

Permitting decisions

Variation

We have decided to grant the permit for Boothby Heath Farm operated by Patrick Dean Limited.

The variation number is EPR/BT4150IX/V004.

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 summarises the decision making process in the decision checklist to show how all relevant factors have been taken in to account.

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

New Intensive Rearing of Poultry or Pigs BAT Conclusions document

The new Best Available Techniques (BAT) Reference Document (BREF) for the Intensive Rearing of poultry or pigs (IRPP) was published on the 21st February 2017. There is now a separate BAT Conclusions document which will set out the standards that permitted farms will have to meet.

The BAT Conclusions document is as per the following link

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017D0302&from=EN>

Now the BAT Conclusions are published all new installation farming permits issued after the 21st February 2017 must be compliant in full from the first day of operation.

There are some new requirements for permit holders. The conclusions include BAT Associated Emission Levels for ammonia emissions which will apply to the majority of permits, as well as BAT associated levels for nitrogen and phosphorous excretion.

For some types of rearing practices stricter standards will apply to farms and housing permitted after the new BAT Conclusions are published.

There are 33 BAT conclusion measures in total within the BAT conclusion document dated 21st February 2017.

We have sent out a schedule 5 requiring the Applicant to confirm that the new installation complies in full with all the BAT 30 – Ammonia emissions from pig houses.

The Applicant has confirmed their compliance with BAT conditions for the 2 new houses H1 and H2, in their Schedule 5 response dated 14/06/17.

New Pig housing BAT - AELs

A BAT Associated Emission Level (AEL) provides us with a performance benchmark to determine whether an activity is BAT.

The new BAT conclusions include a set of BAT-AEL's for ammonia emissions to air from animal housing for pigs.

There is a footnote in some of the Ammonia BAT-AELs allowing a higher AEL for existing plant. 'New plant' is defined as plant first permitted at the site of the farm following the publication of the BAT conclusions. 'Existing plant' is defined in the BREF as any plant that is not a 'new plant'. The key phrase is 'first permitted'.

All new bespoke applications issued after the 21st February, including those where there is a mixture of old and new housing, will now need to meet the BAT-AEL.

For variations all new housing on existing farms will need to meet the BAT-AEL, while the existing housing will be allowed the less stringent existing plant AEL. The 'existing plant' BAT-AEL will apply indefinitely to any existing housing on any site permitted before 21st February 2017 or at least until the next revision of the BREF.

Considering that this variation involves the construction of two new finisher houses H1 and H2, the operator is required to comply with the new BAT – AEL, which in this case is 2.6 for the relevant housing system (FSF with vacuum system).

The existing plant AEL is 3.11. Using this as a starting point, the operator has proposed the following measures to ensure compliance with the new BAT – AELs and we consider them appropriate for the variation:

- Batch process downtime - this emission factor (3.11) is based on an assumption that a building is continuously at capacity i.e. an assumption of 100% occupancy. The pigs at Boothby Heath Farm are to be housed in the new buildings for a 10 week period per batch, there is then a week allowed for cleaning, disinfecting and drying. Therefore 33 days or 9.1% of each year is spent in downtime. The impact of this system on the BAT-AEL is represented mathematically as $3.11 \times 0.091 = 0.283$. $3.11 - 0.283 = 2.827$ - a reduction to 2.8 but not yet the required 2.6.

- 1% reduction in diet protein content – The operator has committed to this measure and we consider a 1% reduction as being equal to a 10% reduction in ammonia emission. In line with this, the impact on the BAT- AEL is represented mathematically as $2.827 \times 0.1 = 0.28$. $2.827 - 0.28 = 2.547$. At 2.547 the new pig housing at the farm is considered BAT.

Other ammonia reduction measures in place include:

- The use of SKOV fans for ventilation within the buildings on a negative pressure system with an air speed of 11m/s.
- Fully slated floors with dry pumps for frequent slurry removal.

Detailed Ammonia Modelling

This initial ammonia screening assessment has considered any Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites within 10km; any Sites of Special Scientific Interest (SSSI) within 5km and also any National Nature Reserves (NNR), Local Nature Reserves (LNR), ancient woodlands and local wildlife sites (LWS) within 2km of the farm.

