

Decision document variation

We have decided to grant the variation for Huddersfield Energy Recovery Facility operated by Yorkshire Water Limited.

The variation number is [EPR/VP3639PS/V008](#).

The variation is to remove the sludge incineration activity and replace it with a new sludge anaerobic digestion plant, with associated combustion of biogas to produce heat and power. Following flooding in 2015, the facility has been completely redeveloped. The name of the facility has changed from Calder Valley Sewage Sludge incinerator to Huddersfield Energy Recovery Facility (ERF).

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.

Purpose of this document

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

- highlights [key issues](#) in the determination
- summarises the decision making process in the [decision considerations](#) section to show how the main relevant factors have been taken into account
- shows how we have considered the [consultation responses](#)

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

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

Key issues of the decision

BAT Conclusions for the Waste Treatment industry sector

We have reviewed the variation application against the revised BAT Conclusions for the Waste Treatment industry sector which were published by the European Commission on 10 August 2018. The decisions have been made with reference to establishing best available techniques (BAT) conclusions (BATc) for Waste Treatment. There are 53 conclusions included in the BAT Conclusions document but not all of them are applicable to the installation.

We consider that the operator is in compliance with the techniques and standards described in the BAT Conclusions. We have set conditions, as described below, to ensure that this is the case.

Alternative measures for compliance with BAT 19d – Secondary Containment

BAT 19d requires containment around all tanks to reduce the likelihood and impact of overflows and tank failures. Although there is bunding around the chemicals an impermeable bund around the perimeter of the installation there is no secondary containment around the digesters or tanks associated with the digestion process. Instead there is a bund wall around the perimeter of the installation.

We required the operator to provide an additional risk assessment for secondary containment based on source-pathway-receptor pollutant linkage and site risk rating based on the probability and consequences.

The operator subsequently submitted a report demonstrating how they would meet the requirements of CIRIA 736. Where the secondary containment did not meet the standards as set out in the CIRIA 736, the operator provided justification as to how the containment design and construction is fit for purpose and achieves equivalent protection compared to CIRIA 736. The scope of report included a risk assessment to determine the classification system in line with ADBA, Secondary Containment at AD Plants: An Industry Guide, July 2016, Risk Assessment Tool. This was submitted on 9 December 2020 and comprises a report and 3 appendices.

An additional risk assessment to assess the suitability of the secondary containment through the use of an ADBA risk assessment was also provided. The output from the risk assessment is the overall site risk rating was MEDIUM. The indicated that a Class 2 containment system was required. The site hazard rating is identified as HIGH risk due to the high source and receptor rating and the medium pathway hazard rating.

The bund has been constructed to hold the required capacity - 110% of the largest tanks and 25% of the total tank volume – so even in the event of a catastrophic failure of one or more tanks any sludge should remain within the bund wall. For the majority of spills, leaks and catastrophic pipe failures the site surfacing and drainage would transfer liquid to the WwTW, which effectively acts as remote containment.

In the original application supporting information there were sections which implied that some areas of the site were not impermeable. Since then the operator and the Environment Agency have had additional discussions about the requirements for impermeable surfacing across the installation. As a result the operator updated their construction contracts to include the provision of impermeable surfacing right across the installation. This update also included the construction of the bund wall as mentioned above.

While we are satisfied with most of information provided there is one area in particular where further proposals are required by the operator to fully satisfy compliance with BAT 19d.

The operator stated that surge effects (caused by catastrophic failure of primary storage vessels) had not been considered in the design of the secondary containment system. CIRIA 736 summarises key performance recommendations for the three classes of secondary containment systems. One of these recommendations is to take into account surge effects. For Class 2 systems this is 'desirable' rather than 'recommended'. The operator has therefore not considered surge effects. The operator has also stated some measures which are aimed at keeping the likelihood of catastrophic failure to low such as regular visual inspections and non-destructive testing.

However, given the proximity and sensitivity of receptors around the installation, the impacts of a catastrophic failure could be very damaging to the environment, particularly the River Calder. Therefore, we have set an improvement condition (IC6) which requires the operator to submit additional containment design proposals to us for approval which take into account surge effects. These need to be submitted for approval within 3 months of the issue of the variation. CIRIA 736 recommends an additional freeboard of 250 mm on the bund wall, but an alternative appropriate measure could be proposed. A follow up improvement condition (IC7) requires the approved proposals to be constructed within 12 months from the permit issue date.

Alternative measures for compliance with BAT 14d - Enclosed building/odour

In relation to this facility, BATc 14d requires the operator to prevent or reduce odour emissions to air by collecting, containing and treating emissions. This includes techniques such as treating and handling waste in an enclosed building or equipment, maintaining these under adequate pressure and directing

emissions through an abatement system. The use of such techniques may be restricted by safety considerations or the volume of the waste.

The operator proposed to store sludge cake in a three sided barn, which is an alternative measure to the requirement of BATc 14d.

We have included a pre-operational measure (PO2) which requires the operator to provide a risk assessment of various options to demonstrate that BATc 14 can be achieved. Operations may commence once the proposals have been submitted to the Environment Agency for approval and timescales for implementation have been agreed.

Improvement condition (IC1) has been added so that the operator is required to review the odour management plan and the measures under PO2 to establish if they are effective at minimising odour emissions.

We are confident that the operator will be able to make satisfactory proposals under PO2 and that the current modelled impacts from odour is not high risk.

We have taken a similar approach in the determination of another permit application submitted by the operator – EPR/WP3030GC/V004. As part of the determination of that permit application, we asked the operator to provide additional proposals for meeting BATc 14d. The operator carried out a risk assessment of different options and concluded that on the whole, the three sided barn was the most suitable option. However, additional measures were identified. A combination of operational improvements to sludge cake retention and an intervention through wind stripping mitigation was identified as the most appropriate alternative technique for the facility. We agreed with the justification and were satisfied that the solution demonstrated equivalent protection has been achieved. We therefore accepted the proposed alternative measures to comply with BATc 14d. An improvement programme was imposed to ensure the measures will be effective.

