Natural Resources Wales permitting decisions

GS Yuasa Battery Manufacturing UK Limited

Rassau Battery Manufacturing Site

Decision Document

Contents

Variation

The variation number is: EPR/BV5386IX/V007

The operator is: GS Yuasa Battery Manufacturing UK Limited

The installation is located at: Rassau Battery Manufacturing Site, Unit 22, Rassau Industrial Estate, Ebbw Vale, Gwent, NP23 5SD

We have decided to issue the variation for Rassau Battery Manufacturing Site operated by GS Yuasa Battery Manufacturing UK Limited.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

This application is to vary current permit number EPR/BV5386IX to incorporate a new assembly line extraction point for Lead, to include new oven and boiler equipment, and to add or remove emissions to air discharge points as appropriate, for equipment already installed at the site.

The site proposes to include a total of 16 emission points to air onto their existing permit, although 8 are already in place and have been for several years. These have inadvertently been missed from the permit previously and cover the combustion and process releases from 2 ovens (with multiple discharge points per oven) and two space heaters used for parts curing.

The eight other discharge points are completely new, although six of these will ultimately replace six existing discharges which can subsequently be removed from the permit. As there will be a period between installation and decommissioning where all of the discharge points may be required, new emission point numbers will be provided for the replacement plant, with the existing discharges subsequently being mothballed or removed. Their anticipated removal is subject to a future permit variation.

The processes for inclusion comprise:

One Lead Local Exhaust Ventilation (LEV) discharge (A94), requiring an Emissions Limit Value (ELV) of 0.2 mg m-3 (at STP) Lead.
One 244 kW steam boiler (A95), one 300 kW drying oven (A96 and A97) and one 300 kW curing oven (A98-A101), with 7 process or combustion emissions discharges in total, and equating to 844 kW thermal capacity (total). These will effectively replace 3 old boilers with 6 discharge points (A46 – A51) and a total capacity of 525 kW.
Discharge point A71, which is listed on the permit, but which has not been in use for some time, will be brought into operation, extracting assembly lines for lid bonding and terminal seal.
A86-A93 were added to the permit with the variation. These were existing discharge points which had not previously been properly documented in the permit.

It is not expected that there will be any significant increase in throughput or raw materials use at the site due to the incorporation of the equipment listed above.

Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Key issues of the decision

Receipt of application

The application was received at Natural Resources Wales (NRW) on 02/12/2021, a not duly made letter was sent on 11/03/2022 requesting input files for the air dispersion modelling and the sites environmental management systems ISO certificate. The application was accepted as duly made on receipt of the reply to the not duly made letter on 15/03/2022. This means we considered it was in the correct form and contained sufficient information for us to begin our determination, but not that it necessarily contained all the information we would need to complete that determination.

Legislation

NRW is satisfied that this decision is compatible with its general purpose of pursuing the sustainable management of natural resources in relation to Wales and applying the principles of sustainable management of natural resources

All applicable European directives have been considered in the determination of the application.

The site

The permit boundary is unaltered, the operator provided a plan showing the updated internal layout of the facility.

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

Several batch processes take place to produce the batteries, including melting of lead ingots to form the battery plates and pellets, production of lead oxide from lead pellets

in rotary mills, production of lead paste for the manufacture of the battery plates, injection moulding of battery cases, and final charging of the batteries.

There are a total of 77 releases to air following permit variation. There are two releases to sewer from the two on site effluent treatment plants and one release of uncontaminated surface water to Cwm Nant Melyn. Ambient monitoring for lead is undertaken around the site and at a local sensitive receptor.

Environmental Risk Assessment

Air

This section of the decision document deals primarily with the dispersion modelling of emissions to air from the stack and its impact on local air quality.

The Applicant has assessed the Installation's potential emissions to air against the relevant air quality standards, and the potential impact upon human health. These assessments predict the potential effects on local air quality from the Installation's stack emission.

The air impact assessments, and the dispersion modelling has been based on the Installation operating continuously at the relevant long-term emission limit values, i.e. the maximum permitted emission rate. There are no short term emission limit values for lead.

We are in agreement with this approach. The assumptions underpinning the model have been checked and are reasonably precautionary. The way in which the applicant used dispersion models, its selection of input data, use of background data and the assumptions it made have been reviewed by Natural Resources Wales to establish the robustness of the Applicant's air impact assessment. The output from the model has then been used to inform further assessment of health impacts.

As part of this application, an H1 Environmental Risk Assessment has been provided and 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.

The results of the H1 assessment cannot screen the proposed emissions as insignificant when compared against the Ambient Air Directive limit value for ambient concentrations of Lead (0.5 µg m^{-3}) and would therefore also not be considered insignificant when compared to the more stringent objective value specified by the UK Air Quality Strategy (0.25 µg m^{-3}). As such, a dispersion modelling assessment has been prepared to support the application.

