant technical guidance note or best available techniques as described in BAT conclusions under IED*****. You will need to refer to 'How to comply' for all permits.	Document reference (if appropriate)
	'How to comply'	

*****Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control).

If appropriate, use block diagrams to help describe the operation and process. Give the document references you use for each diagram and description.

Document references	

3b General requirements

Fill in a separate Table 3b for each installation. You can use Table 3b as a template. Please provide the reference for each document.

Document references	See Below

Table 3b – General requirements	
Installation name	**GS Yuasa Battery Manufacturing UK Limited**

If the TGN or H1 assessment shows that emissions of substances not controlled by emission limits are an important issue, send us your plan for managing them	Document reference or references N/A
If the TGN or H1 assessment shows that odours are an important issue, send us your odour management plan	Document reference or references N/A
If the TGN or H1 assessment shows that noise or vibration are important issues, send us your noise or vibration management plan (or both)	Document reference or references N/A
If our fire prevention guidance or H1 assessment shows that fire risk is an important issues, send us your fire management plan	Document reference or references N/A

3c Types and amounts of raw materials

Fill in Table 3c for all schedule 1 activities. Fill in a separate table for each installation. You can use Table 3c as a template. Please provide the reference for each document.

Document references	See Supporting Documentation Application Form C3 Table 3c

Table 3c – Types and amounts of raw materials				
Installation name				
Capacity (See note 1 below)				
Schedule 1 activity	Description of raw material and composition material	Maximum amount (tonnes) (See note 2 below)	Annual throughput (tonnes per year)	Description of how the raw material is used including any main hazards (include safety information sheets)

Notes
1 By ‘capacity’, we mean the total storage capacity (tonnes) or total treatment capacity (tonnes each day).
2 By ‘maximum amount’, we mean the maximum amount of raw materials on your site at any one time.

Use a separate sheet if you have a long list of raw materials, and send it to us with your application form. Please provide the reference for each document.

Document reference	

3d Information for specific sectors

For some sectors, we need more information to be able to set appropriate conditions in the permit. This is as well as the information you may provide in sections 5, 6 and 7.

For those activities listed below, you must answer the questions in the related document.

Table 3d – Questions for specific sectors	
Sector	Appendix
Combustion	See the questions in appendix 1
Chemicals	See the questions in appendix 2
Intensive farming	See the questions in appendix 3
Clinical waste	See the questions in appendix 4
Hazardous and non-hazardous waste recovery and disposal	See the questions in appendix 5
Incinerating waste	See the questions in appendix 6

4 Monitoring

4a Describe the measures you use to monitor emissions by referring to each emission point in Table 2 above

You should also describe any environmental monitoring. Tell us:

- how often you use these measures;
- the methods you use; and
- the procedures you follow to assess the measures.

Document reference	See Supporting Documentation Application Form C3 Q4a

4b Point source emissions to air only

Provide an assessment of the sampling locations used to measure point source emissions to air. The assessment must use Technical Guidance Note M1 (Monitoring). This is available in the Guidance section on our Website.

Document reference	Previously provided in response to an Improvement Condition (IP17) in February 2006

5 Environmental impact assessment

5a Have your proposals had an environmental impact assessment under Council Directive 85/337/EEC of 27 June 1985 [Environmental Impact Assessment] (EIA)?

No ☒ Now go to section 6

Yes ☐ Please provide a copy of the environmental statement and, if the procedure has been completed:

- a copy of the planning permission; and

- the committee report and decision on the EIA.

Document reference	

6 Resource efficiency and climate change

If the site is a landfill, you only need to fill in this section if the application includes landfill gas engines.

6a Describe the basic measures for improving how energy efficient your activities are

Document reference	See Supporting Documentation Application Form C3 Q6a

6b Provide a breakdown of any changes to the energy your activities use and create

Document reference	See Supporting Documentation Application Form C3 Q6b

6c Have you entered into, or will you enter into, a climate change levy agreement?

No ☒ Describe the specific measures you use for improving your energy efficiency.

Document reference	See Supporting Documentation Application Form C3 Q6c

Yes ☐ Please give the date you entered (or the date you expect to enter) into the agreement.

Please also provide documents that prove you are taking part in the agreement.

Document reference	

6d Tell us about, and justify your reasons for, the raw and other materials, other substances and water you will use

Document reference	See Supporting Documentation Application Form C3 Q6d

6e Describe how you avoid producing waste in line with Council Directive 2008/98/EC on waste

If you produce waste, describe how you recover it.

If it is technically and financially impossible to recover the waste, describe how you dispose of it while avoiding or reducing any effect it has on the environment.

Document reference	See Supporting Documentation Application Form C3 Q6e

Appendix 1 – Specific questions for the combustion sector

1 Identify the type of fuel burned in your combustion units (including when your units are started up, shut down and run as normal). If your units are dual fuelled (that is, use two types of fuel), list both the fuels you use

Fill in a separate table for each installation.

Installation reference			
Type of fuel	When run as normal	When started up	When shut down
Coal			
Gas oil			
Heavy fuel oil			
Natural gas			
WID waste			
Biomass (see notes 1 and 2 below)			
Biomass (see notes 1 and 2 below)			
Biomass (see notes 1 and 2 below)			
Biomass (see notes 1 and 2 below)			
Biomass (see notes 1 and 2 below)			
Other			

Notes

1 Not covered by Industrial Emissions Directive 2010/75/EU.

2 'Biomass' is referred to in The Renewables Obligation Order 2002 (SI 2002 No. 914).

Give extra information if it helps to explain the fuel you use.

Document reference

2 Give the composition range of any fuels you are currently allowed to burn in your combustion plant

Fill in a separate table for each installation.

Installation reference					
Parameter	Unit	Fuel 1	Fuel 2	Fuel 3	Fuel 4
Maximum percentage of gross thermal input	%				
Moisture	%				
Ash	% wt/wt dry				
Sulphur	% wt/wt dry				
Chlorine	% wt/wt dry				
Arsenic	% wt/wt dry				
Cadmium	% wt/wt dry				
Carbon	% wt/wt dry				
Chromium	% wt/wt dry				

Copper	% wt/wt dry				
Hydrogen	% wt/wt dry				
Lead	% wt/wt dry				
Mercury	% wt/wt dry				
Nickel	% wt/wt dry				
Nitrogen	% wt/wt dry				
Oxygen	% wt/wt dry				
Vanadium	mg/kg dry				
Zinc	mg/kg dry				
Net calorific value	MJ/kg				

3 If NOx factors are necessary for reporting purposes (that is, if you do not need to monitor emissions), please provide the factors associated with b urning the relevant fuels

Fill in a separate table for each installation.

Installation reference	
Fuel	NOx factor (kgt–1)
Fuel 1	
Fuel 2	
Fuel 3	
Fuel 4	
Note: kgt–1 means kilograms of nitrogen oxides released for each tonne of fuel burned	

4 Will your combustion plant be subject to Chapter III of the Industrial Emissions Directive 2010/75/EU? (see Government guidance)

No ☐ *This Annex is complete.*

Yes ☐

5 Is your plant (tick an option)

an existing plant (a plant licensed before 1 July 1987)? ☐

a new plant (a plant licensed on or after 1 July 1987 but before 27 November 2002, or a plant for which an application was made before 27 November 2002 and which was put into operation before 27 November 2003)? ☐

a new-new plant (a plant for which an application was made on or after 27 November 2002)? ☐

6 If you run more than one type of plant or a number of the same type of plant on your installation, please list them in the table below

Fill in a separate table for each installation.

Installation reference	
Type of plant	Number within installation
Existing	
New	
New-new	

Gas turbine (group A)	
Gas turbine (group B)	

7 If you run an existing plant, have you submitted a declaration for the 'limited life derogation' set out in Article 33 of Chapter III of the Industrial Emissions Directive?

No ☐ *Go to section 9*

Yes ☐

8 Have you subsequently withdrawn your declaration?

No ☐

Yes ☐

9 List the existing large combustion plants (LCPs) which have annual mass allowances under the National Emission Reduction Plan (NERP), and those with emission limit values (ELVs) under the LCPD

Installation reference	
LCPs under NERP	LCPs with ELVs

10 Do you meet the monitoring requirements of Chapter III of the Industrial Emissions Directive?

Yes ☐

Tell us how you meet the monitoring requirements of Chapter III and give us the reference for this document.

Document reference

Appendix 2 – Specific questions for the chemical sector

1 Please provide a technical description of your activities

The description should be enough to allow us to understand:

- the process;
- the main plant and equipment used for each process;
- all reactions, including significant side reactions (that is, the chemistry of the process);
- the material mass flows (including by products and side streams) and the temperatures and pressures in major vessels;
- the all emission control systems (both hardware and management systems), for situations which could involve releasing a significant amount of emissions – particularly the main reactions and how they are controlled;
- a comparison of the indicative BATs and benchmark emission levels standards in Technical Guidance Notes (TGNs) EPR 4.01, EPR 4.02 and EPR 4.03, and chemical sector BREFs.

Document reference	See Supporting Documentation Application Form C3 Appendix 2

2 If you are applying for a multi-purpose plant, do you have a multi-product protocol in place to control the changes?

No ☐

Yes ☐ Provide a copy of your protocol to accompany this application

Document reference	

3 Does Chapter V of the Industrial Emissions Directive (IED) apply to your activities?

No ☒ This Annex is complete.

Yes ☐ Fill in Table 3a – listing each of the activities controlled under the IED.

Table 3a – activities controlled under the IED.	
Installation reference	
Activities	

3b Describe how the list of activities in question 3a above meets the requirements of the IED

Document reference	

Appendix 3 – Specific questions for the intensive farming sector

1 For each type of livestock, tell us the number of animal places you are applying for

Installation reference	
Type of livestock	Number of places

2 Is manure or slurry exported from the site?

No ☐

Yes ☐

3 Is manure or slurry spread on the site?

No ☐

Yes ☐

Appendix 4 – Specific questions for the clinical waste sector

If you are applying for an activity covered by the Waste Incineration Directive and wish to accept clinical waste you should fill in questions 1, 2 and 3 of this appendix.

Note: If your procedures are fully in line with the standards set out in EPR5.07 then you should tick the 'yes' box and provide the procedure reference. There is no need for you to supply a copy of the procedure.

1 Are pre-acceptance procedures in place that are fully in line with the appropriate measures set out in section 2.2 of EPR 5.07 and which are used to assess a waste enquiry before it is accepted at the installation?

No ☐ Provide justification for departure from EPR 5.07 and submit a copy of the procedures

Document reference

Yes ☐ Document reference

2 Are waste acceptance procedures in place that are fully in line with the appropriate measures set out in section 2.2 of EPR 5.07, and which are used to cover issues such as loads arriving and being inspected, sampling waste, rejecting waste, and keeping records to track waste?

No ☐ Provide justification for departure from EPR 5.07 and submit a copy of the procedures

Document reference

Yes ☐ Document reference

3 Are waste storage, handling and dispatch procedures, and infrastructure in place that are fully in line with the appropriate measures set out in section 3.2 of EPR 5.07?

No ☐ Provide justification for departure from EPR 5.07 and submit a copy of the procedures

Document reference

Yes ☐ Document reference

4 Are monitoring procedures in place that are fully in line with the appropriate measures set out in section 3.3 of EPR 5.07?

No ☐ Provide justification for departure from EPR 5.07 and submit a copy of the procedures

Document reference

Yes ☐ Document reference

5 Are you proposing to either

- accept an additional waste not included in Table 2.1 of section 2.1 of EPR 5.07, or
- apply a permitted activity to a waste other than that identified for that waste in Table 2.1?

No ☐

Yes ☐ Provide justification : Document reference

6 Please provide a summary description of the treatment activities undertaken on the installation. This should cover the general principles set out in section 2.1.4 of EPR 5.07

Document reference

7 Please provide layout plans detailing the location of each treatment plant and main plant items and process flow

Document reference

Appendix 5 – Specific questions for the hazardous and non-hazardous waste recovery and disposal sector

Note: If your procedures are fully in line with the standards set out in SGN 5.06 then you should tick the 'yes' box and provide the procedure reference. There is no need for you to supply a copy of the procedure.

