

# Permitting decisions

## Variation

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We have decided to grant the variation for Middle Pig Farm, Court Farm and Bentham Lane Farm operated by Alexander and Angell (Farms) Limited.

The variation number is [EPR/VP3834UB/V006](#).

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 and the variation notice. The introductory note summarises what the variation covers.

# Key issues of the decision

## Variation application

This variation is to increase broiler breeder layer places on Court Farm from 36,790 to 40,878 places, this includes destocking and demolishing nine existing houses and replacing with four new purpose-built houses. Broiler breeder layer places on Bentham Farm will reduce from 25,700 to 25,070 places, there are no changes to the existing infrastructure proposed on this farm. At Middle Pig Farm, the number of production pig places (over 30kg) will increase from 2,500 to 3,058 and the number of pig (up to 30 kg) places will increase from 1,170 to 2,250. Pigs 7kg – 40kg will be housed in pig houses MPF7, MPF10, MPF19 and MPF Weaner. Pigs over 40kg will be housed in pig houses MPF15, MPF16 and MPF Finishing.

The number of new or modified pig houses is 10.

This variation also includes the addition of two slurry lagoons fitted with floating covers. One with a capacity of 877m<sup>3</sup> and one with a capacity of 2,362m<sup>3</sup>.

Please refer to the permit introductory note which describes the proposed changes in further detail.

## Intensive Rearing of Poultry or Pigs BAT Conclusions document

The 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 housing within variation applications** issued after the 21<sup>st</sup> 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 Emission Levels for nitrogen and phosphorus excretion.

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

**This variation determination includes a review of BAT compliance for existing housing, permitted before 21/02/17 and the new housing introduced with this variation.**

### BAT conclusions review

There are 34 BAT conclusion measures in total within the BAT conclusion document dated 21<sup>st</sup> February 2017.

The Operator has confirmed their compliance with all BAT conditions for the Installation in their document reference 'Revised 009 non-tech summary and BAT Standards Oct 23 v3' (dated 22/11/24), which has been referenced in table S1.2 Operating Techniques of the permit.

The following is a more specific review of the measures the Operator has applied to ensure compliance with the above key BAT measures.

BAT measure	Operator compliance measure
BAT 3 Nutritional management - Nitrogen excretion	The Operator is required to demonstrate that the installation achieves levels of nitrogen excretion below the required BAT-AEL for the following animal types:  Pigs > 30kg: 13.0 kg N/animal place/year.  Sows: 30.0 kg N/animal place/year.  Farrowers (including piglets): 30.0 kg N/animal place/year.