The screening identified a Local Wildlife Site (LWS) – Boothby Graffoe Road Verges as being within 250m of the installation boundary. As a result of this, the operator had to undertake detailed modelling to demonstrate the impact of ammonia deposition on this nature conservation site. Detailed modelling is usually required where:

- emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) are in excess of Z% of the relevant Critical Level (ammonia) or Critical Load (nutrient nitrogen or acid) at any particular designated site;
- there is the potential for an in-combination effect with existing farms at a SAC, SPA, Ramsar and/or SSSI if emissions are > Y% of the critical level or critical load;
- the original permit for the installation required an Improvement Condition to reduce ammonia emissions;
- A proposal is within 250m of a nature conservation site.

Table 1 - Screening thresholds.

Designation	Y%	Z%
SAC, SPA, Ramsar	4	20
SSSI	20	50
NNR, LNR, LWS, ancient woodland	100	100

Detailed modelling by the operator predicted an exceedance of 100% of the Critical Load for nitrogen deposition at the LWS (100.4%). Otherwise, the predicted process contributions to annual ammonia concentrations, nitrogen and acid deposition rates do not exceed the required lower threshold percentage of the Critical Level or Load (100% for Non-Statutory sites and 20% for Sites of Special Scientific Interest) at any of the sites considered.

The Air Quality Modelling and Assessment Unit (AQMAU) audited the results and modelling files submitted by the operator in support of the variation and concluded that the operator/consultant's prediction can be considered as a worst case scenario. This being as a result of the operator/consultant's overestimation of emission rates at majority of the emission points on site. In reaching our decision, informed by the AQMAU check modelling results, we accept that without the overestimation, there would be no exceedance at the LWS.

Industrial Emissions Directive (IED)

The Environmental Permitting (England and Wales) (Amendment) Regulations 2013 were made on the 20 February and came into force on 27 February 2013. These Regulations transpose the requirements of the IED.

This permit implements the requirements of the European Union Directive on Industrial Emissions.

Dust and Bioaerosols

The use of Best Available Techniques and good practice will ensure minimisation of emissions. There are measures included within the Permit (the 'Fugitive Emissions' conditions) to provide a level of protection. Condition 3.2.1 'Emissions of substances not controlled by an emission limit' is included in the Permit. This is used in conjunction with condition 3.2.2 which states that in the event of fugitive emissions causing pollution following commissioning of the Installation, the Operator is required to undertake a review of site activities, provide an emissions management plan and to undertake any mitigation recommended as part of that report, once agreed in writing with the Environment Agency.

There is a sensitive receptor within 100m of the Installation boundary.

Guidance on our website concludes that applicants need to produce and submit a dust and bioaerosol risk assessment with their applications only if there are relevant receptors within 100 metres of their farm, e.g. the farmhouse or farm worker's houses. Details can be found via the link below:

www.gov.uk/guidance/intensive-farming-risk-assessment-for-your-environmental-permit#air-emissions-dust-and-bioaerosols.

As there is a receptor within 100m of the Installation, the Applicant was required to submit a dust and bio aerosol risk assessment in this format.

In the guidance mentioned above it states that particulate concentrations fall off rapidly with distance from the emitting source. This fact, together with the proposed good management of the Installation such as keeping areas clean from build-up of dust, and other measures in place to reduce dust and risk of spillages (e.g. litter and feed management/delivery procedures) all reduce the potential for emissions impacting the nearest receptors. The Applicant has confirmed the following measures in their operating techniques to reduce dust:

- Detailed biosecurity precautions in place e.g. frequent stock inspection, use of disinfectants and appropriate clean overalls, boots, etc. for staff and visitors to prevent spread of disease.
- Use of natural screen of trees and hedge between the nearest pig buildings and the nearest residential property to minimise the dispersion of dust. Trees and buildings also act as a screen between delivery vehicle discharge point and nearest receptors.
- Minimal use of straw bedded systems on the installation.
- Feed deliveries tipped from minimal heights and augered in contained systems.
- Housing and equipment cleaned regularly to prevent dust build-up.

Conclusion

We are satisfied that the measures outlined in the Application will minimise the potential for dust and bio aerosol emissions from the Installation.