1 Are pre-acceptance procedures in place that are fully in line with the appropriate measures set out in section 2.1.1 of SGN 5.06, and which are used to assess a waste enquiry before it is accepted at the installation?

No ☐ Provide justification for departure from SGN 5.06 and submit a copy of the procedures

Document reference

Yes ☐ Document reference

2 Are waste acceptance procedures in place that are fully in line with the appropriate measures set out in section 2.1.2 of SGN 5.06, and which are used to cover issues such as loads arriving and being inspected, sampling waste, rejecting waste, and keeping records to track waste?

No ☐ Provide justification for departure from SGN 5.06 and submit a copy of the procedures

Document reference

Yes ☐ Document reference

3 Are waste storage procedures and infrastructure in place that are fully in line with the appropriate measures set out in section 2.1.3 of SGN 5.06?

No ☐ Provide justification for departure from SGN 5.06 and submit a copy of the procedures

Document reference

Yes ☐ Document reference

4 Provide a layout plan giving details of where the installation is based, the infrastructure in place (including areas and structures for separately storing types of waste which may be dangerous to store together) and capacity of waste storage areas and structures

Document reference

5 Provide a summary of the treatment activities carried out on the installation. This should cover the general principles set out in section 2.1.4 of SGN 5.06 and the specific principles set out in sections 2.1.5 to 2.1.15 as appropriate of SGN 5.06

Document reference

6 Provide layout plans giving details of where each treatment plant is based, the main items at each plant, and process flow diagrams for the treatment plant

Document reference

Appendix 6 – Specific questions for the waste incineration sector

If you are proposing to accept clinical waste please also fill in questions 1, 2 and 3 of appendix 4 above.

1a Do you run incineration plants as defined by Chapter IV of the Industrial Emissions Directive (IED)?

No ☐ You do not need to answer any other questions in this appendix.

Yes ☐ WID applies

1b Are you subject to IED as an incinerator or co-incinerator?

As an incinerator ☐

As a co-incinerator ☐

2 Do any of the installations contain more than one incineration line?

No ☐ *Go to section 4*

Yes ☐

3 How many incineration lines are there within each installation?

Fill in a separate table for each installation

Installation reference	
Number of incineration lines within the installation	
Reference identifiers for each line	

You must provide the information we ask for in questions 4, 5 and 6 below in separate documents. The information must at least include all the details set out in section 2 ('Key Issues') of TGN S5.01 (under the subheading 'European legislation and your application for an EP Permit').

4 Describe how the plant is designed, equipped and will be run to make sure it meets the requirements of IED, taking into account the categories of waste which will be incinerated

Document reference

5 Describe how the heat created during the incineration and co-incineration process is recovered as far as possible (for example, through combined heat and power, creating process steam or district heating)

Document reference

6 Describe how you will limit the amount and harmful effects of residues and describe how they will be recycled where this is appropriate

Document reference

For each line identified in question 3, answer questions 7 to 13 below

Question 3 identifier, if necessary

7 Do you want to take advantage of the Article 45 (1)(f) allowance (see below) if the particulates, CO or TOC continuous emission monitors (CEM) fail?

No ☐ *Go to section 8*

Yes ☐ This article allows 'abnormal operation' of the incineration plant under certain circumstances when the CEM for releases to air have failed. Annex VI, Part 3(2) sets maximum half hourly average release levels for particulates (150mg/m3), CO (normal ELV) and TOC (normal ELV) during abnormal operation.

Describe the other system you use to show you keep to the requirements of Article 13(4) (for example, using another CEM, providing a portable CEM to insert if the main CEM fails, and so on).

8 Do you want to replace continuous HF emission monitoring with periodic hydrogen fluoride (HF) emission monitoring by relying on continuous hydrogen chloride (HCl) monitoring as allowed by IED Annex VI, Part 6 (2.3)?

Under this you do not have to continuously monitor emissions for hydrogen fluoride if you control hydrogen chloride and keep it to a level below the HCl ELVs.

No ☐ *Go to section 9*

Yes ☐ Please give reasons for doing this.

9 Do you want to replace continuous water vapour monitoring with pre-analysis drying of exhaust gas samples, as allowed by IED Annex VI, Part 6 (2.4)?

Under this you do not have to continuously monitor the amount of water vapour in the air released if the sampled exhaust gas is dried before the emissions are analysed.

No ☐

Yes ☐ Please give reasons for doing this.

10 Do you want to replace continuous hydrogen chloride (HCl) emission monitoring with periodic HCl emission monitoring, as allowed by IED Annex VI, Part 6 (2.5), first paragraph?

Under this you do not have to continuously monitor emissions for hydrogen chloride if you can prove that the emissions from this pollutant will never be higher than the ELVs allowed.

No ☐

Yes ☐ Please give reasons for doing this.

11 Do you want to replace continuous HF emission monitoring with periodic HF emission monitoring, as allowed by IED Annex VI, Part 6 (2.5), first paragraph?

Under this you do not have to continuously monitor emissions for hydrogen fluoride if you can prove that the emissions from this pollutant will never be higher than the ELVs allowed.

No ☐

Yes ☐ Please give reasons for doing this.

12 Do you want to replace continuous SO_2 emission monitoring with periodic sulphur dioxide (SO_2) emission monitoring, as allowed by IED Annex VI, Part 6 (2.5), first paragraph?

Under this you do not have to continuously monitor emissions for sulphur dioxide if you can prove that the emissions from this pollutant will never be higher than the ELVs allowed.

No ☐

Yes ☐ Please give reasons for doing this.

13 If your plant uses fluidised bed technology, do you want to apply for a derogation of the CO WID ELV to a maximum of 100 mg/m_3 as an hourly average, as allowed by IED Annex VI, Part 3?

No ☐

Does not apply ☐

Yes ☐ Please give reasons for doing this.

Appendix 7 – Specific questions for the landfill sector

1 Provide your Environmental Setting and Installation Design (ESID) report

Document reference

2 Provide your hydrogeological risk assessment (HRA) for the site

Document reference

3 Provide your stability risk assessment (SRA) for the site

Document reference

4 Provide your landfill gas risk assessment (LFGRA) for the site

Document reference

Templates for these four reports can be found using the links on our Guidance Webpages.

5 Provide your proposed plan for closing the site and your procedures for looking after the site once it has closed

Document reference

Application for an environmental permit: Part F1 – Opra, charges and declarations

Fill in this part for all applications for installations, waste operations, mining waste operations and groundwater discharges onto land.

Please check that this is the latest version of the form available from our website.

For applications for water discharge and point source groundwater discharge activities you need to fill in part F2 instead.

Please read through this form and the guidance notes that came with it. All relevant guidance documents can be found on our website.

Contents

1 Working out charges
2 Opra profile (electronic)
3 Payment
4 The Data Protection Act 1998
5 Confidentiality and national security
6 Application checklist
7 Declaration

1 Working out charges (you must fill in this section)

You have to submit an application fee with your application. You can find out the charge by looking at our current environmental permitting charging scheme. This can be found on our 'How we regulate you' webpages. Please remember that the charges are revised on 1 April each year and that there is an annual subsistence charge (for site based permis) to cover the costs we incur in the ongoing regulation of the permit.

Examples: We have included examples to help you complete the table. The Tier 2 charge example is for an application for a 'New standard rule' permit. The Tier 3 charge example is for an installation Opra based charge for a normal variation (multiplier) application.

Note: for Opra charged Tier 3 Facilities you also need to complete an Opra profile (see section 2).

Table 1 – Working out charges				
Type of application	Minor Technical Variation			
	Summary of charges			
Tier 2 facilities (including Part A(2) and Part B)	Charge identifier	Number of facilities	Charge for each facility (£)	Charges due (£)
EXAMPLE: SR2010 No12	S060A (W)	1	1,630.00	1,630.00
Tier 3 facilities				
EXAMPLE: Total Opra charging score for installations	90	× charge multiplier	57	5,130.00
Total Opra charging score for installations		× charge multiplier		
Total Opra charging score for waste operations		× charge multiplier		
Total Opra charging score for mining waste facilities				
Other charges (such as one-off assessments or fixed charge applications etc.)	TBC	X Hourly Rate to be applied	£125 per hour	TBC
			Total charges due	TBC

2 Opra profile (does not apply to standard facilities, or other tier 2 permit applications)

If you are submitting a bespoke application, you must include a completed electronic copy in Excel of the *current* Opra spreadsheet. You can find the current Opra spreadsheet in the 'Our charges' section on our 'How we regulate you' webpages.

For all variations, full and partial surrenders: you will need to submit a copy of your current Opra profile based on your existing profile, not a new profile following the variation or surrender.

For transfers: you will need to submit a revised Opra profile to include your own operator performance. Note: this will not change the set transfer fee.

Important: your Opra profile (score) must match our records. If you are unsure about your current Opra profile (score), you should talk to your regulatory officer before submitting your application.

Tick this box to confirm that you have included the electronic OPRA spreadsheet ☒

3 Payment

3a How do you want to pay?

Tick an option below to show how you will pay.

Electronic transfer (for example, BACS)	☒	*Go to section 3b*
Credit or Debit card	☐	*Go to section 3c*
Cheque	☐	*Go to section 3d*
Postal order	☐	*Go to section 3d*

3b Paying by electronic transfer

If you choose to pay by electronic transfer use the following information to make your payment.

Company name:	Natural Resources Wales
Company address:	Income Dept., PO BOX 663, Cardiff, CF24 0TP
Bank:	RBS
Address:	National Westminster Bank Plc, 2 ½ Devonshire Square, London, EC2M 4BA
Sort code:	60-70-80
Account number:	10014438

Reference number

You can use any reference number but we prefer the number to be 'EPR' followed by the first nine letters of your organisation name followed by a four-digit number.

For example, for a company named Joe Bloggs Ltd, the reference number might be EPRJOEBLOGGS0001. (Remember you can use any four-digit number at the end.)

The reference number you will provide will appear on our bank statements so we can check your payment. We may need to contact your bank to make sure the reference number is quoted correctly.

You should also email your payment details and payment reference number to banking.team@naturalresourceswales.gov.uk / banking.team@cyfoethnaturiolcymru.gov.uk or fax it to 0300 065 3001 and enter it in the space provided below.

BACS reference	
Amount paid	TO BE INVOICED

Making payments from outside the UK

These details have changed. If you are making your payment from outside the United Kingdom (which must be received in sterling), our IBAN number is GB70 NWBK6070 8010 0144 38 and our SWIFT/BIC number is NWBKGB2L.

If you do not quote your payment reference number, there may be a delay in processing your payment and application.

3c Paying by credit or debit card

If you are paying by credit or debit card, please fill in the separate form CC1.

You can download this from our website or you can ask for one of our customer service providers to send one by post. We will destroy your card details once we have processed your payment. We can accept payments by Visa, MasterCard or Maestro UK card only.

3d Paying by cheque or postal order

You should make cheques or postal orders payable to Natural Resources Wales and they should be marked 'A/c Payee'.

We *will not* accept post-dated cheques (cheques with a future date written on them).

Cheque/ postal order number	
Amount paid	

4 The Data Protection Act 1998

We, the Natural Resources Body for Wales (hereafter "Natural Resources Wales"), will process the information you provide so that we can:

- deal with your application;
- make sure you keep to the conditions of the licence, permit or registration;
- process renewals; and
- keep the public registers up to date.

We may also process or release the information to:

- offer you documents or services relating to environmental matters;
- consult the public, public organisations and other organisations (for example, the Health and Safety Executive, local authorities, the emergency services, the Department for Environment, Food and Rural Affairs) on environmental issues;
- carry out research and development work on environmental issues;
- provide information from the public register to anyone who asks;
- prevent anyone from breaking environmental law, investigate cases where environmental law may have been broken, and take any action that is needed;
- assess whether customers are satisfied with our service, and to improve our service; and
- respond to requests for information under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004 (if the Data Protection Act allows). We may pass the information on to our agents or representatives to do these things for us.

