

# Permitting decisions

## Bespoke permit

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We have decided to grant the permit for Meriden Waste Water Treatment Facility (WWTF) operated by Astwood Energy Limited.

The permit number is EPR/ZP3237YL.

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 checklist](#) to show how all 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 Operator's proposals.

Read the permitting decisions in conjunction with the environmental permit. The introductory note summarises what the permit covers.

## Key issues of the decision

### Multi-operator Installation

This is a multi-operator Installation. The adjacent BEP (BEP) (EPR/CP3735RL – Rebellion Biomass LLP) produces heat utilised at the WWTF, which is the only recipient of this heat. The two sites are technically connected and form one Installation but are operated by different companies therefore two permits are required, one for each operator covering the activities they're responsible for.

We are satisfied that the Operator is the person who will have control over the operation of the Installation and they will be able to operate the Installation so as to comply with the conditions included in the Permit.

### Noise and vibration

The application contained a noise impact assessment (incorporating both the BEP and the adjacent waste water treatment plant) which identified local noise-sensitive receptors, potential sources of noise at the proposed plant and noise attenuation measures. This assessment was updated and submitted on 20/04/18 as part of a request for information under the BEP application (EPR/CP3735RL/A001). Measurements were taken of the prevailing ambient noise levels to produce a baseline noise survey and an assessment was

carried out in accordance with BS 4142:2014 to compare the predicted plant rating noise levels with the established background levels.

We have undertaken, among others, the following sensitivity tests on the assessment:

- Height of HGV line source and weighbridge point source
- Internal reverberant sound pressure calculations using dimensions in report and Cadna model
- Specific roller shutter door SRI on south east façade on Fuel Hall
- Fuel Hall obstacle absorption coefficient of 0.1
- 'No HGV screening' and a 'floating HGV screen' (0.5 m above the ground) at HGV pump waste water pumping station
- Receptor height
- Ground absorption

Attenuators, insulation, silencers, lagging and acoustic enclosures are some of the measures included in the Operator's proposals. Appendix E of the noise impact assessment provides further details of this.

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 noise and vibration and to prevent pollution from noise and vibration outside the site.

Given the context of the operation, the existing background noise sources and our conservative sensitivity modelling checks, we consider the developments are unlikely to have an 'adverse' impact and that the impacts are acceptable. This is subject to the plant and equipment achieving the sound levels proposed with the level of attenuation specified in the Operator's assessment.

#### Odour

Detailed odour dispersion modelling has been undertaken to determine the potential odour impacts associated from the evaporators. The modelling does not include assessment of fugitive emissions – only the evaporator stack emissions. Fugitive releases of odours and how these will be prevented or minimised are considered as part of the odour management plan (OMP).

The modelling report states that they consider a benchmark range of 3 ouE/m<sup>3</sup> to 5 ouE/m<sup>3</sup> to be applicable for industrial receptors. Our H4 guidance on odour gives an odour benchmark of 1.5 ouE/m<sup>3</sup> for the "most offensive" odours, including biological landfill type odours (as raw leachate could be characterised). The Operator argues that the 1.5 ouE/m<sup>3</sup> is not appropriate as this covers septic waste waters and the waste accepted at this site are not septic. We agree with the Operator's use of a benchmark of 3 ouE/m<sup>3</sup>. The Operator has presented the PCs at all the sensitive human receptors. Their assessment results indicate that the PCs will be below an odour benchmark of 3 ouE/m<sup>3</sup>. The maximum PC of 2.0 ouE/m<sup>3</sup> occurs at an industrial site. All other receptors identified are residential and are at 1.4 ouE/m<sup>3</sup> or below.

#### Emissions to air

The Operator provided air quality modelling to provide a worst case scenario which included emissions of toluene, ethylbenzene, naphthalene, phenol and ammonia. All screened out as insignificant apart from ammonia. Other substances were identified as potentially being present in the waste water, however these are not likely to be emitted during this process due to their higher boiling points. Note there is no combustion as part of this treatment process, therefore no associated emissions.

