



Permitting decisions

Bespoke permit

We have decided to grant the permit for Weston General Hospital CHP Plant operated by University Hospitals Bristol and Weston NHS Foundation Trust.

The permit number is EPR/EP3409SU

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

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

Air quality

This is a complex bespoke Medium Combustion Plant/Specified Generator application. In line with the Environment Agency's guidance (<https://www.gov.uk/guidance/specified-generators-dispersion-modelling-assessment> and <https://www.gov.uk/guidance/medium-combustion-plant-apply-for-an-environmental-permit#apply-for-a-bespoke-permit>), we require applicants to submit detailed air dispersion modelling and impact assessment to assess the predicted impacts on human receptors (for example dwellings, work places and parks) and ecological sites, as appropriate.

A methodology for risk assessment of point source emissions to air is set out in our guidance <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit>.

The applicant provided an assessment of the impact of emissions to air with the application which is detailed in document 'Air Quality Assessment for Environmental Permit: Weston General Hospital, North Somerset' reference J4136A/1/F1 and dated 22 May 2020

We have reviewed the assessment and are satisfied that it has taken into account all relevant ecological and human health receptors, that the model and its inputs are appropriate and that the assessment has been carried out in accordance with our guidance.

We agree with the applicant's conclusions that the impact of the emissions at human receptors are not significant and at ecological receptors are insignificant.

Summary of Air Dispersion Modelling Assessment

Weston Combined Heat and Power (CHP) plant is approximately centred on National Grid Reference (NGR) ST 32428 58596 and is located at Weston General Hospital, Weston-Super-Mare.

The CHP comprises of one natural gas fired engine, with a thermal input of 1.5 MWth, which discharges combustion emissions directly to atmosphere via a 12 metre high exhaust stack.

The site is not located within an Air Quality Management Area. The Severn Estuary is within 2 kilometres of the site, which is a Special Area of Conservation (SAC), Special Protection Area (SPA) a Ramsar site and a Site of Special Scientific Interest (SSSI). Also within 2 kilometres of the site are the following sensitive environmental receptors: Mendip Limestone Grasslands (SAC), Uphill Cliff (SSSI), Purn Hill (SSSI). North Somerset & Mendip Bats SAC is within 5 kilometres of the site.

The applicant assessed emissions against relevant environmental standards. The assessment considers nitrogen dioxide (NO₂) for human health and nitrogen oxides (NO_x), nitrogen deposition and acid deposition for ecological impacts. These are the principal pollutants of concern with respect to emissions from natural-gas fired CHP plant. Using the ADMS-5.2 dispersion model, which is a commonly used computer model for dispersion modelling. The model assumes emissions of NO_x at the MCP emission limit value of 95 mg/m³ (at 15% O₂ in dry gas at 0 °C, and 101.325 kPa), which is stated in Schedule 25A of the regulations (this supersedes the SG ELV of 190 mg/m³ stated in Schedule 25B).

The model used five years of meteorological data from the measurement station at Bristol Airport collected between 2013, 2014 and 2016 - 2018 inclusive. The impact of the terrain surrounding the site upon plume dispersion and the surrounding buildings were considered in the dispersion modelling. The model has been run assuming constant operation throughout the year (8760 hours) as a worst case scenario.

Predicted impacts at human receptors

The applicant's modelling looks at the impact on fifteen discrete human receptors within proximity of the site and by using a Cartesian grid, which extended to 5km from the emission point. The background concentration of NO_x used in the assessment (shown below) was obtained from North Somerset Council's closest monitoring location:

Location	Value (µg/m ³)	Derivation
Annual Mean Concentrations		
All Receptors Close to Roads	22.4	Annual mean concentration measured at Drove Road in 2018. This is slightly higher than the predicted PCM roadside concentration at the hospital for 2020 and is therefore conservative.
All Receptors Away from Roads	15.0	Highest concentration across all of the mapped background concentrations in the study area.
1-hour Mean Concentrations		
All Receptors Close to Roads	44.8	2 x the annual mean
All Receptors Away from Roads	30.0	

The PCs listed in Table 1 below are taken from the most impacted sensitive receptor and therefore represent the worst-case:

Table 1 – Predicted impacts at most impacted human receptor				
Pollutant	Environmental standard (ES)	Background	Process Contribution (PC)	Predicted Environmental Concentration (PEC)

Unit	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	% of Environmental standard	$\mu\text{g}/\text{m}^3$	PEC % of Environmental standard
NO _x annual mean	40	15	3.9	9.8%	18.9	47%
NO _x hourly mean	200	30	17.5	8.8%	47.5	10%

The applicant's results show:

- The long-term PC of NO_x could not be screened out as insignificant (PC>1% of the ES).
- The short-term PC of NO_x could be screened out as insignificant (PC<10% of the ES).