5 Confidentiality and national security

We will normally put all the information in your application on a public register of environmental information. However, we may not include certain information in the public register if this is in the interests of national security, or because the information is confidential

Confidentiality

You can ask for information to be made confidential by enclosing a letter with your application giving your reasons. If we agree with your request, we will tell you and not include the information in the public register. If we do not agree with your request, we will let you know how to appeal against our decision, or you can withdraw your application.

Only tick the box below if you wish to claim confidentiality for your application.

Please treat the information in my application as confidential ☐

Tick the box to confirm you have provided evidence to support your confidentiality claim and give us the document reference, below. ☐

Document reference

National security

You can tell the Welsh Ministers that you believe including information on a public register would not be in the interests of national security.

You must enclose a letter with your application telling us that you have told the Welsh Ministers and you must still include the information in your application. We will not include the information in the public register unless the Welsh Ministers decides that it should be included.

You can find guidance on national security in 'Core Environmental Permitting Guidance' published by Defra and available via the .Gov website.

You cannot apply for national security via this application.

6 Application checklist (you must fill in this section)

Tell us about the supporting evidence and information you have sent with this application.

Application fee - You must submit the correct application fee in line with our current charging scheme.

Tick the box to say you have included the correct fee. ☐

List all the documents you have included in Table 2. Please see the guidance notes for examples on how to complete the checklist.

If the relevant information for a question forms part of a larger document, please specify the relevant section(s) of the document. This will speed up the process of checking your application and making decisions.

If necessary, continue on a separate sheet and tell us the reference you have given the document below.

Document reference

Table 2 – application checklist

Question reference	Document title/ reference	Document section
Application Forms	Application Forms Parts A, C2, C3 and F1	Application Forms Parts A, C2, C3 and F1
Form C2, Q2b	Supporting Documentation for Variation Application	Supporting Documentation Application Form C2
Form C2, Part 6	H1 Assessment	Environmental Risk Assessment
Form C3, Q1a	Supporting Documentation for Variation Application	Supporting Documentation Application Form C3
Form F1, Part 2	Opra-installations-GS Yuasa_March 2017_Current	Current OPRA Profile
Form F1, Part 2	Opra-installations-GS Yuasa_March 2017_Future	Future OPRA Profile

7 Declaration

You must read this section before making the declaration and sending your form to us.

For transfer applications - Both you and the person receiving the permit must make the declaration.

Section 7d must be completed by the current holder *and* Section 7e must be completed by the proposed new holder.

A relevant person should make the declaration. You must be a relevant person or have the authority of a relevant person to sign this application on their behalf.

Relevant people means each applicant, and in the case of a company, a director, manager, company secretary or any similar officer or employee listed on current appointments in Companies House. In the case of a Limited Liability Partnership (LLP), it includes any partner. If the permit holder is an organisation of individuals, each individual (or individual trustee) must complete the declaration.

To simplify and speed up the application process we recommend that the declaration is filled in by an officer of a company or one of the partners in a Limited Liability Partnership (LLP).

If you wish a manager, employee or consultant etc. to sign the declaration on behalf of a relevant person, we will need written confirmation from a relevant person; that is, an officer of the company, a partner in the LLP or the individual, confirming that the person has the authority to fill in the declaration.

If you are joint permit holders you should each fill in your own declaration. We have provided extra spaces for this below. Please send in a separate sheet with your application if you need more room for signatories.

Where the operator is the subject of any insolvency procedure, the declaration must be filled in by the official receiver/appointed insolvency practitioner.

7a Are you signing the form on *behalf of* a relevant person?

If you are *not* a relevant person, but want to sign the application on their behalf, you must include confirmation that you can do this.

I have included written confirmation from a relevant person to confirm I can sign on their behalf. ☐

7b Does your application include a standard facility?

If your application includes a standard facility, you also need to confirm that you are able to meet all relevant criteria of the standard rule set/sets for which you are applying.

I confirm that my standard facility will fully meet the rules that I have applied for. ☐

7c Does your application include ecological survey information?

If your application includes ecological survey information, please see the guidance notes on part F1 and tick the box below to confirm that you have no issue with us using information from any ecological survey you have supplied with your application.

I confirm I am happy for the ecological survey information I have supplied to be used as set out in the guidance. ☐

7d Declaration

If you're transferring the permit, the current holder or holders should sign this section of the declaration, and the proposed new holder or holders of the permit should sign the declaration in section 7e.

If you knowingly or recklessly make a statement which is false or misleading to help you get an environmental permit (for yourself or another person), you are committing an offence under the Environmental Permitting (England and Wales) Regulations 2016.

I declare that the information in this application is true to the best of my knowledge and belief. I understand that this application may be refused or approval withdrawn if I give false or incomplete information.

I understand that if I knowingly or recklessly make a false or misleading statement:

- **I may be prosecuted; and**
- **if convicted, I may have to pay a fine and/or go to prison.**

By signing below, you are confirming that you understand and agree with the declaration above.

Title	Mr	
First name	Masao	
Last name	Yamamura	

On behalf of (if relevant)	GS Yuasa Battery Manufacturing UK Limited
Today's date	03/04/2017

If you knowingly or recklessly make a statement which is false or misleading to help you get an environmental permit (for yourself or another person), you are committing an offence under the Environmental Permitting (England and Wales) Regulations 2016.

I declare that the information in this application is true to the best of my knowledge and belief. I understand that this application may be refused or approval withdrawn if I give false or incomplete information.

I understand that if I knowingly or recklessly make a false or misleading statement:

- **I may be prosecuted; and**
- **if convicted, I may have to pay a fine and/or go to prison.**

By signing below, you are confirming that you understand and agree with the declaration above.

Title		
First name		
Last name		
On behalf of (if relevant)		
Today's date		

7e Declaration for the person or persons *receiving* the permit (transfers only)

The persons 'receiving the permit' is the proposed new permit holder.

Note: If you cannot trace a person or persons holding the permit you may be able to transfer the permit without their declaration (in section 7d above). Please contact us to discuss this and supply evidence in your application to confirm you are unable to trace one or all of the permit holders.

If you knowingly or recklessly make a statement which is false or misleading to help you get an environmental permit (for yourself or another person), you are committing an offence under the Environmental Permitting (England and Wales) Regulations 2016.

I declare that the information in this application is true to the best of my knowledge and belief. I understand that this application may be refused or approval withdrawn if I give false or incomplete information.

I understand that if I knowingly or recklessly make a false or misleading statement:

- **I may be prosecuted; and**
- **if convicted, I may have to pay a fine and/or go to prison.**

By signing below, you are confirming that you understand and agree with the declaration above.

Title		
First name		
Last name		
On behalf of (if relevant)		
Today's date		

If you knowingly or recklessly make a statement which is false or misleading to help you get an environmental permit (for yourself or another person), you are committing an offence under the Environmental Permitting (England and Wales) Regulations 2016.

I declare that the information in this application is true to the best of my knowledge and belief. I understand that this application may be refused or approval withdrawn if I give false or incomplete information.

I understand that if I knowingly or recklessly make a false or misleading statement:

- **I may be prosecuted; and**
- **if convicted, I may have to pay a fine and/or go to prison.**

By signing below, you are confirming that you understand and agree with the declaration above.

Title		
First name		
Last name		
On behalf of (if relevant)		
Today's date		

GS YUASA BATTERY MANUFACTURING UK LTD
PERMIT VARIATION APPLICATION
APRIL 2017
SUPPORTING DOCUMENTATION

APPLICATION FORM C2

Q2b Non-Technical Summary of the Application

This application is to vary the current Permit BV5386IX by way of changes to point source emissions to air. This application identifies changes to emissions points A5 and A27.

Emissions point A5 will be redundant following the mothballing of the 3 tonnes capacity metal recycling furnace which it serves. Emissions point A27 currently serves three 0.43 tonne small parts casting furnaces. These will be re-routed and will discharge internally through the Line 8 recycled system. In future, A27 will serve a newly installed 2.5 tonnes capacity single small parts casting furnace. Overall the emissions to air will reduce.

The operator has also recently identified a small Cork Preparation Heater at the Grid Casting activity, which has not previously been incorporated into the list of site burners. The heater comprises a simple open flame burner (5.33 kW nominal capacity) to heat the base of a mixing pot, similarly to a pan being placed onto a gas fired hob. It has no extracted emission point, and as a small, direct fired burner, it is not thought to include any techniques to minimise NO_x formation.

There are no other changes proposed by this variation.

Q2e Treating Batteries

When a produced battery fails a voltage test as part of the quality assurance procedure at GS Yuasa Battery Manufacturing UK Limited, it is categorised as to whether it can simply be recharged or whether it requires fault analysis. Where fault analysis is required, the technical team manually cut the battery open and analyse the fault in order to feedback information on the fault and any necessary improvements to the appropriate process. As a QA / fault analysis procedure, this operation is only ever undertaken on a small number of batteries, however, where required, this 'treatment' of batteries complies with Annex III, Part A of Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators. Part A of Annex III specifies that:

1. Treatment shall, as a minimum, include removal of all fluids and acids.
2. Treatment and any storage, including temporary storage, at treatment facilities shall take place in sites with impermeable surfaces and suitable weatherproof covering or in suitable containers.

Details of the fault analysis procedure are provided within this Supporting Documentation, in response to Application Form C3, 6e, although it is noted here that there is no change proposed from the activities which have always been undertaken at the site.

Q3d3 Management Systems

GS Yuasa Battery Manufacturing UK Limited operate an environmental management system which covers all activities at the site and is certified to BS EN ISO 14001: 2004. The system has been operational at the site since July 2000, and is audited six monthly by BSi. There are no changes proposed to the environmental management system by this variation.

The site's certificate of registration is number: EMS 55229. The site is currently working with their auditors to ensure that their system is updated to BS EN ISO 14001:2015 by September 2018. The site also operates a separate quality management system, which is certified to BS EN ISO 9001:2008. This system is also audited six monthly by BSi. The site documents both of the management systems, and the files are held by the Health, Safety and Environment Manager, and the Quality Manager.

Within the environmental management system, GS Yuasa Battery Manufacturing UK Limited have an environmental policy, which applies to the procurement of goods and services, all business processes and to the delivery of products and services to customers. The current version of this policy is held in the Environmental Management Manual (document reference EVQM-HSE 100) at the site. The environmental policy considers the protection of the environment through site conduct, monitoring of environmental performance, minimising the use of raw materials, natural resources and releases to the environment and training and communication. The policy is communicated to all employees at the site and is also made available to the public on request.

The Product, Health, Safety and Environment Managers are responsible for implementing, communicating and updating the procedures within the Environmental Management Manual.

The implementation of the environmental management system ensures that the environmental aspects and impacts of the business are identified and analysed (Environmental Management Manual document reference EVF 669) and a "Register of Significant Environmental Impacts" (EVF 669) is maintained. The site sets environmental objectives and targets to address any significant impacts identified, and undertakes environmental monitoring and measuring to assess its environmental performance against these targets. Where new, or modified, products, equipment, processes or materials are considered, an evaluation of the environmental impact or consequence of such changes is undertaken prior to its introduction. Procedures on these undertakings are included in the Environmental Management Manual.

The Environmental Management Manual also contains a procedure for the identification, accessing, maintenance, update and review of any legally binding environmental requirements (Environmental Management Manual document reference EVQP-HSE202) and a "Register of Environmental Legislation and Other Requirements" (EVF 234) is maintained.

The site has an emergency preparedness and response procedure within the Environmental Management Manual. This document is supported and developed by various other documents including Standard Operating Procedures (SOPs) relating to chemical spill control and environmental incident and release notifications, and records such as the site Emergency Response Plan (EVQP-HSE200) and Emergency Telephone List.