BAT measure	Operator compliance measure
	<p>The Operator will demonstrate this by an estimation using manure analysis for total nitrogen content.</p> <p>Table S3.3 of the Permit concerning process monitoring requires the Operator to undertake relevant monitoring that complies with these BAT Conclusions.</p> <p>Pigs are housed by the following weight categories: 7kg – 40kg and 40 kg +, therefore BAT-AEL's are based on the maximum weight category for pigs in these houses.</p>
<p>BAT 4 Nutritional management</p> <ul style="list-style-type: none"> <li>- Phosphorus excretion</li> </ul>	<p>The Operator is required to demonstrate that the installation achieves levels of phosphorus excretion below the required BAT-AEL for the following animal types:</p> <p>Pigs &gt; 30kg: 5.4 kg N/animal place/year.</p> <p>Sows: 15.0 kg N/animal place/year.</p> <p>Farrowers (including piglets): 15.0 kg N/animal place/year.</p> <p>The Operator will demonstrate this by an estimation using manure analysis for total phosphorus content.</p> <p>Table S3.3 of the Permit concerning process monitoring requires the Operator to undertake relevant monitoring that complies with these BAT Conclusions.</p> <p>Pigs are housed by the following weight categories: 7kg – 40kg and 40 kg +, therefore BAT-AEL's are based on the maximum weight category for pigs in these houses.</p>
<p>BAT 24 Monitoring of emissions and process parameters</p> <ul style="list-style-type: none"> <li>- Total nitrogen and phosphorus excretion</li> </ul>	<p>Table S3.3 Process monitoring requires the Operator to undertake relevant monitoring that complies with these BAT Conclusions.</p>
<p>BAT 25 Monitoring of emissions and process parameters</p> <ul style="list-style-type: none"> <li>- Ammonia emissions</li> </ul>	<p>Table S3.3 of the Permit concerning process monitoring requires the Operator to undertake relevant monitoring that complies with these BAT Conclusions.</p> <p>The Operator has confirmed they will report the ammonia emissions to the Environment Agency annually by utilising estimation by using emission factors.</p>
<p>BAT 26 Monitoring of emissions and process parameters</p> <ul style="list-style-type: none"> <li>- Odour emissions</li> </ul>	<p>The approved Odour Management Plan (OMP) includes the following details for on farm monitoring and continual improvement:</p> <ul style="list-style-type: none"> <li>• The staff will perform daily olfactory checks at points around the site boundary. The odour assessor will not be subject to significant odour in the 30 minutes prior to the assessment and shall be compliant with the requirements laid down in the olfactory survey procedure. Observations shall be noted in the site diary.</li> <li>• Detection of a moderate odour will initiate a more extensive olfactory survey to determine the extent of the odour plume. An investigation will be initiated into the cause of the odour. The outcome of an investigation will determine the corrective actions to be implemented as listed in Section 5.4 of the OMP.</li> <li>• In the event of a substantiated odour complaint the cause will be investigated by the Operator in accordance with the site's complaints procedure. The outcome of the investigation will determine the corrective actions to be implemented as listed in Section 5.4 of the OMP. A complaints report will be filled out and retained on site and will be made available to the Environment Agency on request.</li> </ul>
<p>BAT 27 Monitoring of emissions and process parameters</p> <ul style="list-style-type: none"> <li>- Dust emissions</li> </ul>	<p>Table S3.3 Process monitoring requires the Operator to undertake relevant monitoring that complies with these BAT conclusions.</p> <p>The Operator has confirmed they will report the dust emissions to the Environment Agency annually by utilising estimation by using emission factors.</p>

BAT measure	Operator compliance measure
BAT 30 Ammonia emissions from pig houses	The Operator has confirmed it will demonstrate that the installation achieves levels of ammonia below the required BAT-AEL for the following pig types:  Pigs >30kg (FSF with vacuum system for frequent slurry removal): 2.6 kg NH3/animal place/year.  Pigs > 30kg (Solid Floor – straw system): 5.65 kg NH3/animal place/year.  Sows (Solid Floor – straw system): 5.2 kg NH3/animal place/year.  Farrowers (Solid Floor – straw system): 5.6 kg NH3/animal place/year.  Pigs are housed by the following weight categories: 7kg – 40kg and 40 kg +, therefore BAT-AEL's are based on the maximum weight category for pigs by housing system.
BAT 31 Ammonia emissions from poultry houses  - Broiler breeders	BAT 31 technique b 5 (forced drying of litter using indoor air – in the case of solid floor with deep litter) is the narrative BAT measure complied with at this farm.

### **More detailed assessment of specific BAT measures**

#### **Ammonia emission controls**

A BAT Associated Emission Level (AEL) provides us with a performance benchmark to determine whether an activity is BAT. The BAT Conclusions document does not have a BAT AEL for boars and broiler breeders and therefore an ammonia emission limit value has not been included within the permit.

#### **Ammonia emission controls – BAT conclusion 30**

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

For variations all new and existing housing on existing farms will need to meet the BAT-AEL.

#### **More detailed assessment of AEL's**

##### **Pig housing**

The standard emission factor for farrowers (including piglets) on a solid floor – straw system is 8.88 NH3/animal place/year, whereas the BAT-AEL is 5.6 kg NH3/animal place/year. However, an emission factor of 5.4 kg NH3/animal place/year for this case for farrowers on straw can be applied. This is based on AHDB Pork 2020 trial emission factor data (6.75 kg NH3/animal place/year) and allowing a further 20% reduction to the emission factor for crude protein (CP) reduction which the Operator has confirmed falls between the standard range of 16 – 17.5 % CP.

