

Permitting decisions

Variation

We have decided to issue an Environment Agency initiated variation for Knowsley Waste Facility operated by Mulberry Waste Limited following a review of the permit in accordance with Environmental Permitting (England and Wales) Regulations 2016, regulation 34(1).

The variation number is EPR/ZP3439RM/V004.

In addition to implementing the permit review, this variation also makes the following changes to the permit that were applied for by the operator under permit variation application EPR/ZP3439RM/V005.

Permit Review

This Environment Agency has a duty, under the Environmental Permitting (England and Wales) Regulations 2016 (EPR), regulation 34(1), to periodically review permits. Article 21(3) of the Industrial Emissions Directive (IED) also requires the Environment Agency to review conditions in permits to ensure that they deliver compliance with relevant standards, within four years of the publication of updated decisions on Best Available Techniques (BAT) Conclusions.

We have reviewed the permit for this regulated facility and varied the permit to make a number of changes to reflect relevant standards and best practice. These changes principally relate to the implementation of our technical guidance <https://www.gov.uk/guidance/chemical-waste-appropriate-measures-for-permitted-facilities> and the relevant requirements of the [BAT Conclusions for Waste Treatment](#) which have been incorporated into our guidance.

In this decision document, we set out the reasoning for the variation notice that we have issued.

It explains how we have reviewed and considered the techniques used by the operator in the operation and control of the plant and activities of the installation (operating techniques) against our technical guidance.

As well as considering the review of the operating techniques used by the Operator for the operation of the plant and activities of the installation, the consolidated variation notice takes into account and brings together in a single document all previous variations that relate to the original permit issue. Where this has not already been done, it also modernises the entire permit to reflect the conditions contained in our current generic permit template.

Permit variation application

In addition to implementing the permit review, this variation also makes the following changes to the permit that were applied for by the operator under permit variation application ZP3439RM/V005:

- Add New activity Section 5.3 Part (A)(1)(a)(ii): for the recovery of mercury using a mercury retort.
- Amend activity Section 5.3 Part (A)(1)(a)(ii): by replacing the tube crusher with a WEEE crusher/shredder.
- Add new activity Section 5.3 Part A(1)(a)(ii): from treatment of plastic non-hazardous and hazardous waste by, density separation and segregation using the Float: Sink equipment.
- Addition of an Orbital materials sorter for sorting non-hazardous plastic waste.
- Add new wastes codes that are consistent with current mercury-containing waste streams and WEEE streams.
- Addition of a small diesel fire generator <1Mth.

Purpose of this document

This decision document provides a record of the decision making process. It:

- explains how the Environment Agency initiated variation has been determined;
- summarises the decision making process in the [decision considerations](#) section to show how the main relevant factors have been taken into account;
- highlights [key issues](#) in the determination.

Read the permitting decisions in conjunction with the environmental permit and the variation notice.

Key issues of the decision

Environment Agency led variation – permit review

We have carried out an Environment Agency initiated variation to the permit following a permit review as required by legislation to ensure that permit conditions deliver compliance with relevant legislative requirements and appropriate standards to protect the environment and human health.

The Industrial Emissions Directive (IED) came into force on 7 January 2014 with the requirement to implement all relevant Best Available Techniques (BAT) Conclusions as described in the Commission Implementing Decision. Article 21(3) of the IED requires the Environment Agency to review conditions in permits that it has issued and to ensure that the permit delivers compliance with relevant standards, within four years of the publication of updated decisions on Best Available Techniques (BAT) Conclusions.

The BAT Conclusions for Waste Treatment (the BREF) was published on 17 August 2018 following a European Union wide review of BAT, implementing decision (EU) 2018/1147 of 10 August 2018. Relevant existing facilities were expected to be in compliance with the BAT Conclusions within 4 years (i.e. by August 2022).

On 18 November 2020, Chemical Waste: appropriate measures for permitted facilities guidance was published on gov.uk. This technical guidance explains the standards that are relevant to regulated facilities with an environmental permit to treat or transfer chemical waste, providing relevant standards (appropriate measures) for those sites and incorporating the relevant requirements of the BAT Conclusions.

Whilst Chemical Waste: appropriate measures is the key part of our permit review if other activities are taking place under the permit associated to other appropriate measures guidance which are included in the operating techniques table include reference to them in the DD.