GS Yuasa Battery Manufacturing UK Limited operates a preventative maintenance programme at the site in Ebbw Vale, which is reinforced by the environmental management system.

Emissions from the site include direct discharges to atmosphere and water, and indirect discharges to land. As such, the key environmental performance indicators for the site are based on the nature and quantity of these emissions to air, land and water. The Environmental Management Manual contains procedures for air pollution control, water pollution control and waste management which give an overview of the site's potential impacts, requirements and any management or monitoring undertaken.

A site environmental training programme documents the methods of identifying staff training needs, the organisation and recording of training.

The communication procedure within the Environmental Management Manual recognises that the highest levels of management play a key role in building awareness and motivation through communication. The communication procedure demonstrates how general staff awareness is implemented through training and through the availability of the Environmental Management Manual and the Environmental Management Programme. Additionally, the communication of the minutes of the Environment, Health and Safety Steering Group meetings, Environmental Management Reviews and audits, ensures that staff are kept abreast of the site environmental aims and performance.

The GS Yuasa Battery Manufacturing UK Limited environmental management system is audited internally and externally. Internal audits are undertaken periodically. External auditing is currently undertaken on a six-monthly basis by BSi.

Asbestos surveys are updated annually, whilst other environmental audits and surveys or pollution assessments are undertaken on an ad-hoc basis.

Environmental non-conformances may arise at the GS Yuasa Battery Manufacturing UK Limited site through audit findings. Additionally, should any other environmental incident, concern, complaint or situation arise or be identified, this is reported to the Health, Safety and Environment Manager who determines whether it constitutes an environmental non-conformance, and if so, what action is to be taken in order to remediate the non-conformance. In the absence of the Health, Safety and Environment Manager, the Product Manager takes responsibility.

The Managing Director (MD) – GS Yuasa Battery Manufacturing UK Ltd, has ultimate authority at the site and is responsible for the overall environmental management of the site, including all legal compliance issues. This includes defining the environmental policy and approving all environmental procedures. The MD is also responsible for providing the necessary resources to allow each function of the company to meet the requirements of the environmental management system, and thus it is crucial that he is aware of the needs and development of the system.

In order to undertake a formal review of the site environmental management system, Yuasa undertake Environment Management Review meetings, at least annually, and these meetings are attended by the Plant Manager, who reports directly to the MD.

Further details of the site Environmental Management System can be found in the original PPC application, submitted in December 2004.

Q5a GS Yuasa Battery Manufacturing UK Limited: Installation Boundary (Highlighted in Green)

Taken from Ordnance Survey Explorer OL13. Brecon Beacons National Park, Eastern Area. 2001.

Q6 Environmental Risk Assessment

As part of this application, an H1 Environmental Risk Assessment has been provided. It is noted that this suggests that emissions of Lead to air from the process cannot be screened as insignificant when compared against the long term Air Quality Standard. No further modelling has been provided at this stage as this application considers emission points which have been operational for many years. Emissions from the site have reduced with time, and the latest H1 survey considers emissions which represent approximately 11 % of the emissions assessed when the site Permit was originally applied for. At that time, a dispersion modelling assessment was undertaken, which modelled a total release from the site of 0.028 g s^{-1} Lead. The detailed modelling assessment calculated a worst case, overall process contribution to ground level concentrations of Lead of 0.383 ug m^{-3}.

The current release of Lead input into the H1 assessment totals 0.00288 g s^{-1} as a long-term release, which is approximately 10 % of the 2004 modelled release. The H1 assessment is recognised as an initial screening tool, which is less comprehensive and therefore more conservative than a dispersion modelling exercise, and hence process contributions will likely be less than the 0.427 ug m^{-3} (assuming a worst case of 365-day operation) predicted by the latest H1 assessment, considering the reduced emissions from those originally modelled and the lower results previously obtained.

Comparison between this current assessment and the H1 assessment undertaken for a site variation in November 2012 shows a reduction in a long-term release of 0.00021763 g s^{-1} and a reduction in the process contribution of 0.032 ug m^{-3}.

Most importantly, the site undertakes ambient monitoring for Lead at two locations around the site, and these should detect the environmental concentration, that is process contribution plus background concentration, of Lead in air around the site. Data from 2016 suggested an average Lead in air result of 0.085 ug m^{-3} to the south west of the site, and 0.152 ug m^{-3} to the north east. These concentrations represent approximately 17 % and 30 % respectively of the European Air Quality Standard (0.5 ug m^{-3}), and 34 % and 61 % respectively of the current UK Air Quality Objective (0.25 ug m^{-3}). There is also an offsite monitor at Garnlydan School (East of the site) which will show any potential impacts from the site and other sites on the Rassau Industrial Estate (including the Envirowales Battery Recycling Plant). The 2016 average Lead in air concentration for this location was 0.039 ug m^{-3} which is well within the Air Quality Objective. Monitored results would generally be considered to be more representative of actual conditions than theoretical modelled results, and as such it is concluded that the environmental concentration of Lead in air around the GS Yuasa Battery Manufacturing UK Limited site, is within the relevant air quality standards, but cannot be screened as insignificant.

There is one Site of Special Scientific Interest within 2 km of the site. This is the Mynydd Llangynidr. There are also two National Nature Reserves within 2 km of the GS Yuasa Battery Manufacturing UK Limited site.

Within a 10 km radius of the site there are three European Natura sites, all of which are Special Areas of Conservation. These are the River Usk, the Usk Bat Sites and the Cwm Clydach Woodlands.

The Usk is a medium-sized catchment, and one of the largest rivers in south Wales. It is important for its populations of lamprey, and otters, is one of only four sites in the UK where a known breeding population of twaite shad occurs, and is also famous for its Atlantic salmon. The Usk Bat Sites SAC has been primarily selected to conserve lesser horseshoe bats. The site is made up of several lesser horseshoe bat roosts, upland habitats, woodlands and cave systems located around the valley of the River Usk near to Abergavenny. The area contains up to 5% of the UK population of the bats, though counts in hibernation sites suggest this may be an underestimate.

Cwm Clydach Woodlands is an example of beech forest close to the northern-western limit of the habitat's UK and European range and at relatively high altitude. The main wood is on a steep valley side, comprising a mature canopy of large trees with abundant dead wood. Transitions occur to more acidic beech woodland. Rare and characteristic plant species at the site include the whitebeam, mountain sedge, yellow bird's-nest, and bird's-nest orchid.

Despite the presence of these sensitive sites relatively close to the GS Yuasa Battery Manufacturing UK Limited installation in Rassau, it is not considered that the site will result in any significant negative impact on the sites. As already noted, ambient monitoring in the immediate vicinity of the site suggests that concentrations of Lead in air are well within the Air Quality Objective and Strategy limits. Additionally, the data compiled for all of the Natura sites dates from the second half of the 1990s to early 2000's, whilst the site has been operational since 1982, and hence any impact would have already been occurring, and may have been identified during the designation or at some point since. The closer SSSI, the Mynydd Llangynidr, was only designated in 2012 / 2013. The two things identified by the Countryside Council for Wales (now Natural Resources Wales) which might impact on the special feature are:

- Obscuring the visibility of features such as the doline field with dense growth of trees or fly-tipping.
- Quarrying currently occurs at the edge of the site, and any extension of quarrying into the SSSI would result in permanent destruction of karst and cave features.

It is not thought therefore, that emissions from the GS Yuasa Battery Manufacturing UK Limited installation at Rassau will impact on this site.

APPLICATION FORM C3

Table 1a Types of activities

There are no proposed changes to the activities at the site as part of this variation. Activities will remain as those detailed below:

Installation name	Schedule 1 references	Description of the Activity	Activity capacity	Annex IIA or IIB (D&R) codes and descriptions	Hazardous waste treatment	Non-hazardous waste treatment
Schedule 1 Listed Activities						
GS Yuasa Battery Manufacturing UK Limited	S2.2 A(1) (a)	Producing non-ferrous metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic activities.	1 processing < 4 tonnes per day	R4 (site wastes only)	Melting Lead waste and Lead dross (< 4 tonnes per day) for re-use	None
	S2.2 A(2) (a) (i)	Melting > 4 tonnes Lead / day in baths with holding capacity < 5 tonnes	11 furnaces > 4 tonnes / day	N/A	N/A	N/A
	S2.2 B (a)	Melting < 4 tonnes Lead / day	12 furnaces < 4 tonnes / day			
	S4.2 A(1) (a) (v)	Producing inorganic metal oxides	N/A			
	S4.2 A(1) (d) (vi)	Other manufacturing activities involving the use of Lead where an emission of Lead may result.	N/A			
Directly Associated Activities						
Production, construction and charging of 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.						
Quality control and fault testing and investigation of manufactured batteries						
Combustion processes < 20 MW_{th} input						
External storage of wet batteries						
Treatment of abstracted water						
Effluent treatment						
Surface water discharge						

2 Emissions to Air, Water and Land

An up-to-date list of discharge points is presented below, along with the function of the discharge, i.e. whether it is a process or local exhaust emission discharge point, or indeed if the system remains in place but is not currently in service, is detailed. Emission Point A5 has been removed as detailed above and details of A27 have been amended. The discharge points are shown on the two site plans, one entitled "Site Plan Showing Lead Emission Points", and the other titled "Site Plan Showing Other Emission Points".

Table 2 Point source emissions to air

Emission Point (ref. & location)	Source	Parameter	Emission Limit Value	Process / *LEV / Not In Service
A1 Factory 2	Oxide Mill No. 4	Lead	0.5 mg m^{-3}	Process
A2 Factory 2	Oxide Mill No. 5	Lead	0.5 mg m^{-3}	Process
A3 Factory 1	Casting Off-Cut Hopper	Lead	0.5 mg m^{-3}	Not in service
A4 Factory 1	Casting Ladles 1 - 16	Lead	0.5 mg m^{-3}	Process
A6 Factory 1	Pasting Machine Mixers 2 & 3	Lead	1.0 mg m^{-3}	Process
A7 Factory 1	Expanded Grid Line and Flash Drying Oven No. 1	Lead and combustion	2.0 mg m^{-3}	Process
A8 Factory 1	Auto Charging	Acid mist	No ELV	Not in service
A9 Factory 1	Lead Recycling	Lead	0.5 mg m^{-3}	Process
A10 Factory 1	Aging Oven 1	Combustion	No ELV	Process
A11 Factory 2	Assembly Line 9A	Lead	0.5 mg m^{-3}	Process
A12 Factory 2	Pellet Caster / Small Parts Caster	Lead	0.5 mg m^{-3}	Process
A13 Factory 2	Assembly Vacuum	Lead	2.0 mg m^{-3}	Not in service
A14 Factory 2	Assembly Lines 6 - 8 and Vacuum	Lead	2.0 mg m^{-3}	Not in service
A15 Factory 2	Assembly	Lead	0.5 mg m^{-3}	Not in service
A16 Factory 4	Assembly EN Line Vacuum Stack 1	Lead	0.5 mg m^{-3}	Not in service
A17 Factory 4	Assembly EN Line Vacuum Stack 2	Lead	0.5 mg m^{-3}	Not in service
A18 Factory 1	Cutting Machines 1 – 7 Vacuum	Lead	1.0 mg m^{-3}	Process
A19 Factory 1	Dross Bins 1 – 8	Lead	0.5 mg m^{-3}	Process
A20 Factory 2	Oxide Mill No. 6	Lead	0.5 mg m^{-3}	Process
A21 Factory 1	Aging Oven 2	Combustion	No ELV	Process
A22 Factory 4	Ex New NNP Vacuum	Lead	2.0 mg m^{-3}	Not in service
A23 Factory 2	Oxide Mill No. 7	Lead	0.5 mg m^{-3}	Process
A24 Factory 2	Assembly Line 9 Extraction	Lead	0.5 mg m^{-3}	Process
A25 Factory 2	Assembly Line 9 Vacuum	Lead	0.5 mg m^{-3}	Not in service
A26 Factory 1	Casting Pots 1 - 8	Lead	0.5 mg m^{-3}	Process
A27 Factory 2	New Small Parts Furnace	Lead	No ELV	Process
A28 Factory 2	Cast-on Strap Line 1 (LEV)	Oil mist & potential for Lead if set temperature (490°C) rises	No ELV	Not in service
A29 Factory 2	Cast-on Strap Line 2 (LEV)		No ELV	Not in service
A30 Factory 2	Cast-on Strap Line 3 (LEV)		No ELV	Not in service
A31 Factory 2	Cast-on Strap Line 4 (LEV)		No ELV	Not in service
A32 Factory 2	Cast-on Strap Line 5 (LEV)		No ELV	Not in service
A33 Factory 2	Cast-on Strap Line 6 (LEV)		No ELV	Not in service
A34 Factory 2	Cast-on Strap Line 7 (LEV)		No ELV	Not in service
A35 Factory 1	Hydro-setting Oven Lane 1	Combustion	No ELV	Process
A36 Factory 1	Hydro-setting Oven Lane 2	Combustion	No ELV	Process
A37 Factory 1	Pasting Machine No.2 Take Off	Steam	No ELV	Process
A38 Factory 2	Pellet Caster Gas Burner Stack 1	Combustion	No ELV	Process
A39 Factory 2	Pellet Caster Gas Burner Stack 2	Combustion	No ELV	Process
A40 Factory 2	Mill Extraction 4	Steam	No ELV	Process
A41 Factory 2	Mill Extraction 5	Steam	No ELV	Process
A42 Factory 2	Mill Extraction 6	Steam	No ELV	Process
A43 Factory 2	Mill Extraction 7	Steam	No ELV	Process
A44 Factory 1	Flash Drying Oven No. 2	Combustion	No ELV	Process

