

# Permitting decisions

## Bespoke permit

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We have decided to grant the permit for Preston CHP Plant operated by Preston Sustainable Heat and Power Limited.

The permit number is EPR/SP3437JT.

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 applicant'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

The application relates to the operation of a combined heat and power (CHP) plant to provide electricity, steam and hot water to Preston Abattoir. The CHP plant is a directly associated activity to the abattoir, but is operated by a different operator to the abattoir. As the installation comprises both the abattoir and the CHP plant, a separate permit is required for the CHP plant.

### Air emissions

The applicant carried out an assessment of the impact of the emissions to air from the CHP plant on sensitive human and ecological receptors using ADMS 5.2 air dispersion modelling software to predict process contributions at the receptors. During the determination the site layout changed including the location of the emission point from the CHP. The air dispersion modelling was revised to take account of the change in location and an increase in the stack height.

The applicant identified the nearest four residential properties to the north, east, south and west and a roadside location as the human receptors and the Humber Estuary SPA, SAC and Ramsar as the ecological receptor within the screening distance of the site.

The modelling predicts process contributions (PC) at receptors. These are compared with the relevant long and short term environmental standards (ES) and the impact is considered to be insignificant where:

- PC is less than 1% of the long term ES.
- PC is less than 10% of the short term ES.

Where the PC does not meet these criteria, the predicted environmental concentration (PEC) is compared with the ES. The PEC is the PC added to the background. We consider that the impact is not significant where:

- PEC is less than 70% of the long term ES; and
- PC is less than 20% of the short term ES minus two times the long term background.

The predicted process contributions at each of the human health receptors based on the updated modelling were determined as follows:

<b>Predicted long term concentrations of nitrogen oxides at human receptors</b>					
<b>Receptor</b>	<b>PC <math>\mu\text{g}/\text{m}^3</math></b>	<b>PC/ES %</b>	<b>Background <math>\mu\text{g}/\text{m}^3</math></b>	<b>PEC <math>\mu\text{g}/\text{m}^3</math></b>	<b>PEC/ES %</b>
R1	0.5	1.2	13.9	14.4	36
R2	0.9	2.3	14.0	14.9	37
R3	1.8	4.4	14.1	15.9	40
R4	3.2	8.0	14.1	17.3	43
Roadside	0.4-4.0	1-10	29	29.4 – 33.0	73.5-82.5
Environmental Standard (ES) = 40 $\mu\text{g}/\text{m}^3$					
Background: For R1 to R4 from APIS website					
Note: Background includes emissions from Preston Abattoir site.					

<b>Predicted short term concentrations of nitrogen oxides at human receptors</b>					
<b>Receptor</b>	<b>PC <math>\mu\text{g}/\text{m}^3</math></b>	<b>PC/ES %</b>	<b>Background <math>\mu\text{g}/\text{m}^3</math></b>	<b>PEC <math>\mu\text{g}/\text{m}^3</math></b>	<b>PC/ES-2xLT background %</b>
R1	<20	<10	-	-	-
R2	<20	<10	-	-	-
R3	21.2	10.6	28	49.2	14.7
R4	<20	<10	-	-	-
Roadside	<20	<10	-	-	-

Predicted short term concentrations of nitrogen oxides at human receptors					
Receptor	PC $\mu\text{g}/\text{m}^3$	PC/ES %	Background $\mu\text{g}/\text{m}^3$	PEC $\mu\text{g}/\text{m}^3$	PC/ES-2xLT background %
Environmental Standard (ES) = 200 $\mu\text{g}/\text{m}^3$					
Background: 2 x long term					
Note: Background includes emissions from Preston Abattoir site.					

The long term emissions of nitrogen oxides are not insignificant as the PCs are not less than 1% of the ES, but the PECs are less than 70% with the exception of the road side location. The background concentration is elevated at this location so will include vehicle emissions and also a contribution from the existing combustion plant at the abattoir. The CHP plant will be replacing the steam boilers at the abattoir and these will now operate purely as back up. Therefore, the background has head room as the emissions from the CHP will be replacing the emissions from the boilers at the abattoir and it is considered unlikely that the environmental standard will be breached.

With the exception of R3, the short term PCs at the receptors are less than 10% of the ES so the impact is insignificant. For R3 the short term PC is less than 20% of the ES minus twice the long term background and the long term PEC is less than 70% so it is considered that the CHP will not give rise to emissions that will impact the receptor.