The following Appropriate Measures guidance is also applicable to the permitted activities being varied under this permit review and has been included in the operating techniques table.

Healthcare waste: appropriate measures for permitted facilities - published 13 July 2020. Non-hazardous and inert waste: appropriate measures for permitted facilities - published 12 July 2021. Waste electrical and electronic equipment (WEEE): appropriate measures for permitted facilities – published July 2022.

We issued a notice under regulation 61(1) of the Environmental Permitting (England and Wales) Regulations 2016 (a Regulation 61 Notice) on 15/11/2021 requiring the operator to provide information to confirm that the operation of their facility currently meets, or how it will subsequently meet, the standards (appropriate measures) described in our technical guidance.

The notice required that where the revised standards are not currently met, the operator should provide information that:

- Describes the techniques that will be implemented to ensure operations meet the relevant standards and by when, or
- Explains why they are not applicable to the facility in question, or

- Justifies why an alternative technique is appropriate and will achieve an equivalent level of environmental protection to the standards described in our guidance

The standards described in our technical guidance are split into 7 chapters:

- General management appropriate measures
- Waste pre-acceptance, acceptance and tracking appropriate measures
- Waste storage, segregation and handling appropriate measures
- Waste treatment appropriate measures
- Emissions control appropriate measures
- Emissions monitoring and limits appropriate measures
- Process efficiency appropriate measures

We have set emission limit values (ELVs) and monitoring requirements for relevant substances in line with our technical guidance and the BAT Conclusions for Waste Treatment, unless a tighter, i.e. more stringent, limit was previously imposed and these limits have been carried forward.

The Regulation 61 notice required the operator to confirm whether they could comply the standards described in each of these chapters. Table 1 below provides a summary of the response received and our assessment of it. The overall status of compliance with the standards (appropriate measures) is indicated in the table as:

NA – Not Applicable

CC – Currently Compliant

FC – Compliant in the future (through improvement conditions set in permit)

NC – Not Compliant

In accordance with Article 22(2) of the Industrial Emissions Directive, the Regulation 61 notice asked the operator to provide a soil and groundwater risk assessment, along with a baseline report or summary report confirming the current state of soil and groundwater contamination, where listed activities are undertaken that involve the use, production or release of relevant hazardous substances.

The Regulation 61 notice also asked the operator to confirm whether they operate a medium combustion plant or specified generator (as per Schedule 25A or 25B of EPR 2016) and whether they had considered how their operations could be affected by climate changes (e.g. through a climate change adaptation plan).

Our assessment of the responses received from the operator regarding soil and groundwater risk assessment, medium combustion plant and specified generators, and consideration of climate change are also summarised in Table 1.

The Regulation 61 notice response from the Operator was received on 07/03/2023.

Table 1 – Summary of our assessment of the operator’s Reg 61 response

| Appropriate measures | Compliance status | Assessment of the installation's compliance with relevant standards (appropriate measures) and any alternative techniques proposed by the operator |
|---|-------------------|---|
| General management appropriate measures | CC | <i>The operator confirmed that they currently meet the requirements of all appropriate measures in this section. Compliance with the appropriate measures in this section of the guidance has been incorporated into the varied permit through the updated operating techniques listed in Table S1.2.</i> |
| Waste pre-acceptance, acceptance and tracking appropriate measures | CC | <p><i>Operator confirmed that they currently meet the requirements of the appropriate measures in this section with the exception of Appropriate Measure 26 of Section 3.2, which requires waste to be held in a dedicated quarantine area for no more than 5 working days.</i></p> <p><i>The operator has confirmed that operating procedures for waste acceptance and rejection has been updated. See email from operator 24/01/2024 Compliance with the other appropriate measures in this section of the guidance has been incorporated into the varied permit through the updated operating techniques listed in Table S1.2.</i></p> |
| Waste storage, segregation and handling appropriate measures | CC | <p><i>The operator has confirmed that operating procedures for waste acceptance and rejection has been updated. See email from operator 24/01/2024</i></p> <p>16 – sampling of waste is not needed for the wastes accepted</p> <p>19 – no lab smalls accepted</p> <p>24 - 26 – no bulk wastes to be accepted</p> <p>27 - 41 – testing not needed for the types of wastes accepted</p> |
| Waste treatment appropriate measures | CC | Operator confirmed they comply with treatment AM – e-mail 23/01/2024 |
| Emissions control appropriate measures | CC | <p>Operator confirmed they comply with treatment AM – e-mail 23/01/2024A noise and vibration assessment will be carried out within the first month of full operations.</p> <p>There will be an emissions point source from the retort process (as and when installed) EP1.</p> <p>We have added an improvement condition for the emissions from the vents from the storage tanks (IC 2)</p> <p>☺</p> |