The standard emission factor for pigs >30kg on FSF with a vacuum system is 3.11 NH3/animal place/year, whereas the BAT-AEL is 2.6 NH3/animal place/year. However, we have used an emission factor of 2 NH3/animal place/year – this assumes that slurry depth below the slats is less than 800m and that slurry is removed at a frequency of 12 weeks or less. This has been confirmed by the Operator.

### **Industrial Emissions Directive (IED)**

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

#### **Odour**

Intensive farming is by its nature a potentially odorous activity. This is recognised in our 'How to Comply with your Environmental Permit for Intensive Farming' EPR 6.09 guidance.

[http://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/297084/geho0110brsb-e-e.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/297084/geho0110brsb-e-e.pdf)

Condition 3.3 of the environmental permit reads as follows:

“Emissions from the activities shall be free from odour 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 odour management plan, to prevent or where that is not practicable to minimise the odour.”

Under section 3.3 of the guidance an Odour Management Plan (OMP) is required to be approved as part of the permitting process, if as is the case here, sensitive receptors (sensitive receptors in this instance excludes properties associated with the farm) are within 400m of the Installation boundary. It is appropriate to require an OMP when such sensitive receptors have been identified within 400m of the installation to prevent, or where that is not practicable, to minimise the risk of pollution from odour emissions.

The risk assessment for the Installation provided with the application lists key potential risks of odour pollution beyond the Installation boundary. These activities are as follows:

- Pig and poultry production including cleaning out operations and feed storage associated with livestock operations
- Use of vehicles associated with livestock operations
- Disposal of carcasses
- Storage of fuel and chemicals associated with livestock operations
- Waste Storage (including storage of slurry/manure and dirty wash water)
- Increased odour levels from adverse weather

### Odour Management Plan Review

A revised odour management plan (OMP) has been provided by the Operator as part of the application supporting documentation (received in response to a request for further information (sent 20/11/24) on 22/11/24).

The Installation is located within 400m of a number of sensitive receptors, as listed below (please note, the distances stated are only an approximation from the Installation boundary to the assumed boundary of the properties). In instances where a number of properties are situated in close proximity, these have been grouped together:

#### **Middle Pig Farm**

1. Residential - Witcombe Housing Estate – approximately 260m southwest of the installation boundary
2. Leisure – Climbing and Activity Centre (previously the Bentham Country Club) – approximately 390m northeast of the installation boundary
3. Residential – Houses on Cirencester Road – approximately between 280m and 400m southeast of the installation boundary
4. Leisure – Allotments on Old Coach Road – approximately 20m northeast of the installation boundary
5. Commercial / Industrial – Industrial Units at Henley Bank – approximately 190m northwest of the installation boundary
6. Residential – Houses on Henley Bank Lane – approximately 380m northwest of the installation boundary

#### **Court Farm**

7. Residential – Bentham Housing Estate – approximately 288m northeast of the installation boundary
8. Leisure – Climbing and Activity Centre (previously Bentham Country Club) – approximately 128m northeast of the installation boundary
9. Commercial / Industrial – Galtec Engineering – approximately 183m northeast of the installation boundary
10. Church – St Peter’s Church – approximately 338m northeast of the installation boundary
11. Residential – Houses on Cirencester Road – approximately between 285m and 320m south of the installation boundary
12. Residential – Houses on Green Lane – approximately between 205m and 400m south of the installation boundary
13. Leisure – Allotments on Old Coach Road – approximately 285m northwest of the installation boundary

#### **Bentham Lane Farm**

1. Residential – Bentham Housing Estate – approximately 208m northeast of the installation boundary
2. Leisure – Climbing and Activity Centre (previously Bentham Country Club) – approximately 15m north east of the installation boundary

3. Commercial / Industrial – Galtec Engineering – approximately 72m south east of the installation boundary
4. Church – St Peter’s Church – approximately 280m south east of the installation boundary
5. Residential – Houses on Dog Lane – approximately 390m south east of the installation boundary
6. Leisure – Allotments on Old Coach Road – approximately 150m north west of the installation boundary

The OMP has been assessed against the requirements of ‘How to Comply with your Environmental Permit for Intensive Farming’ EPR 6.09 (version 2), Appendix 4 guidance ‘Odour Management at Intensive Livestock Installations’, our Top Tips Guidance and the Poultry Industry Good Practice Checklist (August 2013) as well as the site-specific circumstances at the Installation. We consider that the OMP is acceptable because it complies with the above guidance.