We therefore consider the background and look to determine whether exceedances of the relevant long-term environmental standard are likely. The long-term is considered unlikely to give rise to significant pollution in that there is adequate headroom between the PEC and the ES to indicate that an exceedance of the relevant standard is unlikely.

Predicted impacts at designated ecological sites

The operators modelling shows that the maximum PCs for designated ecological sites are less than 1% of the long-term AQS and less than 10% of the short term AQS. Therefore the impact to the environment can be considered 'insignificant'.

Decision checklist

Aspect considered	Decision
Receipt of application	
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.
Operator	
Control of the facility	We are satisfied that the applicant (now the operator) is the person who will have control over the operation of the facility after the grant of the permit. The decision was taken in accordance with our guidance on legal operator for environmental permits.
The facility	
The regulated facility	The operator has provided the grid reference for the emission point from the medium combustion plant/specified generator and the activity is defined in table S1.1 of the permit.
The site	
Biodiversity, heritage, landscape and nature conservation	<p>The application is within the relevant distance criteria of a European site (SPA, SAC), Ramsar site or SSSI.</p> <p>We have assessed the application and its potential to affect all known sites of nature conservation or habitats identified in the nature conservation screening report as part of the permitting process.</p> <p>We have assessed the operator's air emissions impact modelling report and consider that emissions will not affect any sites of nature conservation or habitats identified. See Key Issues section above.</p> <p>We have not consulted Natural England on the application. The decision was taken in accordance with our guidance.</p> <p>Conservation sites are protected in law by legislation. The Habitats Directive provides the highest level of protection for SACs and SPAs, domestic legislation provides a lower but important level of protection for SSSIs and the Environment Act provides more generalised protection for flora and fauna rather than for specifically named conservation designations. The thresholds for SAC SPA and SSSI features are more stringent than those for other nature conservation sites. Therefore, we would generally conclude that emissions to air will not cause significant pollution at these other sites if the process contribution at the SPA, SACs and SSSIs is less than the relevant critical level or critical loads. Therefore, we have not assessed the impact on these other sites as we have concluded that there is no impact on the SPA, SACs and SSSIs.</p>

Aspect considered	Decision
Environmental risk assessment	
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 assessment shows that applying the conservative criteria in our guidance on environmental risk assessment [or similar methodology supplied by the operator and reviewed by ourselves], all emissions may be categorised as environmentally not significant.</p> <p>The applicant's assessment of predicted impacts at sensitive receptors is based on the operating hours of 8760 as proposed by the applicant and included in the modelling. We have included these operating hours in the permit (table S1.1) as the modelling shows that, at these operating hours, emissions are environmentally not significant. See <u>key issues</u> section above.</p>
Operating techniques	
Operating techniques	We have specified the operating techniques and the operator must use the operating techniques specified in table S1.2A and table S1.2B of the permit.
Permit conditions	
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.
Emission limits	<p>ELVs have been set for the following substances:</p> <p>Oxides of nitrogen.</p> <p>We have specified the ELV in accordance with schedule 25A of the Environmental Permitting Regulations for new MCPs which are engines and fired on natural gas.</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 for the operator to demonstrate compliance with the emission limits specified in the permit. The operator will carry out monitoring in accordance with the relevant MCERTS methods.</p> <p>We made these decisions in accordance with MCP and SG technical guidance</p> <p>Medium Combustion Plant guidance: https://www.gov.uk/guidance/medium-combustion-plant-and-specified-generator-permits-how-to-comply</p> <p>Specified Generator Guidance: https://www.gov.uk/guidance/medium-combustion-plant-and-specified-generator-permits-how-to-comply</p>
Reporting	<p>We have specified reporting in the permit.</p> <p>We made these decisions in accordance with the MCP and SG technical</p>

Aspect considered	Decision
	<p>guidance;</p> <p>Medium Combustion Plan Guidance: https://www.gov.uk/guidance/medium-combustion-plant-and-specified-generator-permits-how-to-comply</p> <p>Specified Generator Guidance: https://www.gov.uk/guidance/medium-combustion-plant-and-specified-generator-permits-how-to-comply</p>
Operator competence	
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 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>
Growth Duty	
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 the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.</p>