Ammonia was originally modelled with an emission rate of 0.74 g/s. At the most sensitive human receptor the process contributions could not be screened out as insignificant; 9.6% of long term (180 µg/m<sup>3</sup>) and 34.5% of short term (2,500 µg/m<sup>3</sup>) environmental assessment level (EAL). The modelling report concludes that as background concentrations are likely to be very low and it is unlikely that the EAL for ammoniacal nitrogen would be exceeded. We have checked the background levels at the Installation, this is 1.66 µg/m<sup>3</sup> (data obtained from APIS). Therefore the predicted environmental contribution (PEC) is not likely to be significant and we agree with the conclusions.

The original air modelling report did not include an assessment of impacts on ecological receptors. Our checks identified that there was potential for significant impacts at various designated sites. The Operator subsequently submitted an amended model on 28/06/18 and looked at ammonia and acid and nitrogen deposition impacts. However, for the most sensitive ecological receptor (Berkswell Marches SSSI) the ammonia PC could not be screened out as insignificant and due to the high background concentrations

(already exceeding the environmental standard) the PEC exceeded 100% of the environmental standard. Our checks also indicated there was a likelihood of acid and nitrogen deposition exceeding insignificant levels, although this was not included in the original report.

The Operator subsequently submitted revised modelling which back-calculated an emission value to a level where the impacts from the installation could be deemed insignificant. This was done for ammonia and also acid and nutrient nitrogen deposition. This was a combined model including the emissions from the BEP. The ammonia release concentration was calculated as 3.2 mg/m<sup>3</sup> (changing the stack emission rate from 0.74 g/s to 0.011 g/s). Providing the Operator is able to meet this standard the ammonia emissions will remain at insignificant levels, along with acid and nutrient nitrogen deposition and no further assessment is required.

Although the implications of the changes have not been remodelled for human receptors the significance of impacts are expected to be reduced.

As the Operator was unable to provide satisfactory and robust evidence that the treatment plant was capable of achieving either the 5 mg or 3.2 mg/m<sup>3</sup> limit for ammonia an ELV has been added to the permit. This is an annual average as the environmental standard for the designated site (Berkswell Marshes SSSI) is also an annual average. The section below provides further information on setting ELVs.

Emission limit values (ELV)

ELVs for the majority of substances are not required. As detailed above impacts on human receptors are not significant. They're also insignificant at all ecological receptors. However, to protect the integrity of the SSSI we have set an ELV of 3.2 mg/m<sup>3</sup> as an annual average. As this figure has been based on a modelling scenario and not reliable data we have set the monitoring frequency as 6-monthly with annual reporting. At these frequencies both the Operator and the Environment Agency should be provided with sufficient data to ensure that the Installation is meeting the necessary standard. The monitoring frequency has the provision for the operator to agree a reduced monitoring frequency should they be able to sufficiently demonstrate the ELV is consistently met. This will allow for us to agree a more risk based programme with the Operator where actual data has become available and we can verify the assumptions made in the application.

Pre-operational conditions and improvement measures

We have set a pre-operational condition (PO1) for the operator to propose a programme of representative monitoring of emissions of ammonia, total volatile organic compounds (TVOCs), and odour to air from the evaporator units during the first 12 months of operation. An improvement condition (IC1) requires the operator to report on the monitoring proposed and subsequently undertaken as part of (PO1).

Monitoring will help to establish the removal efficiency of the treatment process and inform the Operator if the maximum concentrations in the leachate that can be accepted on site needs to be amended and also to validate the modelling submitted with the application.

A second pre-operational condition has been set (PO2) requiring the submission of a commissioning plan. This will be a combined plan covering the whole installation.

A further improvement condition (IC2) requires the operator to provide a report on the optimisation the chemical dosing system to minimise the emission of ammonia, and the optimisation of the aeration and carbon abatement system to minimise odour and VOC emissions.