Emission Point (ref. & location)	Source	Parameter	Emission Limit Value	Process / *LEV / Not In Service
A45 Factory 1	Flash Drying Oven No. 3	Combustion	No ELV	Process
A46 Factory 1	Gas Drying Oven No. 1 Burner	Combustion	No ELV	Process
A47 Factory 1	Gas Drying Oven No. 1 Steam	Steam	No ELV	Process
A48 Factory 1	Gas Drying Oven No. 2 Burner	Combustion	No ELV	Process
A49 Factory 1	Gas Drying Oven No. 2 Steam	Steam	No ELV	Process
A50 Factory 1	Gas Drying Oven No. 3 Burner	Combustion	No ELV	Process
A51 Factory 1	Gas Drying Oven No. 3 Steam	Steam	No ELV	Process
A52 Factory 1	Gas Drying Oven No. 9 Burner	Combustion	No ELV	Process
A53 Factory 1	Gas Drying Oven No. 9 Steam	Steam	No ELV	Process
A54 Factory 1	Gas Drying Oven No. 10 Burner	Combustion	No ELV	Process
A55 Factory 1	Gas Drying Oven No. 10 Steam	Steam	No ELV	Process
A56 Factory 3	Combat Heater No. 1, Factory 3 SW (outside canteen)	Combustion	No ELV	Not in service
A57 Factory 3	Combat Heater No. 2, Factory 3 SE (near shrink wrap machine)	Combustion	No ELV	Space Heater
A58 Factory 3	Combat Heater No. 3, Factory 3 NE	Combustion	No ELV	Space Heater
A59 N Boiler Hse	0.85 MW_{th} Boiler	Combustion	No ELV	Not in service
A60 N Boiler Hse	1.75 MW_{th} Boiler	Combustion	No ELV	Not in service
A61 Factory 1	Dross Recycling Burner	Combustion	No ELV	Process
A62 Factory 1	Hydro-setting Oven Lanes 3 & 4 Steam	Combustion	No ELV	Process
A63 Factory 2	Combat Heater No. 5, Factory 2 Warehouse NE	Combustion	No ELV	Not in service
A64 Factory 1	Combat Heater No. 5, Factory 1 Warehouse NE	Combustion	No ELV	Space Heater
A65 Factory 2	Assembly FT and Line 9A Lid Bonding and Terminal Seal	VOCs	No ELV	LEV
A66 Factory 2	Assembly Line 7 Lid Bonding and Terminal Seal	VOCs	No ELV	LEV
A67 Factory 2	Assembly Line 8 Lid Bonding and Terminal Seal	VOCs	No ELV	LEV
A68 Factory 2	Assembly Line 9 Lid Bonding and Terminal Seal	VOCs	No ELV	LEV
A69 Factory 4	Assembly Line 10 Heat Seal x 3 workstations (1 stack)	VOCs	No ELV	LEV
A70 Factory 4	Assembly Line 10 Terminal Seal	VOCs	No ELV	LEV
A71 Factory 2	Assembly Ex Lines 1 2 & 3 Lid Bonding and Terminal Seal	VOCs	No ELV	Not in service
A72 Factory 2	Assembly Charging Ex Lines 1, 2 & 3	Hydrogen	No ELV	Not in service
A73 Factory 2	Assembly Charging Lines 7 & 9A	Hydrogen	No ELV	Not in service
A74 Factory 2	Charging Line 8 Stack 1	Hydrogen	No ELV	Not in service
A75 Factory 2	Charging Line 8 Stack 2	Hydrogen	No ELV	Not in service
A76 Factory 2	Charging Line 8 Stack 3	Hydrogen	No ELV	Not in service
A77 Factory 2	Charging Line 8 Stack 4	Hydrogen	No ELV	Not in service
A78 Factory 1	Resin Decanting Room LEV	VOCs	No ELV	LEV
A79 Factory 1	Resin Mixing Room LEV	VOCs	No ELV	LEV
A80 Factory 1	Laboratory Fume Cabinet	Vapour	No ELV	LEV
A81 Factory 1	Laboratory Workbench LEV	Vapour	No ELV	LEV
A82 Factory 1	Laboratory AA Machine LEV	Vapour	No ELV	LEV
A83 Water Plant	Water Treatment Plant Workbench LEV	Vapour	No ELV	LEV
A84 Factory 2	Welding Room LEV	Fume	No ELV	LEV
A85 (Air intake)	Air Intake to No. 2 Pasting Mixer	N/A	N/A	N/A

*LEV – Local Exhaust Ventilation

Small Parts Furnaces 1 – 3 will now be routed to the recirculation filter for Line 8 (venting back into the factory), rather than discharging through A27. The new furnace discharging through A27 will have an enclosed extraction canopy measuring approximately 119 cm x 80 cm.

A summary of the furnace vessels is provided in Table 2a below:

Table 2a Furnace Vessel Detail

Process	Nominal Size of Holding Vessel(s)	Maximum Daily Capacity	Fuel
Grid Casting x 8 pots	2.5 tonnes	Over 4 tonnes each	Electric
Assembly Cast on Strap x 8 pots (all currently decommissioned although 4 are likely to be required for future use)	1.34 tonnes	Less than 4 tonnes each	Electric
No. 1 Pellet / Strip Bar Casting	4.5 tonnes	Over 4 tonnes	Gas
No. 2 Pellet Casting	3.7 tonnes	Over 4 tonnes	Gas
Small Parts Casting x 3 pots	0.43 tonnes	Less than 4 tonnes each	Electric
Small Parts Casting	1.34 tonnes	Less than 4 tonnes	Electric
Lead Dross Recycling	1 tonne	Less than 4 tonnes	Gas
Small Parts Casting	2.5 tonnes	Over 4 tonnes	Electric

Abatement systems are in place across the site where there is any potential for Lead release. The abatement systems are not proposed to be changed by this Permit variation, and a list of the emission point, abatement system type and emission limit value in place or anticipated at each release point is detailed in Table 2b over page.

None of the filter systems can be by-passed, and some of the bag filters can have banks isolated, allowing units to remain operational until servicing can be arranged, in the event that a bank of filters requires attention. Each of the filter system types used is identified in the European Commission's Reference Document on Best Available Techniques in Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector; updated in June 2016, as being BAT for Particulate (and therefore Lead) abatement if suitable in design and purpose for the particular application, and used in conjunction with suitable management and maintenance techniques.

Table 2b Details of Abatement Systems

Emission Point (ref. & location)	Abatement System	Emission Limit Value (mg m^{-3})	Recently Measured Concentration (mg m^{-3}) Q1 2017
A1 Factory 2	Bag filters & 2 x HEPA filters	0.5 mg m^{-3}	0.13
A2 Factory 2	Bag filters & 3 x HEPA filters	0.5 mg m^{-3}	0.05
A3 Factory 1	Bag filters (isolation possible)	0.5 mg m^{-3}	Not in service
A4 Factory 1	Metal mesh filter	0.5 mg m^{-3}	0.15
A6 Factory 1	Venturi scrubber & sprays	1.0 mg m^{-3}	0.04
A7 Factory 1	Perforated plates with filters & sprays	2.0 mg m^{-3}	0.1
A8 Factory 1	Packed tower with polymesh	No ELV	Not in service
A9 Factory 1	Bag filters (isolation possible)	0.5 mg m^{-3}	0.04
A11 Factory 2	Bag filters	0.5 mg m^{-3}	0.07
A12 Factory 2	Bag filters	0.5 mg m^{-3}	0.04
A13 Factory 2	Bag filters and HEPA cartridge	2.0 mg m^{-3}	Not in service
A14 Factory 2	Bag filters	2.0 mg m^{-3}	Not in service
A15 Factory 2	Bag filters	0.5 mg m^{-3}	Not in service
A16 Factory 4	Ceramic filters (isolation possible)	0.5 mg m^{-3}	Not in service
A17 Factory 4	Ceramic filters (isolation possible)	0.5 mg m^{-3}	Not in service
A18 Factory 1	Ceramic filters (isolation possible) & 1 x HEPA filter	1.0 mg m^{-3}	0.04
A19 Factory 1	Bag filters (isolation possible)	0.5 mg m^{-3}	0.07
A20 Factory 2	Bag filters & 3 x HEPA filters (isolation possible)	0.5 mg m^{-3}	0.03
A22 Factory 4	Ceramic filters (isolation possible)	2.0 mg m^{-3}	Not in service
A23 Factory 2	Bag filters & 6 x HEPA filters (isolation possible)	0.5 mg m^{-3}	0.06
A24 Factory 2	Bag filters (isolation possible)	0.5 mg m^{-3}	0.04
A25 Factory 2	Ceramic filters	0.5 mg m^{-3}	Not in service
A26 Factory 1	Metal mesh filter	0.5 mg m^{-3}	0.07
A27 Factory 2	1 x HEPA filter	No ELV	Not currently monitored for this activity
A28 Factory 2	Mesh filter & electrostatic precipitator	No ELV	
A29 Factory 2	Mesh filter & electrostatic precipitator	No ELV	
A30 Factory 2	Mesh filter & electrostatic precipitator	No ELV	
A31 Factory 2	Mesh filter & electrostatic precipitator	No ELV	
A32 Factory 2	Mesh filter & electrostatic precipitator	No ELV	
A33 Factory 2	Mesh filter & electrostatic precipitator	No ELV	
A34 Factory 2	Mesh filter & electrostatic precipitator	No ELV	
A69 Factory 4	Mesh filters x 3	No ELV	
A78 Factory 1	Mesh grill	No ELV	
A79 Factory 1	Mesh Filters x 2	No ELV	
A81 Factory 1	Mesh grill	No ELV	

No ELV has been assigned for A27, as the emissions anticipated from the small parts casting process are expected to be very low. It is proposed to undertake a single monitoring assessment of the emissions from this point once the Permit variation has been issued. The results will then be submitted to Natural Resources Wales for consideration of any Emission Limit Value and / or regular monitoring required.

Should any of the filter systems cease to operate, e.g. due to an electrical power outage, a warning light would indicate an issue and processing would be stopped to enable investigation and repair or replacement as necessary prior to re-commencing the activity.