Groundwater and soil monitoring

As a result of the requirements of the Industrial Emissions Directive, all permits are now required to contain a condition relating to protection of soil, groundwater and groundwater monitoring. However, the Environment Agency's H5 Guidance states **that it is only necessary for the operator to take samples** of soil or groundwater and measure levels of contamination where there is evidence that there is, or could be existing contamination and:

- The environmental risk assessment has identified that the same contaminants are a particular hazard; or
- The environmental risk assessment has identified that the same contaminants are a hazard and the risk assessment has identified a possible pathway to land or groundwater.

H5 Guidance further states that it is **not essential for the Operator** to take samples of soil or groundwater and measure levels of contamination where:

- The environmental risk assessment identifies no hazards to land or groundwater; or
- Where the environmental risk assessment identifies only limited hazards to land and groundwater and there is no reason to believe that there could be historic contamination by those substances that present the hazard; or
- Where the environmental risk assessment identifies hazards to land and groundwater but there is evidence that there is no historic contamination by those substances that pose the hazard.

The site condition report (SCR) for Boothby Heath Farm from the original application demonstrates that there are no hazards or likely pathway to land or groundwater and no historic contamination on site that may present a hazard from the same contaminants.

Odour

As part of this variation, the operator supplied an Odour Management Plan (OMP) dated June 2017, which we accept and consider best practice for the nature and size of the installation in accordance with the Environment Agency's H4 Guidance.

Noise

Intensive farming by its nature involves activities that have the potential to cause noise pollution. This is recognised in our 'How to Comply with your Environmental Permit for Intensive Farming' EPR 6.09 guidance. Under section 3.4 of this guidance a Noise Management Plan (NMP) must be approved as part of the permitting determination, if there are sensitive receptors within 400m of the Installation boundary.

Condition 3.4 of the Permit reads as follows:

Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan, to prevent or where that is not practicable to minimise the noise and vibration.

There are sensitive receptors within 400 metres of the Installation boundary as stated in section 4.4.2 above. The Operator has provided a noise management plan (NMP) as part of the Application supporting documentation, and further details are provided in section 4.5.2 below.

The risk assessment for the Installation provided with the Application lists key potential risks of noise pollution beyond the Installation boundary and appropriate mitigation measures.

We have assessed the NMP and the H1 risk assessment for noise and conclude that the Applicant has followed the guidance set out in EPR 6.09 Appendix 5 'Noise management at intensive livestock installations'. We are satisfied that all sources and receptors have been identified, and that the proposed mitigation measures will minimise the risk of noise pollution / nuisance.

Detailed ammonia modelling was requested and has been submitted as part of this application. There is 1 Site of Special Scientific Interest (SSSI) and 8 Local Wildlife Sites (LWS) located within 5km and 2km of the installation respectively.

Ammonia assessment – SSSI

The following trigger thresholds have been applied for assessment of SSSIs:

- If the process contribution (PC) is below 20% of the relevant critical level (CLe) or critical load (CLo) then the farm can be permitted with no further assessment.
- Where this threshold is exceeded an assessment alone and in combination is required. An in combination assessment will be completed to establish the combined PC for all existing farms identified within 5 km of the SSSI.

Initial screening using the ammonia screening tool version 4.5 has indicated that emissions from Boothby Heath Farm will only have a potential impact on SSSI site with a precautionary critical level of $1\mu\text{g}/\text{m}^3$ if they are within 3,708 metres of the emission source.

Beyond 3,708m the PC is less than $0.2\mu\text{g}/\text{m}^3$ (i.e. less than 20% of the precautionary $1\mu\text{g}/\text{m}^3$ critical level) and therefore beyond this distance the PC is insignificant. In this case the SSSI is beyond this distance (see table below) and therefore screen out of any further assessment.

Where the precautionary level of $1\mu\text{g}/\text{m}^3$ is used, and the process contribution is assessed to be less than 20% the site automatically screens out as insignificant and no further assessment of critical load is necessary. In this case the $1\mu\text{g}/\text{m}^3$ level used has not been confirmed by Natural England, but it is precautionary. It is therefore possible to conclude no likely damage to these sites.