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| Emissions monitoring and limits appropriate measures | CC | <p>Operator confirmed they comply with treatment AM – e-mail 23/01/2024</p> <p>We will be required to report process monitoring on samples of crushed glass cullet after processing for mercury.</p> <p>We will be required to report on samples of wastes processed from the retort equipment for residual mercury concentrations.</p> <p>Table S3.1 Monitoring now in place</p> |
| Process efficiency appropriate measures | CC | The site has not been used for the past 3 years. We will comply with these conditions for 2022. An energy efficiency plan will be created by the end of 2022. |
| Reg 61 requirement Assessment of response received | | |
| Soil and groundwater risk assessment | <i>The Operator has chosen not to submit any baseline data. In doing so they accept that there is zero pre-existing contamination and the risk that they may be required to clean up any pre-existing contamination when the permit is surrendered.</i> | |
| Medium combustion plant and specified generators | N/a | |
| Climate change | <i>The operator addressed climate change risks in their Environmental Risk Assessment. Climate Change Adaptation will be delivered through the EMS condition and an improvement condition is not required..</i> | |
| Summary of other changes made to the permit as a result of our assessment of the Reg 61 response | | |
| Change | Reason for change | |
| N/a | N/a | |

Variation application made by operator

This section summarises the key issues that we considered in relation to permit variation application ZP3439RM/V005, which was duly made by the operator on 26/04/2023 and separate to the permit review detailed above.

Key issues of the decision

The operator requested the following changes to the permit:

- add new activity Section 5.3 Part (A)(1)(a)(ii): for the recovery of mercury using a mercury retort
- amend activity Section 5.3 Part (A)(1)(a)(ii): replace tube crusher with new WEEE crusher/shredder process
- add new activity Section 5.3 Part A(1)(a)(ii): from treatment of waste by density separation and segregation using a Float: sink tank
- addition of a new orbital sorter for sorting non-hazardous waste
- add new wastes codes that are consistent with current mercury-containing waste streams and WEEE streams
- addition of a small diesel fire generator

The two key issues identified during the determination were regarding the containment of mercury emissions and potential emissions from the WEEE crusher shredder.

Mercury Retort

Mercury: We have taken the limit in accordance with BAT 32. Table 6.6 BAT-associated emission level (BAT-AEL) for channelled mercury emissions to air from the mechanical treatment of WEEE containing mercury: Parameter Unit BAT-AEL (Average over the sampling period) 7 µg/Nm³.

We have included ELV limits in the permit, table S3.1 for mercury and monitoring every 2 months. This also includes particulate matter and cadmium.

To ensure the effectiveness of this system we have included an improvement condition IC1. This Improvement condition requires the operator to submit a written report and monitoring programme of all emissions to air so we can assess any impacts to the environment.

WEEE Crusher/shredder

The site already operates a WEEE shredder for fluorescent tubes, metal waste, including WEEE but will now be permitted to treat flat panel display equipment. This plant will be operated within a building so shouldn't generate any external emissions to atmosphere. For this reason the emissions have been included in the process monitoring

table (S3.3) that will require them to monitor for mercury (every 3 months) and particulate matter (every 6 months).

Pre-operational Condition

We have also included a pre-operational condition (S1.7) that requires the operator to submit a commissioning plan which must include a timetable for completion and detail how proposed operations will meet the requirements set out in Section 5.7 of Waste electrical and electronic equipment (WEEE): appropriate measures for permitted facilities dated 13 July 2022.

The operator must not start the new treatment operations until the Environment Agency has agreed the commissioning validation of the report in writing.

Decision Considerations

Confidential information

A claim for commercial or industrial confidentiality has not been made.