The site has a total currently installed combustion capacity of 6.2 MW, however the two site boilers which are now no longer in service account for 2.6 MW of this capacity. The current in service capacity of the site is approximately 3.35 MW. Details of the site combustion units are presented in Table 2c.

Table 2c Details of Site Combustion Units

Emission Point	Source	Burner Type	Burner Capacity (kW)
A10	Aging Oven 1	Lanemark	220
A21	Aging Oven 2	Lanemark	220
A35	Hydro-setting Oven Lane 1	Powrmatic	30
A36	Hydro-setting Oven Lane 2	Powrmatic	30
A37	Flash Drying Oven No. 1	OSI	352 kWh
A38	Pellet Caster Gas Burner Stack 1	Nuway	296
A39	Pellet Caster Gas Burner Stack 2	Nuway	151
A44	Flash Drying Oven No. 2	Gas Nozzles	291
A45	Flash Drying Oven No. 3	OSI	352 kWh (assumed)
A46	Gas Drying Oven No. 1 Burner	WhirlWind	175 (assumed)
A48	Gas Drying Oven No. 2 Burner	WhirlWind	175
A50	Gas Drying Oven No. 3 Burner	WhirlWind	175
A52	Gas Drying Oven No. 9 Burner	WhirlWind	175 (assumed)
A54	Gas Drying Oven No. 10 Burner	WhirlWind	175
A56	Combat Heater No. 1 (Not in service)	30G	120
A57	Combat Heater No. 2	30G	120
A58	Combat Heater No. 3	30G	120
A59	Boiler (Not in service)	Nuway	850
A60	Boiler (Not in service)	Nuway	1,750
A61	Dross Recycling Burner	Weishaupt	110 (max. rating; set at 85)
A62	Hydro-setting Oven Lanes 3 & 4 Concentric flue with combustion gases discharged through the inner flue, with combustion air drawn in around the inner stack	Powermatic	60
A63	Combat Heater No. 4 (Not in service)	30G	120
A64	Combat Heater No. 5	30G	120
None	Cork Preparation Heater at Grid Casting	Open gas flame	5.33
Total burner capacity			**6.2 MW**

There are no proposed changes to the site emissions to land, water or sewer. The site has a low risk of flooding from rivers, the sea or reservoirs, and in the event of fire water requiring containment at the site, the release to controlled water would be closed and the effluent treatment plants would be set to re-circulate, effectively creating a temporary holding site for the fire water. There are also no emissions to land, and hence no further data on site emissions is provided here.

3 Operating Techniques

Table 3a Technical Standards

Installation Name	GS Yuasa Battery Manufacturing UK Limited	
Schedule 1 Activity or Directly Associated Activity description	**Relevant Technical Guidance Note or Best Available Techniques as described in BAT conclusions under IED**	**Document Reference (if appropriate)**
All Permitted Activities	How to Comply with your Environmental Permit	Information as provided within this Supporting Documentation
2.2 A(1) (a), 2.2 A(2) (a) (i), and 2.2 B (a)	How to comply with your environmental permit Additional guidance for: Non-Ferrous Metals and the Production of Carbon and Graphite (EPR 2.03)	Information as provided within this Supporting Documentation
4.2 A(1) (a) (v), and 4.2 A(1) (d) (vi)	How to comply with your environmental permit Additional information for: The Inorganic Chemicals Sector (EPR 4.03)	Information as provided within this Supporting Documentation
2.2 A(1) (a), 2.2 A(2) (a) (i), and 2.2 B (a)	BAT Conclusions / BREF Non-Ferrous Metals Sector	Information as provided within this Supporting Documentation
Emissions Control	BAT Conclusions / BREF Waste Water and Waste Gas Treatment / Management Systems in the Chemicals Sector	Information as provided within this Supporting Documentation

Q3c Types and amounts of raw materials

There are no fundamental changes to the nature or relative quantity of the raw materials or water used by the site, proposed by this variation. Raw materials and water use are essentially the same as those which were identified in the original Permit application and subsequent variations, and are not repeated here.

Q3d Information for Specific Sectors

See Appendix A for details.

4 Monitoring

Process emissions of Lead to air are monitored on a quarterly basis by a third party, MCERTS accredited contractor. The following emissions are currently monitored, or will be where stacks currently not in use, are re-commissioned:

Q4A Measures to Monitor Emissions

Emission Points	**Parameter**	**Monitoring Method**
A1 – A4, A6, A7, A9, A11 – A20, A22 – A26, A28 - A34 *(stacks currently monitored are: A1, A2, A4, A6, A7, A9, A11, A12, A18 – A20, A23, A24, and A26)*	Lead	BS EN 14385:2004 for total Particulate and vapour phase Lead

A27 is not currently included in the monitoring program. It is proposed to undertake a single monitoring assessment of emissions from A27 following the issue of the varied Permit. The results of the monitoring will then be submitted to Natural Resources Wales for consideration of any Emission Limit Value and / or regular monitoring required.

The site also has a DT990 PCME multi-channel system to provide process monitoring of the filters. Data from the DT990 Particulate monitor is not reported to Natural Resources Wales, with quarterly extractive testing being reported in preference. However, the Particulate monitor does enable the site engineers to assess the efficiency of the filter systems and forward plan maintenance as required.

There is no proposal to monitor combustion emissions from any source, although annual boiler and burner efficiency reports are obtained, and a summary of the results is sent to Natural Resources Wales.

The site emission monitoring points have previously been assessed for compliance with Monitoring Guidance Note M1 (Technical Guidance Note (Monitoring) M1, Sampling requirements for stack emission monitoring), and a report of compliance and a timetable for improvements was submitted to the Environment Agency in response to the original Permit improvement programme (IP17) in February 2006.

The site also monitors Lead in ambient air at two locations around the site, with one monitor located to the south west of the site and the other to the north east. The samplers used at the site are the Turnkey Instruments, TOPAS range, which are indicative ambient Particulate monitors, and are MCERTS accredited.

The monitors use a light scattering technique to give a continuous and simultaneous indication of the PM_1, $PM_{2.5}$, PM_{10} and TSP mass fractions, with a sample pump continuously drawing ambient air into the instrument with a flow rate set by the microprocessor at 0.000001 m^3 per second. The incoming dusty air passes through a laser beam in a photometer and then through a 25 mm filter to remove the particles before reaching the pump.

The filters are collected and replaced on a monthly basis by Environmental Compliance Ltd, and are sent for analysis by Inductively Coupled Plasma - Emission Spectroscopy (ICP/ES) to determine the quantity of total Lead. The collected filter cassettes are sent to RPS Laboratories, Manchester, who hold UKAS accreditation for the analysis of Lead collected on filters and a field blank is also taken for each sampling campaign. The quantity of Lead on each filter is then divided by the volume of air sampled through that filter to provide a concentration of either background Lead in ambient air, or Lead in air from the direction of the site.

In addition, members of the site management team carry out weekly environmental compliance checks, which include consideration of the two ambient monitoring locations.

6 Resource efficiency and climate change

Q6a Describe the basic measures for improving how energy efficient your activities are

GS Yuasa Battery Manufacturing UK Limited endeavours to undertake operations in an energy efficient manner, and considers energy efficiency as a key operational objective and target for continuous improvement. GS Yuasa Battery Manufacturing UK Ltd has improved its energy efficiency by 57% since its energy monitoring and improvements started in 2004. The table below shows the annual energy summary for the last five years.

Energy Use and CO_2 Production 2012 - 2016

Year	Primary Energy Usage	CO_2 Produced	CO_2 per Unit Output
2012	51,875	8,763	0.549
2013	58,042	9,798	0.505
2014	50,155	8,482	0.526
2015	51,490	8,700	0.519
2016	52,442	9,745	0.567

The site has recently liaised with RUMM, the Remote Utility Monitoring and Management company originally associated with the University of Glamorgan. GS Yuasa Battery Manufacturing UK Limited has taken advice from RUMM previously, and has re-commenced discussions with the group to see whether there are any new suggestions for energy efficiencies and savings to take forward into the future. Many site efficiencies have been realised through better process scheduling and the adoption of good process management practices, as well as commitments to improving plant and infrastructure where required.

An Energy Savings Opportunities Scheme (ESOS) report was undertaken in November 2015 which identified ten key energy savings opportunities which could result in an energy saving of approximately 2,034,688 kWh and approximately £175,000 cost savings.

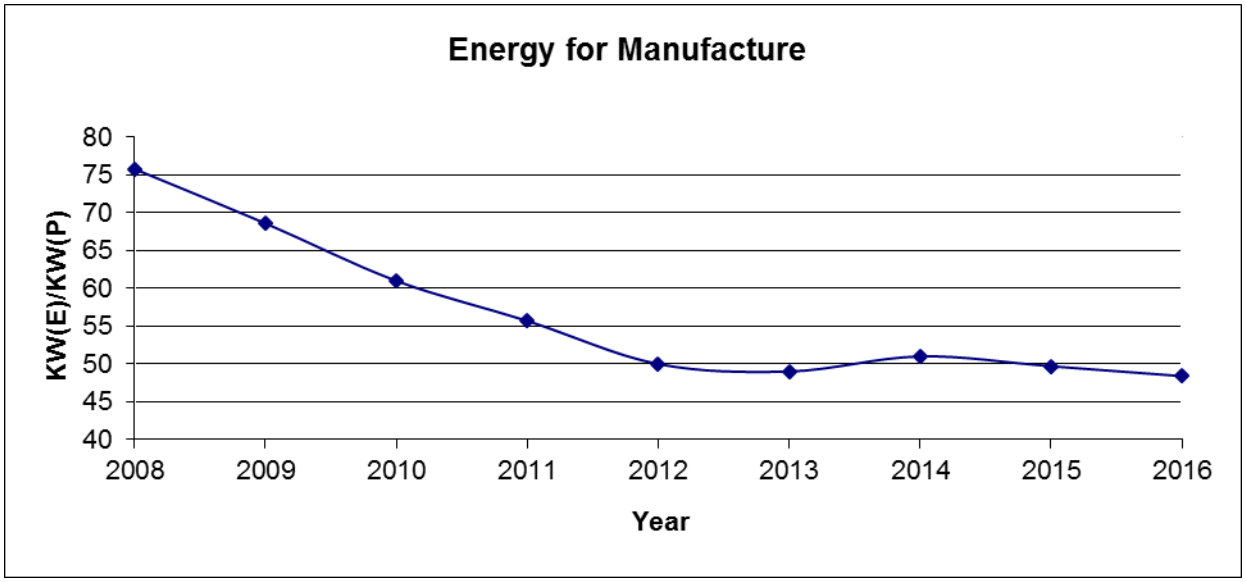
In 2016, the site has continued to internally monitor energy usage and the partner energy monitoring company has assisted in reinforcing the shut-down procedures and suggesting new ideas in ways to reduce energy use further.

Improvements made include:

- Aligning compressor sequencing to ensure the most efficient machines run at certain times of the week.
- Uprating and maintaining power factors to ensure > 0.95

In 2017, the company is looking at the feasibility of installing a wind turbine on the site.

The graph below shows the reduction in kWh of energy used to manufacture kWh of production (Battery capacity measurement) over the last 8 years, and shows a reduction of 35 % in the energy required to manufacture 1 kW of battery power.



Energy use in 2015 was 12.5 kWh / manufactured kWh. This has improved in 2016 to 11.3 kWh / manufactured kWh.