<p>PO1 (air monitoring)</p>	<p>Prior to the commencement of operations the Operator shall submit proposals for approval by the Environment Agency for representative monitoring of emissions of ammonia, total volatile organic compounds (TVOCs) and odour to air from the evaporator units (A1 to A6) during the first 12 months of operation.</p> <p>The proposals shall include the sampling locations, parameters to be monitored, frequencies of monitoring and methods to be used.</p> <p>Monitoring shall be carried out in accordance with the requirements of conditions 3.5.2 and 3.5.3 of this permit.</p>
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<p>PO2 (commissioning plan)</p>	<p>Prior to the commencement of commissioning, the Operator shall provide a written commissioning plan, including timelines for completion, for approval by the Environment Agency. The commissioning plan shall include the expected emissions to the environment during the different stages of commissioning, the expected durations of commissioning activities and the actions to be taken to protect the environment and report to the Environment Agency in the event that actual emissions exceed expected emissions. Commissioning shall be carried out in accordance with the commissioning plan as approved.</p>
<p>IC1 (air emission report)</p>	<p>Following the completion of the first year of representative monitoring as required by PO1 the Operator shall submit a report to the Environment Agency for approval which interprets and evaluates the results, against those stated in permit application EPR/CP3735RL/A001. The report shall include an ammonia removal efficiency shall be calculated.</p>
<p>IC2 (chemical optimisation)</p>	<p>The Operator shall submit a written report to the Environment Agency describing the performance and optimisation of:</p> <ul style="list-style-type: none"> <li>• The chemical dosing system settings to minimise emission of ammonia. The report shall include an assessment of the level of ammonia emissions that can be achieved under optimum operating conditions.</li> <li>• The aeration and carbon abatement system for minimisation of VOCs and odour.</li> </ul>

## Decision checklist

Aspect considered	Decision
<b>Receipt of application</b>	
Confidential information	A claim for commercial or industrial confidentiality has not been made.
Identifying confidential information	We have not identified information provided as part of the application that we consider to be confidential.
<b>Consultation</b>	
Consultation	<p>The consultation requirements were identified in accordance with the Environmental Permitting Regulations and our public participation statement.</p> <p>The application was publicised on the GOV.UK website.</p> <p>We consulted the following organisations:</p> <ul style="list-style-type: none"> <li>• West Midlands Fire and Rescue Service</li> <li>• Health and Safety Executive</li> <li>• Public Health England - Birmingham</li> <li>• Director of Public Health – Solihull Borough Council</li> <li>• Solihull Metropolitan Borough Council Environmental Health</li> <li>• Solihull Metropolitan Borough Council Planning</li> <li>• Food Standards Agency</li> <li>• National Grid</li> <li>• Severn Trent Water</li> </ul> <p>The comments and our responses are summarised in the <a href="#">consultation section</a>.</p>
<b>Operator</b>	
Control of the facility	<p>We are satisfied that the Operator (now the operator) is the person who will have control over the operation of part of the facility after the grant of the permit. The decision was taken in accordance with our guidance on legal operator for environmental permits.</p> <p>This is a multi-perator Installation. The adjacent BEP (EPR/CP3735RL – Rebellion Biomass LLP) generates the heat used in the evaporation of waste water and only supplied this facility with heat. The two sites are technically connected and form one Installation but are operated by different companies therefore two permits are required, one for each operator covering the activities they're responsible for.</p>
<b>The facility</b>	
The regulated facility	<p>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.</p> <p>The extent of the facility is defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.</p> <p>This permit applies to only one part of the installation – that of the waste water treatment. The names and permit numbers of the operators of other parts of the installation are detailed in the permit's introductory note.</p>

Aspect considered	Decision
<b>The site</b>	
Extent of the site of the facility	The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility including the location of the part of the installation to which this permit applies on that site. 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.
Biodiversity, heritage, landscape and nature conservation	<p>The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.</p> <p>We have assessed the application and its potential to affect all known sites of nature conservation, landscape and heritage and/or protected species or habitats identified in the nature conservation screening report as part of the permitting process.</p> <p>We consider that the application will not affect any sites of nature conservation, landscape and heritage, and/or protected species or habitats identified.</p> <p>We have not consulted Natural England on the application. The decision was taken in accordance with our guidance.</p>
<b>Environmental risk assessment</b>	
Environmental risk	<p>We have reviewed the operator's assessment of the environmental risk from the facility.</p> <p>The operator's risk assessment is satisfactory.</p> <p>The noise assessment submitted covered the activity under this application and the biomass combustion activities of the linked permit application EPR/CP3735RL so that the installation as a whole has been assessed as one.</p>
<b>Operating techniques</b>	
General operating techniques	<p>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.</p> <p>The operating techniques that the Operator must use are specified in table S1.2 in the environmental permit.</p>
Operating techniques for emissions that screen out as insignificant	<p>Emissions of ammonia, toluene, ethylbenzene, naphthalene and phenol have been screened out as insignificant, and so we agree that the Operator's proposed techniques are BAT for the installation.</p> <p>We consider that the emission limits included in the installation permit reflect the BAT for the sector.</p>
Odour management	We have reviewed the odour management plan in accordance with our guidance on odour management. See key Issues section.