To screen out a PC for any substance so that you do not need to do any further assessment of it, the PC be less than 1% of the long term environmental standard. The results from modelling predict that the site operations result in a maximum annual average Process Contribution (PC) of Lead which equates to approximately 62 % of the UK Air Quality Strategy (AQS) Objectives value and hence does not immediately screen as insignificant. Therefore we have considered the Predicted Environmental Concentration (PEC).

The dispersion modelling assessment demonstrates that the impact of the emissions from the site operations remain within the UK Air Quality Strategy objective value of 0.25 µg m^{-3} across the entire modelled area. As the PEC is <100% of ES at all points, the proposal is unlikely to cause significant pollution.

The results from this modelling assessment therefore confirm that emissions of Lead to air from the existing and proposed operations at the site are acceptable, will not result in any exceedance of the UK Air Quality Strategy objective value, and are screened as insignificant at local sensitive receptors, either at the initial or secondary assessment stage.

Emissions from combustion such an NOx were not considered due to the relatively small capacity of the site (4.25 MW). The site had a total installed combustion capacity of 3.37 MW prior to this variation.

Biodiversity, Heritage, Landscape and Nature Conservation

The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat .

European Protected Sites

A full assessment of the application and its potential to affect the sites been carried out as part of the permitting process. We consider that the application will not affect the features of the sites.

The only emission that was assessed as part of this application was lead. It was determined that there is no impact pathway to the sites or the protected features within the site therefore, it is very unlikely that this variation will have a significant detrimental effect on any site within the screening distance.

A habitats risk assessment concluded that there would be no likely significant effect on any Special Area of Conservation, Special Protection area or Ramsar site as a result of the changes within this installation variation. Full details of the assessment can be found in the Habitats Regulation Assessment ("Form 1") which can be found on the public register

SSSI's

A full assessment of the application and its potential to affect the sites been carried out as part of the permitting process. We consider that the application will not affect the features of the sites.

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An appendix 4 assessment concluded that any emissions resulting from this variation are not likely to damage any of the flora, fauna features which are of special interest. Full details of the assessment can be found in the Appendix 4 form which can be found on the public register.

Local Wildlife Sites

There are 2 local nature reserves, 20 local wildlife sites and 3 ancient woodland within the relevant screening distance.

The only emission that was assessed as part of this application was lead. As the PEC does not exceed 100% of the AQS we are satisfied that there will be no adverse effect.

Emission limits

We have listed an additional emission limit on discharge to air, A94 within the permit as part of this application. At the applicants request, we have added a lead ELV (0.2 mg m^{-3}) for the Local Exhaust Ventilation which is part of the assembly line in factory 2.

The proposed system will incorporate a Donaldson Dynoflo Evolution Dust Collector Type DFE5-40. The filtration system has been designed to generally meet an ELV of 0.1 mg m-3. Note that the required ELV of 0.2 mg m-3 Lead is higher than that which is stipulated by the technology provider. This is considered to be the maximum potential discharge, and is unlikely to represent the long-term release from the flue.

Water

This variation will not impact emissions to water.

Soil

This variation will not impact emissions to soil.

Odour

We are satisfied that this variation will not cause an increase in odour from the installation. Odour is not considered to be a significant issue at the installation.

Permit condition 3.3.1 requires that emissions from the activities are free from odour at levels likely to cause pollution outside the site. We are satisfied that this condition will be sufficiently protective.

Noise

We are satisfied that this variation will not cause an increase in noise from the installation. Noise is not considered to be a significant issue at the installation.

This variation will not have a significant impact on the management or the processes at the site therefore, NRW do not expect any significant changes in noise levels.

Fugitive emissions

We are satisfied that this variation will not cause an increase in fugitive emissions from the installation. This variation will not have a significant impact on the overall management or the processes at the site therefore, NRW do not expect any significant changes in fugitive emissions.

Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise fugitive emissions and to prevent pollution from fugitive emissions.

Monitoring

We have decided that monitoring should be carried out for the parameters listed in the permit, using the methods detailed and to the frequencies specified.

The only additional emission point with monitoring that has been added to the permit as a result of this variation is A94. We have specified quarterly monitoring frequency for the Local Exhaust Ventilation which is part of the assembly line in factory. This activity is already covered by directly associated activity A6 in table S1.1 within the permit.

Reporting

A94 has also been added to the quarterly reporting of lead.

Operating techniques

The proposed techniques/ emission levels for priorities for control are in line with the benchmark levels contained in the TGN and we consider them to represent appropriate techniques for the facility.

The permit conditions

Raw materials

There are no fundamental changes to the nature or relative quantity of the raw materials used by the site, proposed by this variation. Production will remain the same at this stage and, since production will not increase significantly, all other raw materials and chemical use will largely remain the same.

OPRA

The OPRA score is unaltered at 145.

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