Consultation

The consultation requirements were identified in accordance with the Environmental Permitting (England and Wales) Regulations (2016) and our public participation statement.

The application was publicised on the GOV.UK website.

We consulted the following organisations:

- UK Health Security

The comments and our responses are summarised in the [consultation responses](#) section.

The regulated facility

We considered the extent and nature of the facility at the site in accordance with RGN2 'Understanding the meaning of regulated facility Appendix 2 of RGN2 'Defining the scope of the installation', Appendix 1 of RGN 2 'Interpretation of Schedule 1.'

The site

The operator has provided a plan which we consider to be satisfactory.

These show the extent of the site of the facility including the discharge points

The plan is included in the permit.

Nature conservation, landscape, heritage and protected species and habitat designations

We have checked the location of the application to assess if it is within the screening distances, we consider relevant for impacts on nature conservation, landscape, heritage and protected species and habitat designations. The application is within our screening distances for these designations.

We have assessed the application and its potential to affect sites of nature conservation, landscape, heritage and protected species and habitat designations identified in the nature conservation screening report as part of the permitting process.

We consider that the application will not affect any site of nature conservation, landscape and heritage, and/or protected species or habitats identified.

We have not consulted Natural England

The decision was taken in accordance with our guidance.

Environmental risk

We have reviewed the risk assessment which we previously carried out on behalf of the operator.

The operator's risk assessment is satisfactory.

General Operating techniques

We have reviewed the techniques used by the operator and compared these with the relevant guidance notes and we consider them to represent appropriate techniques for the facility.

The operating techniques that the applicant must use are specified in S1.2 in the environmental permit.

National Air Pollution Control Programme

We have considered the National Air Pollution Control Programme as required by the National Emissions Ceilings Regulations 2018. By setting emission limit values in line with technical guidance we are minimising emissions to air. This will aid the delivery of national air quality targets. We do not consider that we need to include any additional conditions in this permit

Changes to the permit conditions

We have varied the permit as stated in the variation notice.

Fire Prevention plan

We have assessed the fire prevention plan and are satisfied that it meets the measures and objectives set out in the Fire Prevention Plan guidance.

The plan has been incorporated into the operating techniques Table S1.2.

Waste types

We have specified the permitted waste types, descriptions and quantities, which can be accepted at the regulated facility.

We are satisfied that the operator can accept these wastes for the following reasons:

- they are suitable for the proposed activities
- the proposed infrastructure is appropriate; and
- the environmental risk assessment is acceptable.

We made these decisions with respect to waste types in accordance with the chemical waste appropriate measure : Guidance for the recovery and disposal of hazardous and non-hazardous waste and Healthcare Waste Appropriate Measures.

Pre-operational conditions

Based on the information in the application, we consider that we need to include pre-operational conditions.

We have added a Pre-Operational Condition (Table S1.7) to the permit that requires the operator to submit a written plant commissioning plan for the new WEEE crusher/shredder before they can start treating flat panel display equipment. See key issues.

The commissioning plan needs to meet the requirements set out in Section 5.7 of Waste electrical and electronic equipment (WEEE): appropriate measures for permitted facilities dated 13 July 2022. The plan will include a timetable.

Improvement programme

Based on the information on the application, we consider that we need to include an improvement programme. We have included two improvement conditions. IC1 and IC2. See key issues.

The operator will have six months from start of operations, or as otherwise agreed by the Environment Agency to submit the information. See key issues.

Emission limits

Emission Limit Values (ELVs) and equivalent parameters or technical measures based on Best Available Techniques (BAT) have been added (AR1) the following substances:

- Mercury 7ug/m³
- Particulates 5mg/m³;
- Cadmium and its compounds (as Cd) (0.05 mg/m³)

We added these parameters and limits to table S3.1 following the addition of the mercury retort.

Monitoring

We have decided that monitoring should be added for the following parameters, using the methods detailed and to the frequencies specified:

- Mercury 7ug/m³ -every 3 months
- Particulates (5mg/m³) – every 6 months
- Cadmium and its compounds (as Cd) (0.05 mg/m³) - every 6 months

These monitoring requirements have been included to ensure mercury emissions are BAT compliant. We made these decisions in accordance with Waste Treatment BREF. Based on the information in the application we are satisfied that the operator's techniques, personnel and equipment have either MCERTS certification or MCERTS accreditation as appropriate.