Aspect considered	Decision
	We consider that the odour management plan is satisfactory.
Noise management	<p>We have reviewed the noise management plan in accordance with our guidance on noise assessment and control.</p> <p>We consider that the noise management plan is satisfactory.</p>
<b>Permit conditions</b>	
Use of conditions other than those from the template	Based on the information in the application, we consider that we do not need to impose conditions other than those in our permit template.
Raw materials	We have specified limits and controls on the use of raw materials and fuels.
Waste types	<p>We have specified the permitted waste types, descriptions and quantities, which can be accepted at the regulated facility.</p> <p>We are satisfied that the operator can accept these wastes for the following reasons:</p> <ul style="list-style-type: none"> <li>• they are suitable for the proposed activities</li> <li>• the proposed infrastructure is appropriate</li> <li>• the environmental risk assessment is acceptable.</li> </ul>
Pre-operational conditions	Based on the information in the application, we consider that we need to impose pre-operational conditions. See <a href="#">key issues</a> .
Improvement programme	Based on the information on the application, we consider that we need to impose an improvement programme. See <a href="#">key issues</a> .
Emission limits	<p>We have decided that emission limits are not required in the permit.</p> <p>ELVs has been set for ammonia to ensure air quality is protected at the identified SSSI. A limit of 3.2 mg/m<sup>3</sup> keeps the ground level process contribution concentrations at the receptor at insignificant levels (&lt;1%).</p>
Monitoring	<p>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.</p> <p>These monitoring requirements have been imposed in order to demonstrate the emission limit value is complied with.</p> <p>We made these decisions in accordance with Technical Guidance Note M2, Monitoring of stack emissions to air.</p> <p>Monitoring has been set at a 6-monthly frequency but may be reduced in agreement with the environment Agency should results demonstrate confidence in meeting the emission limit value.</p> <p>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.</p>

Aspect considered	Decision
Reporting	<p>We have specified reporting in the permit.</p> <p>Reporting has been set at an annual frequency. Ammonia environmental standard targets at ecological receptors are long term targets (annual). Annual reporting will help to identify to the Operator and the Environment Agency if the permit limits are being complied with and highlight any potential breaches before the annual average figure is calculated.</p>
<b>Operator competence</b>	
Management system	<p>There is no known reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.</p> <p>The decision was taken in accordance with the guidance on operator competence and how to develop a management system for environmental permits.</p>
Technical competence	<p>Technical competence is required for activities permitted.</p> <p>The operator is a member of an agreed scheme.</p> <p>We are satisfied that the operator is technically competent.</p>
Relevant convictions	<p>The Case Management System has been checked to ensure that all relevant convictions have been declared.</p> <p>No relevant convictions were found. The operator satisfies the criteria in our guidance on operator competence.</p>
Financial competence	<p>There is no known reason to consider that the operator will not be financially able to comply with the permit conditions.</p>
<b>Growth Duty</b>	
Section 108 Deregulation Act 2015 – Growth duty	<p>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.</p> <p>Paragraph 1.3 of the guidance says:</p> <p>“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.”</p> <p>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.</p> <p>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</p>



<b>Aspect considered</b>	<b>Decision</b>
	the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.

# Consultation

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

<b>Response received from</b>
Public Health England – Birmingham/Manchester 1/3/2018
<b>Brief summary of issues raised</b>
<i>“We recommend that any environmental permit issued for this site should contain conditions to ensure that the following potential emissions do not impact upon public health: fugitive dust emissions and nuisances such as odour, noise or vermin.</i>  <i>Based solely on the information contained in the application provided, PHE has no significant concerns regarding risk to health of the local population from this proposed activity, providing that the Operator takes all appropriate measures to prevent or control pollution, in accordance with the relevant sector technical guidance or industry best practice.”</i>
<b>Summary of actions taken or show how this has been covered</b>
Standard permit conditions are included for fugitive emissions, and nuisances such a noise, odour and pests. We have reviewed the Operator’s techniques and consider them to be BAT in line with S5.06 Guidance for the recovery and disposal of hazardous and non-hazardous waste. This includes having carried out assessments for noise, odour and air quality.

No other responses to the public consultation were made.