Table 1 – SSSI Assessment

Name of SSSI	Distance from site (m)
Metheringham Heath Quarry	4,732

Ammonia assessment - LWS

The following trigger thresholds have been applied for the assessment of these sites:

- If the process contribution (PC) is below 100% of the relevant critical level (CLe) or critical load (CLo) then the farm can be permitted with no further assessment.

Initial screening using ammonia screening tool version 4.5 has indicated that emissions from Boothby Heath Farm will only have a potential impact on the LWS sites with a precautionary critical level of $1\mu\text{g}/\text{m}^3$ if they are within 1,507 metres of the emission source.

Beyond 1,507m the PC is less than $1\mu\text{g}/\text{m}^3$ and therefore beyond this distance the PC is insignificant. In this case the first 5 local wildlife sites listed in table 2 below are beyond this distance (see table below) and therefore screen out of any further assessment.

Boothby Graffoe is within 250m of the installation, hence the need for detailed modelling.

Table 2 – LWS Assessment

Name of LWS	Distance from site (m)
A15, Green Man Road To Cuckoo Lane	1,661
Navenby, Green Man Road Verges	1,524
Green Man Lane	2,132
High Dike, Coleby Mill to Harmston	1,630
Harmston Quarry	1,916

Boothby Graffoe Road Verges	138
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Sites that screen out as <100%

Screening using the ammonia screening tool version 4.5 has determined that the PC on the LWS for ammonia emissions/nitrogen deposition/acid deposition from the application site are under the 100% significance threshold and can be screened out as having no likely significant effect. See results below.

Table 3 - Ammonia emissions

Name of LWS	Critical level ammonia $\mu\text{g}/\text{m}^3$	Predicted PC $\mu\text{g}/\text{m}^3$	PC % of critical level
Dunston Heath Lane Verges	3**	1.007	33.6
Coleby, Heath Road Verges	3**	1.079	60.7

** CLe 3 applied as no protected lichen or bryophytes species were found when checking Easimap layer.

Table 4 – Nitrogen deposition

Name of LWS	Critical load kg N/ha/yr. [1]	Predicted PC kg N/ha/yr.	PC % of critical load
Dunston Heath Lane Verges	10	5.229	52.3
Coleby, Heath Road Verges	10	9.458	94.6

Note [1] Critical load values taken from APIS website (www.apis.ac.uk) – 19 July 2016

Table 5 – Acid deposition

Name of LWS	Critical load keq/ha/yr. [1]	Predicted PC keq/ha/yr.	PC % of critical load
Dunston Heath Lane Verges	10.81	0.373	3.5
Coleby, Heath Road Verges	10.81	0.67	6.2

Note [1] Critical load values taken from APIS website (www.apis.ac.uk) – 19 July 2016

No further assessment is required.

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.
Consultation	
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>No responses were received from the following external consultees:</p> <ul style="list-style-type: none"> • Director of Public Health/PHE • Health and Safety Executive • Local Authority – Environmental Health.
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	<p>We considered the extent and nature of the facility/facilities at the site in accordance with RGN2 'Understanding the meaning of regulated facility', Appendix 2 of RGN 2 'Defining the scope of the installation'.</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>
The site	
Extent of the site of the facility	The operator has provided a site layout plan which we consider is satisfactory, showing the extent of the site of the facility. The plan is included in the permit.
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>Please see key issues section.</p>
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>

Aspect considered	Decision
Operating techniques	
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> <p>The proposed techniques for priorities for control are in line with the benchmark levels contained in the Sector Guidance Note EPR6.09 and we consider them to represent appropriate techniques for the facility. The permit conditions ensure compliance with relevant BREFs.</p>
Odour management	<p>We have reviewed the odour management plan in accordance with our guidance on odour management.</p> <p>We consider that the odour management plan is satisfactory.</p>
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>
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	We have decided that emission limits are not required in the permit.
Reporting	<p>We have specified reporting in the permit for crude protein content of the pigs' diet to ensure compliance with 1% reduction in protein committed to by the operator.</p> <p>We made these decisions in accordance with our Sector Guidance Note EPR 6.09 – How to comply with your environmental permit for intensive farming.</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>
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 vary 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</p>

Aspect considered	Decision
	<p>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.

No responses were received.