Noise

A noise assessment was submitted with the application. This needed revising but had yet to be resubmitted. This does need to be assessed by the Environment Agency to ensure that appropriate measures are in place to prevent or minimise noise emissions. Due to the facility previously existing as a sludge incinerator and the nature of the location of the facility we have decided that it is appropriate for this to be submitted following the issue of the varied permit as part of a pre-operational condition (PO1). However, the operator will need to submit the revised impact assessment before they can commence operations. The revised assessment should identify any key risks to receptors and be followed up, if necessary, by the submission of a Noise and Vibration Management Plan, as required under the improvement programme (IC4 below).

An improvement condition (IC5) has been added for the operator to carry out a further noise impact assessment once the facility is in operation.

Emissions to Air

We carried out an audit of the air quality impacts associated with the proposed variation to this site. We agree with the operator's conclusions and results presented in their air dispersion modelling report that there is unlikely to be any exceedances of the environmental standards (ES) as a result of the site operations.

Decision considerations

Confidential information

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

The decision was taken in accordance with our guidance on confidentiality.

Identifying confidential information

We have not identified information provided as part of the application that we consider to be confidential.

The decision was taken in accordance with our guidance on confidentiality.

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:

- Public Health England
- Director of Public Health - Kirklees
- Local Authority Planning - Kirklees
- Local Authority Environmental Health - Kirklees
- Food Standards Agency
- Health and Safety Executive

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 RGN 2 'Defining the scope of the installation', Appendix 1 of RGN 2 'Interpretation of Schedule 1', guidance on waste recovery plans and permits.

The extent of the facility is defined in the site plan in the permit. The activities are defined in table S1.1 of the permit.

The site

The operator has provided plans which we consider to be satisfactory.

These show the extent of the site of the facility.

The plan is included in the permit.

Site condition report

The operator has provided a description of the condition of the site, which we consider is satisfactory. The decision was taken in accordance with our guidance on site condition reports and baseline reporting under the Industrial Emissions Directive.

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.

Environmental risk

We have reviewed the operator's assessment of the environmental risk from the facility.

The operator's risk assessment is satisfactory.

The assessment shows that, applying the conservative criteria in our guidance on environmental risk assessment all emissions may be screened out as environmentally insignificant.

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 table S1.2 in the environmental permit.

Operating techniques for emissions that screen out as insignificant

Emissions of NO₂, SO₂, CO and ammonia have been screened out as insignificant, and so we agree that the applicant's proposed techniques are Best Available Techniques (BAT) for the installation.

We consider that the emission limits included in the installation permit reflect the BAT for the sector.

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.

Odour management

We have reviewed the odour management plan in accordance with our guidance on odour management.

We consider that the odour management plan is satisfactory and we approve this plan.

We have approved the odour management plan as we consider it to be appropriate measures based on information available to us at the current time. The applicant should not take our approval of this plan to mean that the measures in the plan are considered to cover every circumstance throughout the life of the permit.

The applicant should keep the plans under constant review and revise them annually or if necessary sooner if there have been complaints arising from operations on site or if circumstances change. This is in accordance with our guidance 'Control and monitor emissions for your environmental permit'.

The plan has been incorporated into the operating techniques 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.

Pre-operational conditions

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

Improvement programme

Based on the information on the application, we consider that we need to include an improvement programme.

IC1

See key issues section.

IC2

As part of the Environment Agency approach to reduce emissions in the biowaste treatment sector, we have included an improvement condition requiring the operator to review abatement plant on site, in order to determine whether existing measures have been effective and adequate to prevent and /or minimise

emissions released to air. Where further improvements are identified, the operator is required to implement these measures.

IC3

We have included an improvement condition in the permit which requires the operator to assess methane slip resulting from the combustion of biogas via the CHP engine. Following an assessment of the data, the Environment Agency shall consider whether or not emission limits for volatile organic compounds are applicable for this installation.

IC4

See key issues section.

IC5

See key issues section.

IC6

See key issues section.

IC7

See key issues section.

Emission limits

Emission Limit Values (ELVs) have been added for the following substances:

- Combined heat and power engines – Limits set in accordance with MCPD for new MCP gas engines for NO₂, SO₂ and CO.
- Auxiliary boiler – Limit set in accordance with MCPD for new MCP, other than gas engines for NO₂ and SO₂.
- Flare – Limits set in accordance with LFTGN 05: Guidance for monitoring enclosed landfill gas flares for NO₂, CO and TVOC.
- Odour abatement plant – Limits set in accordance with Waste Treatment BREF for ammonia.

Monitoring

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

- Combustion sources - NO₂, SO₂, CO and TVOC (flare) – annually

- Odour sources - H₂S, odour concentration and ammonia – every 6 months

These monitoring requirements have been included in order to demonstrate compliance with emission limits.

We made these decisions in accordance with the Waste Treatment BREF, Technical Guidance Note M5 and LFTGN 05: Guidance for monitoring enclosed landfill gas flares.

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.

Reporting

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

- Air emissions
- Process monitoring
- Total annual VOC emissions

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 110 of that Act in deciding whether to grant this permit variation.

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 from Public Health England.

Brief summary of issues raised: Odour was highlighted as a potential concern. However, based on the information in the application PHE has no significant concerns, assuming the operator has appropriate measures in place.

Summary of actions taken: We have assessed the operator’s appropriate measures, including the Odour Management Plan, in line with the relevant technical standards.