6b Provide a breakdown of any changes to the energy your activities use up and create

The site curing and aging ovens have been modified and where they used to receive steam from one of the site boilers (which is no longer in service) they are now heated from direct fired gas burners, with de-ionised water being introduced into the oven chamber, to form steam in the hot atmosphere. A report prepared by the Carbon Trust in 2010 suggested that installing the direct fired duct heater and spray humidification system on all four curing lanes could save approximately 1,255 MWh per year. This equates to a 55 % saving on the energy use of the curing ovens. In reality, GS Yuasa Battery Manufacturing UK Limited has converted the curing ovens and the two steam aging ovens to direct fired burners, and estimates a 15 – 20 % energy saving overall. The modification and resultant energy saving has had no apparent impact on the manufacturing process, but remains under review. The other proposed action point which has been implemented at the site was the installation of a heat recovery system on the site air compressors, using waste hot air to warm the site wash water. The Carbon Trust report suggested a potential saving of 68 MWh per year from this improvement.

The replacement of the older, large and less efficient steam boilers with direct fired duct heaters, and the use of otherwise waste heat from the site compressors can be considered to be the application of the Best Available Techniques. The use of the direct fired duct heaters reduces energy losses through heating time and transfer to the ovens, and the recovery of waste heat to warm wash water saves on natural fuel resources.

Since the two site boilers have been out of service, the site has reduced its gas consumption by 50%, however, no assessment of the energy use of the new boilers have been carried out.

6c Have you entered into, or will you enter into, a climate change levy agreement?

The site previously had a Climate Change Levy Agreement, and this was renewed on 1st April 2013, to cover the period 1st April 2013 – 31st March 2023. However, from April 2014, the metallurgical processes undertaken by GS Yuasa Battery Manufacturing UK Limited are exempt and their CCA has now been withdrawn.

6d Explain and justify the raw and other materials, other substances and water that you will use

There are no fundamental changes to the nature or relative quantity of the raw materials or water used by the site, proposed by this variation. Raw materials and water use are essentially the same as those which were identified in the original Permit application, and subsequent variations.

6e Describe how you avoid producing waste in line with Council Directive 2006/12/EC on waste

GS Yuasa Battery Manufacturing UK Limited continuously monitor cost reductions which are controlled by the Plant Manager. The aim is to develop an increased awareness among staff leading to continual improvement, using the basis of total productivity maintenance. The purpose is to consider cost reduction projects, which are essentially waste minimisation projects, based on the running schedules of the site. Subjects reviewed include new materials, line efficiencies, process cell rejection minimisation, scrap reduction, and removal of unnecessary components, amongst others.

Some of the specific projects highlighted include a reduction in the number of fork lift trucks in operation at the site and the repair of pallets on site rather than sending the wood for recycling. The production of Lead contaminated waste, resins, oils and general wastes, and methods of reducing these wastes are issues which are all reviewed under the cost reduction meetings.

Waste is still produced by the process however, and the site employs the waste hierarchy when investigating potential routes for their waste. Where waste cannot be prevented, the site would endeavour to re-use the waste in house, prepare it for re-use, recycle materials, send waste for energy recovery where available, and would, as a final resort dispose of their waste. Only 11 of 29 waste types sent off site are currently sent for disposal, with the remainder being sent for recovery / recycling. This resulted in approximately 88 % of all site waste removed for third party treatment being recovered or recycled in 2016, with approximately 12 % being sent off site for disposal.

Since the issue of the original Environmental Permit (under the PPC Permitting regime) various schemes have been introduced to recycle Lead waste from the battery production process, on site. The first Lead recycling operation introduced by the site was made up of the old off-cut hopper which was moved from Factory 1, into Factory 2 in 2006 to become a Lead recycling process. This system is no longer in use at the site and as a result of this variation will be removed from the Permit altogether. The reason for reverting to off-site Lead recycling is because in-house recycling was found to affect battery quality and therefore a decision was made to send waste Lead for third party recycling, rather than compromise the quality of the batteries produced.

The more recent Lead dross recycling system uses a Metaullics Systems Europe B.V. recycling process (the MZR). The MZR essentially comprises a rotating inner drum within a heated chamber. Lead dross from the primary melting processes is stored within drums which form the inner to the MZR, and once sufficient dross is collected the drum is loaded into the unit. The unit can hold a maximum of 800 kg of dross per batch. The outer drum is heated using a Weishaupt WG10N/1-D low NO_x 110 kW gas fired burner, which has been set to 85 kW, and is automatically controlled by two thermocouples within the furnace. The whole unit is raised onto an angle, and the inner drum rotates within the heated outer shell. The melting process takes approximately 3 hours, and once complete, a light indicates that the Lead can be poured into ingots. The site currently operates, on average, one batch per day, although this could be increased to three batches in the future, should the quantities of dross waste require.

Once the molten Lead is poured, a fine dust remains within the drum and is vacuumed out manually using a type H vacuum, which collects the residue directly into a lined 205 litre drum. Once the drum is full the lid is replaced and sealed, and the drum is removed to a dedicated area within the Lead waste store to await collection and transportation to H J Enthoven for further recycling.

The table below shows the amount of what is mainly Lead Dross (tonnes) processed on the site for the last five years:

YEAR	2012	2013	2014	2015	2016
Actual	590	327	275	301	431
Net	524	571	169	185	275

The recycling of dross is therefore economically and environmentally beneficial, and is considered to represent Best Available Techniques (Natural Resources Wales - How to comply with your environmental permit Additional guidance for: Non-Ferrous Metals and the Production of Carbon and Graphite (EPR 2.03)).

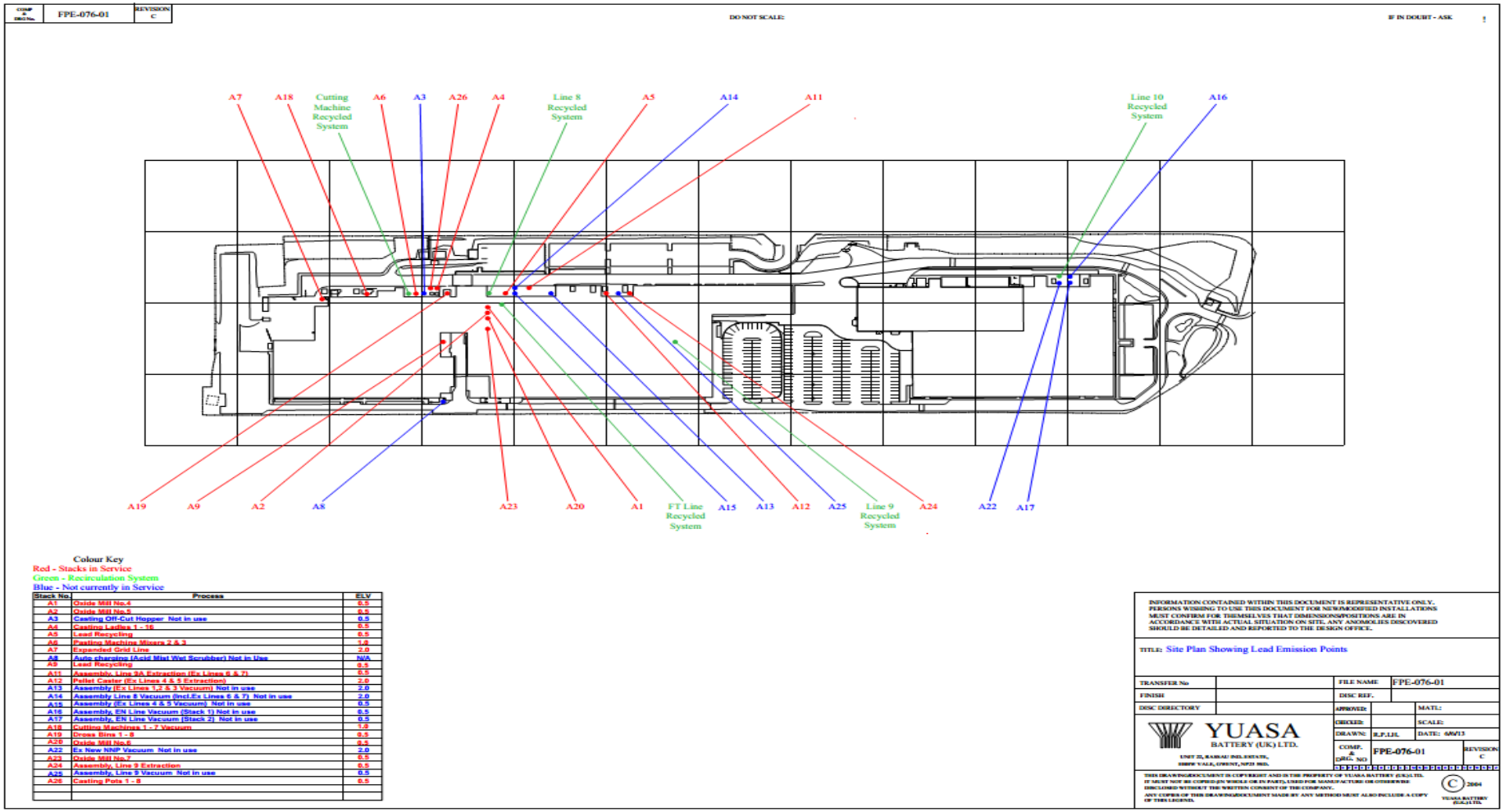
It is noted that a degree of battery recycling has always been undertaken at the site, and this continues as follows:

When a battery fails a voltage test as part of the quality assurance procedure, it is categorised as to whether it can simply be recharged or whether it requires fault analysis. Where fault analysis is required, the technical team manually cut the battery open and analyse the fault in order to feed-back information on the fault and any necessary improvements to the appropriate process. As a QA / fault analysis procedure, this operation is only ever undertaken on a small number of batteries.

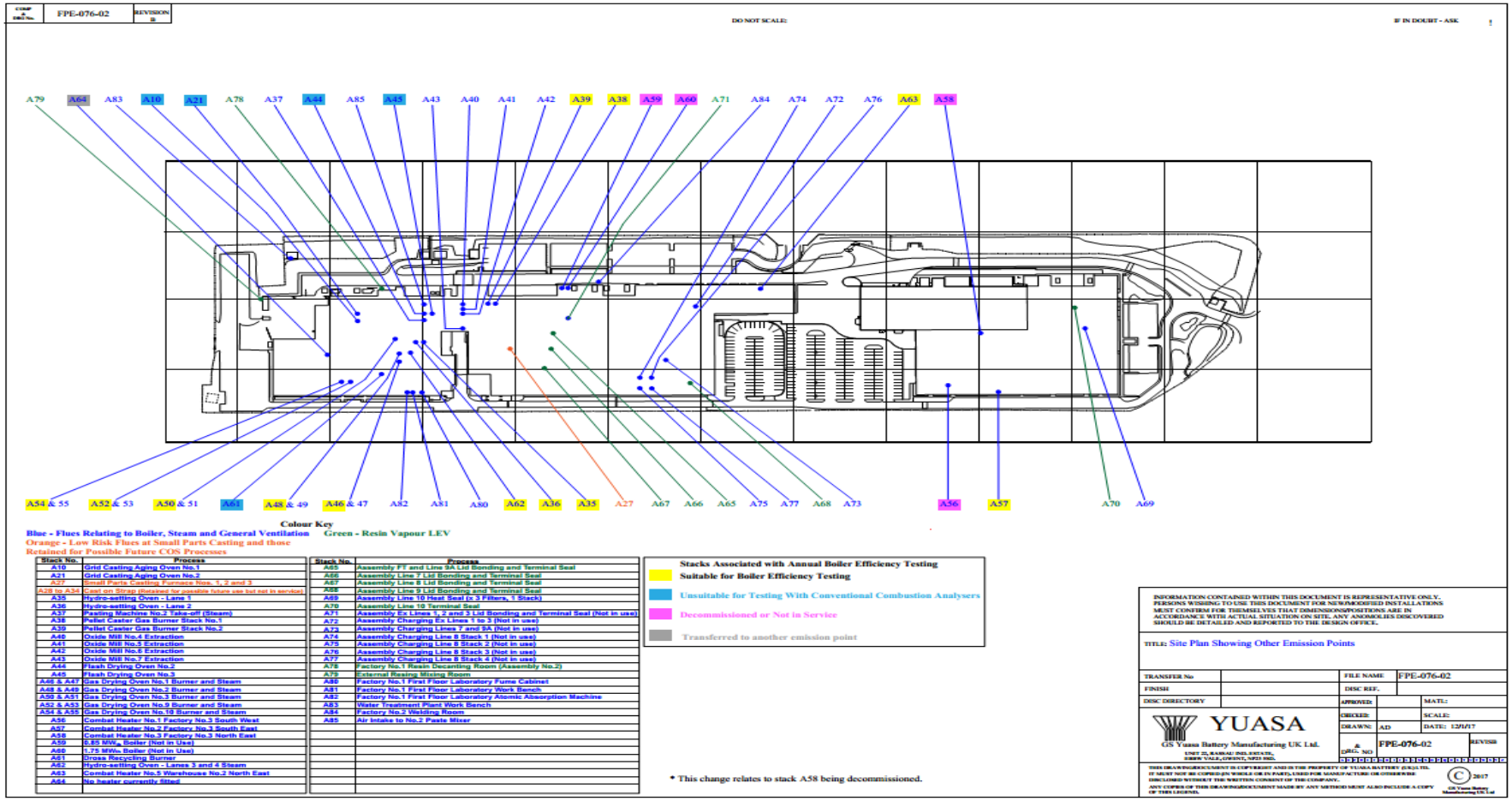
Following analysis, the Lead parts are placed in a large storage bin and stored prior to off-site recycling. Plastic parts are washed, granulated and reused for mouldings which are not critical to battery performance e.g. the manufacture of battery covers. The glass mat material will have already absorbed the dilute sulphuric acid from the battery, which was as good as complete prior to testing. As such, there is limited free acid in the battery, however the glass mat which is soaked in the acid cannot be re-used or recycled, and is placed in a waste container for disposal.