Table S3.2 Emissions to sewer

Emissions limits have been amended because of this variation. It is considered that the numeric limits described below will prevent significant deterioration of receiving waters.

Hydrocarbons -10 mg/l

Arsenic - 0.05 mg/l

Cadmium - 0.05 mg/l

Chromium -0.15mg/l

Copper - 0.5mg/l

Lead - 0.3mg/l

Nickel - 0.5mg/l

Zinc - 2.0 mg/l

Mercury - 5 µg/l

PFOA - No limits set

PFAS - No limits set

Deca BDE - No limits set

Monitoring

We have decided that monitoring should be amended for the following parameters, using the methods detailed and to the frequencies specified:

- Mercury 7ug/m³ -every 3 months
- Particulates (5mg/m³) – every 6 months
- Cadmium and its compounds (as Cd) (0.05 mg/m³) every 6 months

Table S3.2 Emissions to sewer

Hydrocarbons - 10 mg/l

Arsenic - 0.05 mg/l

Cadmium - 0.05 mg/l

Chromium - 0.15mg/l

Copper - 0.5mg/l

Lead - 0.3mg/l

Nickel - 0.5mg/l

Zinc - 2.0 mg/l

Mercury - 5 µg/l

PFOA - No limits set

PFAS - No limits set

Deca BDE - No limits set

These monitoring requirements have been included in order to comply with the BAT AEL,s.

Reporting

We have amended reporting in the permit for the following parameters:

- Mercury 7ug/m³ -every 3 months
- Particulates (5mg/m³) – every 6 months
- Cadmium and its compounds (as Cd) (0.05 mg/m³) -every 6 months

Table S3.2 Emissions to sewer

Hydrocarbons - 10 mg/l

Arsenic - 0.05 mg/l

Cadmium - 0.05 mg/l

Chromium - 0.15mg/l

Copper - 0.5mg/l

Lead - 0.3mg/l

Nickel - 0.5mg/l

Zinc - 2.0 mg/l

Mercury - 5 µg/l

PFOA - No limits set

PFAS - No limits set

Deca BDE - No limits set

We made these decisions in accordance with reference to BAT.

Management system

We are not aware of any reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.

The decision was taken in accordance with the guidance on operator competence and how to develop a management system for environmental permits.

Technical Competence

Technical competence is required for activities permitted.

The operator is a member of the CIWM/WAMITAB scheme

We are satisfied that the operator is technically competent.

Growth Duty

We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 100 of that Act in deciding whether to grant the variation of this permit.

Paragraph 1.3 of the guidance says:

“The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation.”

We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections.

We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.

Consultation Responses

The following summarises the responses to consultation with other organisations, our notice on GOV.UK for the public and the way in which we have considered these in the determination process.

Responses from organisations listed in the consultation section

Response received 20th June 2023, from the **UKHSA** .

Summary of issues raised: The Consultee sent a list of observations about the proposed Activities on site. The main emissions of potential concern are emissions to atmosphere from :

- Diesel powered generator (emissions consisting of Oxides of Nitrogen, Carbon Monoxide, Particulate Matter, Sulphur Dioxide and VOCs)
- Tank vents (emissions consisting of VOC's)
- Retort used to recover Mercury from accepted waste

Recommendations: We request that the Environment Agency takes account of the following concerns when considering appropriate permit conditions.

Summary of actions taken

Diesel powered generator - The generator will only operate when the WEE crusher/shredder is being used. The operator submitted a H1 risk assessment that showed the emissions were not significant. Following an Agency assessment, we agreed with the operators' conclusions.

Tank Vents – We have included the vents (A4-A7) in table S3.1 to be monitored. We have also included an Improvement Condition in the permit Table S1.6 (IC 2) that will require the operator to submit a plan for approval for the installation, maintenance and operation of an abatement system for the vents from the oil storage tanks on site.

Mercury retort - We have included the retort in the permit, table S3.1 (A1) to be monitored for emissions to air of mercury, particulate matter and Cadmium and

its compounds (as Cd). The operator will be required to submit report every 3 months and 6 months respectively.