The results of the assessment of the impact of emissions at the ecological receptors shows that all PCs are less than 1% of the long term and less than 10% of the short term ES. The results are shown in the following table:

**Table 11: Summary of the Maximum Predicted PCs to Sensitive Habitats within the Study Area**

Pollutant	Value <sup>a</sup>	Max at the Humber Estuary SAC <sup>b</sup>
Annual Mean NOx	PC ( $\mu\text{g}/\text{m}^3$ )	0.0464
	% of EAL	0.15%
24-hour Mean NOx	PC ( $\mu\text{g}/\text{m}^3$ )	2.10
	% of EAL	2.8%
Annual Mean Nutrient N Deposition <sup>c</sup>	PC (kg-N/ha/yr)	0.0047
	% of EAL	0.094%
Annual Mean Acid N Deposition	PC (keq/ha/yr)	0.0003
	% of EAL	0.052%
Assessment Level	Weekly mean and longer	1%
	Daily mean and shorter	10%

<sup>a</sup> assuming that the most stringent critical levels and critical loads apply everywhere within the ecological study area.

<sup>b</sup> The predicted PCs include the baseline contribution from the existing plant at the Cranswick Foods site.

<sup>c</sup> for nitrogen dioxide.

We carried out check modelling of the applicant's modelling and, whilst we did not completely agree with the numerical results, we did agree with the conclusions. Therefore, we consider that emissions of nitrogen oxides will not impact the human or ecological receptors identified as near the site.

## Noise emissions

The operator has carried out an assessment of the predicted noise from the plant and its impact on sensitive receptors in accordance with BS4142:2014 "Methods for Rating and Assessing Industrial and Commercial Sound". Noise monitoring was carried out at five residential locations around the site, including at one (surrogate receptor) that was deemed to be unaffected by noise from the Preston Abattoir which operates for 24h hours per day, in order to determine baseline noise conditions.

The predicted sound level at each of the receptors has been compared with the background level at the surrogate receptor. At each of the receptors the predicted sound level is below the existing background level (based on the levels recorded at the surrogate receptor).

The applicant concludes that the plant has been designed so that predicted levels at the receptors will not exceed 5dB above the representative background levels at the receptors and that the predicted levels are below the background level at the surrogate receptor.

We have reviewed the assessment and consider that the noise from the CHP plant will not contribute to increased noise levels at the receptors compared to the existing levels from the abattoir operations.

## 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>• Health and Safety Executive</li> <li>• Public Health England</li> <li>• Local Authority Director of Public Health</li> <li>• Local Authority Environmental Health</li> <li>• National Grid.</li> </ul> <p>We sent our assessment of the impact of emissions on ecological receptors to Natural England for information in accordance with our procedures.</p> <p>The comments and our responses are summarised in the <a href="#">consultation section</a>.</p>
<b>Operator</b>	
Control of the facility	We are satisfied that the applicant (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.
<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 1 of RGN 2 'Interpretation of Schedule 1' and Appendix 2 of RGN 2 'Defining the scope of the installation'.</p> <p>The extent of the facility 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. The installation comprises activities under section 6.8 A(1) of schedule 1 to the Environmental Permitting Regulations and a number of directly associated activities, including a CHP plant for the generation of electricity, steam and hot water. This CHP is under the control of the applicant who is a different operator to that of the 6.8 A(1) activities. Therefore, this permit regulates the operation of the CHP plant only. The names and permit numbers of the</p>

Aspect considered	Decision
	operator of other parts of the installation are detailed in the permit's introductory note.
<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 and 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 formally consulted Natural England on the application, but sent the assessment for information. 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>
<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 applicant 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 nitrogen oxides have not been screened out as insignificant, so we have assessed the applicant's proposed techniques and we consider that they are BAT for the installation. See Key Issues section above.</p> <p>We consider that the emission limits included in the installation permit reflect the BAT for the sector.</p>
Noise management	We have reviewed the noise management plan in accordance with our guidance on noise assessment and control.

Aspect considered	Decision
	We consider that the noise management plan is satisfactory.
<b>Permit conditions</b>	
Improvement conditions	<p>Based on the information in the application, we consider that we need to impose an improvement condition.</p> <p>We have included a requirement for the operator to submit a report of the commissioning of the CHP plant to confirm that the emission limits can be met and to propose any additional controls as appropriate.</p>
Emission limits	<p>ELVs have been set for the following substances:</p> <ul style="list-style-type: none"> <li>• Nitrogen oxides.</li> </ul> <p>We have set this limit in accordance with the requirements of the Medium Combustion Plant Directive (MCPD) for existing combustion plant comprising engines burning natural gas. As the CHP plant will be existing in accordance with the MCPD, the emission limits will not apply until 01/01/18.</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 comply with the requirements of the Medium Combustion Plant Directive.</p>
Reporting	<p>We have specified reporting in the permit.</p> <p>We made these decisions in accordance with Technical Guidance Note EPR 1.1.</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>
Relevant convictions	<p>The Case Management System 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>

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



## 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
<b>Brief summary of issues raised</b>
No concerns regarding impact on public health.
<b>Summary of actions taken or show how this has been covered</b>
None required.

<b>Response received from</b>
Natural England
<b>Brief summary of issues raised</b>
No concerns regarding impact on ecological receptors.
<b>Summary of actions taken or show how this has been covered</b>
None required.