There are no changes proposed by this variation, to the management of wastes at the GS Yuasa Battery manufacturing UK Limited facility, however, it is mainly Lead Dross waste which is now recycled at the site. All other Lead wastes are sent off-site for recycling.

Appendix 1 - Plan of Lead Emission



Plan of Other Emissions Points



Stack No.	Process
A10	Grid Casting Aging Oven No.1
A21	Grid Casting Aging Oven No.2
A27	Small Parts Casting Furnace Nos. 1, 2 and 3
A28 to A34	Cast on Strap (Retained for possible future use but not in service)
A35	Hydro-setting Oven - Lane 1
A36	Hydro-setting Oven - Lane 2
A37	Pasting Machine No.2 Take-off (Steam)
A38	Pellet Caster Gas Burner Stack No.1
A39	Pellet Caster Gas Burner Stack No.2
A40	Oxide Mill No.4 Extraction
A41	Oxide Mill No.5 Extraction
A42	Oxide Mill No.6 Extraction
A43	Oxide Mill No.7 Extraction
A44	Flash Drying Oven No.2
A45	Flash Drying Oven No.3
A46 & A47	Gas Drying Oven No.1 Burner and Steam
A48 & A49	Gas Drying Oven No.2 Burner and Steam
A50 & A51	Gas Drying Oven No.3 Burner and Steam
A52 & A53	Gas Drying Oven No.9 Burner and Steam
A54 & A55	Gas Drying Oven No.10 Burner and Steam
A56	Combat Heater No.1 Factory No.3 South West
A57	Combat Heater No.2 Factory No.3 South East
A58	Combat Heater No.3 Factory No.3 North East
A59	6.85 MW$_{th}$ Boiler (Not in Use)
A60	1.75 MW$_{th}$ Boiler (Not in Use)
A61	Dross Recycling Burner
A62	Hydro-setting Oven - Lanes 3 and 4 Steam
A63	Combat Heater No.5 Warehouse No.2 North East
A64	No heater currently fitted

Stack No.	Process
A65	Assembly PT and Line 9A Lid Bonding and Terminal Seal
A66	Assembly Line 7 Lid Bonding and Terminal Seal
A67	Assembly Line 8 Lid Bonding and Terminal Seal
A68	Assembly Line 9 Lid Bonding and Terminal Seal
A69	Assembly Line 10 Heat Seal (c 3 Filters, 1 Stack)
A70	Assembly Line 10 Terminal Seal
A71	Assembly Ex Lines 1, 2 and 3 Lid Bonding and Terminal Seal (Not in use)
A72	Assembly Charging Ex Lines 1 to 3 (Not in use)
A73	Assembly Charging Lines 7 and 9A (Not in use)
A74	Assembly Charging Line 8 Stack 1 (Not in use)
A75	Assembly Charging Line 8 Stack 2 (Not in use)
A76	Assembly Charging Line 8 Stack 3 (Not in use)
A77	Assembly Charging Line 8 Stack 4 (Not in use)
A78	Factory No.1 Resin Decanting Room (Assembly No.2)
A79	External Resing Mixing Room
A80	Factory No.1 First Floor Laboratory Fume Cabinet
A81	Factory No.1 First Floor Laboratory Work Bench
A82	Factory No.1 First Floor Laboratory Atomic Absorption Machine
A83	Water Treatment Plant Work Bench
A84	Factory No.2 Welding Room
A85	Air Intake to No.2 Paste Mixer

Appendix 2 – Specific questions for the chemical sector

1 Please provide a technical description of your activities

There are no fundamental changes proposed to the chemical sector activities undertaken at the site. This variation is for changes to air emissions following the removal of Lead recycling process and adding a new small parts furnace.

The site has eight bulk storage tanks for acid, caustic soda solution, or sodium hypochlorite.

Bulk Storage Tanks

Tank No.	Contents	Volume (m^3)	Construction and Date	Bunding	Fill Points
1	Sulphuric Acid 1.4 SG (F1)	2 x 20 (linked tanks)	Steel with hard rubber lining 1982	Acid Resistant Concrete with GRP lined base and sides	Saunders Valve (Padlocked)
2	Sulphuric Acid 1.4SG (F2)	36	Polyethylene 1986	Acid Resistant Concrete with GRP lined sides	Saunders Valve (Padlocked)
3	Sulphuric Acid 1.4 SG (F4)	25	Polypropylene 1994	Acid Resistant Concrete with GRP lined base and sides	Saunders Valve (Padlocked)
4	Caustic soda solution (F2)	15	Polyethylene 1986	Polyetheylene	Saunders Valve (Padlocked)
5	Caustic soda solution (F4)	15	Polypropylene 1994	Polyethylene	Saunders Valve (Padlocked)
6	Waste Sulphuric Acid (F2)	1 x 15 and 1 x 20 (linked tanks)	Polyethylene 1986	Acid Resistant Concrete with GRP lined sides	Screw Type Fitting
7	Ex-Formation Recirculation System (F1) - Currently redundant and empty	15	Polypropylene 1994 (approx.)	Acid Resistant Concrete with GRP lined base and sides	No external fill point fitted
8	Sodium hypochlorite (Water Plant)	1	PVC 1997	PVC	PVC Ball Valve

The majority of the bulk acid tanks are located close to the main site effluent treatment plant between Factories 1 and 2. The two caustic soda solution tanks are located within the effluent treatment plants of Factories 2 and 4, which they serve, and a sodium hypochlorite tank is used as part of the water abstraction system located inside a water treatment plant to the rear of Factory 1. The factory No.4 bulk acid tank is located behind Factory 4 on the north road of the site.

All of these bulk storage tanks hold either dilute sulphuric acid for plate manufacture and assembly, caustic soda solution for use in the effluent treatment processes or sodium hypochlorite for water treatment. Waste sulphuric acid is also stored at factory No.2 prior to disposal, and all are located above ground. Tank No.7 is currently redundant and empty.

The site also has seventeen storage and mixing systems as detailed in the table below, although Tanks 11, 12 & 15 have been removed from service and Tanks 13 and 14 are currently out of service:

Small Process Storage and Mixing Tanks

Tank No.	Contents	Volume (m^3)	Construction and Date	Bunding	Fill Points
Factory 1					
9	Sulphuric Acid 1.4 SG (Pasting North F1)	1.5	PVC 1986 (approx.)	PVC	25mm polyurethane pipe from bulk acid tank No.1
10	Sulphuric Acid 1.4 SG (Pasting South F1)	1.5	PVC 1986 (approx.)	PVC	25mm P.V.C. pipe from acid tank No. 9
11	Sulphuric Acid 1.4 SG Currently redundant and empty	1.5	Polypropylene 1993 (approx.)	Polypropylene	Tank filled via 25mm polyurethane pipe work from bulk acid tank No.1
12	Sulphuric Acid 1.4 SG - Currently redundant and empty	1.5	Polypropylene 1993 (approx.)	Polypropylene	Tank filled via 25mm polyurethane pipe work from bulk acid tank No.1
13	Sulphuric Acid 2.90 SG - Currently out of service	4.0	Polypropylene 1995 (approx.)	Polypropylene	Tank filled via 63mm P.V.C. pipe work from acid tank No.11
14	Sulphuric Acid 1.255 SG - Currently out of service	4.0	Polypropylene 1995 (approx.)	Polypropylene	Tank filled via 63mm P.V.C. pipe work from acid tank No.12
15	Sulphuric Acid 1.290 SG - Currently redundant and empty	0.8	Polypropylene 2007	Polypropylene	Tank filled via 32mm polyethylene pipe work from acid tank No.13
Factory 2					
16	Sulphuric Acid 1.4 SG (Assembly Upper Acid Mix F2 West for dilution)	1.5	PVC 1986 (approx.)	Acid Resistant Concrete with GRP lined base and sides	Tank filled via 25mm polyurethane pipe work from bulk acid tank No.2
17	Sulphuric Acid 1.4 SG (Assembly Upper Acid Mix F2 Centre for dilution)	1.5	PVC 1986 (approx.)	Acid Resistant Concrete with GRP lined base and sides	Tank filled via 25mm polyurethane pipe work from bulk acid tank No.2
18	Sulphuric Acid 1.4 SG (Assembly Upper Acid Mix F2 East for dilution)	1.5	PVC 1986 (approx.)	Acid Resistant Concrete with GRP lined base and sides	Tank filled via 25mm polyurethane pipe work from bulk acid tank No.2

19	Sulphuric Acid 1.220 SG (Assembly Lower Acid Mix F2 West)	1.5	PVC 1986 (approx.)	Acid Resistant Concrete with GRP lined base and sides	Tank filled via 50mm PVC pipe work from acid tank No.16
20	Sulphuric Acid 1.240 SG (Assembly Lower Acid Mix F2 Centre)	1.5	PVC 1986 (approx.)	Acid Resistant Concrete with GRP lined base and sides	Tank filled via 50mm PVC pipe work from acid tank No.17
21	Sulphuric Acid 1.220 SG (Assembly Lower Acid Mix F2 East)	1.5	PVC 1986 (approx.)	Acid Resistant Concrete with GRP lined base and sides	Tank filled via 50mm PVC pipe work from acid tank No.18
Factory 4					
22	Sulphuric Acid 1.4 SG (Assembly Upper Acid Mix for dilution F4)	1.5	PVC 1993 (approx.)	Acid Resistant Concrete with GRP lined base and sides	Tank filled via 50mm PVC pipe work from bulk acid tank No.3
23	Sulphuric Acid 1.220 SG (Assembly Lower Acid Mix F4)	1.5	PVC 1993 (approx.)	Acid Resistant Concrete with GRP lined base and sides	Tank filled via 50mm PVC pipe work from acid tank No.22
24	Sulphuric Acid 1.4 SG (Assembly Upper Acid Mix for dilution F4)	1.5	PVC 1993 (approx.)	Acid Resistant Concrete with GRP lined base and sides	Tank filled via 50mm PVC pipe work from IBC.
25	Sulphuric Acid 1.240 SG (Assembly Lower Acid Mix F4)	1.5	PVC 1993 (approx.)	Acid Resistant Concrete with GRP lined base and sides	Tank filled via 50mm PVC pipe work from upper tank.