The Operator is required to manage activities at the Installation in accordance with condition 3.3.1 of the Permit and its OMP. The OMP includes odour control measures for normal operations, including manufacture and selection of feed, feed delivery and storage, ventilation systems, litter management, carcass storage and disposal, house clean out operations, removal of used litter and dirty water management. In addition, the OMP includes odour control measures for abnormal operations and contingency measures for failures in feed delivery and storage, carcass storage and disposal, slurry handling and housing and ventilation as well as process failures (i.e. water leaks/pipe failures and failure to maintain aerobic conditions within the slurry during treatment).

In order to monitor odour emissions on site, daily olfactory checks will be conducted at points around the site boundary and observations shall be noted in the site diary. If odour is detected and is judged to be moderate (Odour Intensity Rank 3) then the facility Manager will be notified immediately, and an investigation will be initiated into the cause of the odour and corrective actions implemented as detailed in the OMP.

The OMP provides a complaint form template to be used in the event that complaints are made to the Operator. The form will detail the nature of the complaint, any corrective actions implemented following investigation of the odour and the outcome of the complaint. The Operator has confirmed in their OMP that it will be reviewed every year from permit issue date, prior to any building and management changes or on the outcome of any substantiated complaints. Any changes to the OMP or other management plans will be documented, dated and signed and the Environment Agency Area Officer will be notified. There have been no recent substantiated odour complaints from the Installation as a result of the current operations.

The Environment Agency has reviewed the OMP and considers it acceptable. We agree with the scope and suitability of key measures but this should not be taken as confirmation that the details of equipment specification design, operation and maintenance are suitable and sufficient. That remains the responsibility of the Operator.

## Conclusion

Although there is the potential for odour pollution from the Installation, the Operator’s compliance with its OMP and permit conditions will minimise the risk of odour pollution beyond the Installation boundary. The risk of odour pollution at sensitive receptors beyond the Installation boundary is therefore not considered significant.

## **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 listed under the ‘Odour’ section above. The Operator has provided a NMP as part of the application supporting documentation, and further details are provided below.

The risk assessment for the Installation provided with the Application lists key potential risks of noise pollution beyond the Installation boundary. These activities are as follows:

- Pig and poultry production inc. cleaning out, feed storage and use of machinery associated with livestock operations
- Use of vehicles

#### Noise Management Plan Review

A revised noise management plan (NMP) has been provided by the Operator as part of the application supporting documentation (received 11/10/23).

Potential sources of noise have been included as identified in the risk assessment. In addition to the above, the NMP also puts in place control measures for the following potential sources of noise for both the pig and poultry operations:

- Feeding procedures and feed delivery
- Movement of pigs including loading of pigs into / out of the houses
- Activities associated with pig and poultry house clean out
- Activities and transport associated with slurry and manure removal
- Deliveries of supplies and materials
- Ventilation fans

The Operator has confirmed in their NMP that it will be reviewed every year from permit issue date, prior to any building and management changes or on the outcome of any substantiated complaints.

In the NMP, the Operator has committed to record and investigate noise complaints using the Noise Complaint Report Form contained within Technical Guidance Note IPPC SRF 6.02 (Farming) 'Noise Management at Intensive Livestock Installations' (see below link). Should more than three noise complaints be substantiated by the Environment Agency within the space of one month then a full review of on farm noise management will be completed in agreement with the Environment Agency Area Officer. There have been no recent substantiated noise complaints from the Installation as a result of the current operations.

<https://assets.publishing.service.gov.uk/media/5a7b99f3e5274a7202e183a2/pmho1105bkdb-e-e.pdf>

We are satisfied that the manner in which operations are carried out on the Installation will minimise the risk of noise pollution.

#### Conclusion

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.

## **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.

The Installation is located within 100m of a number of sensitive receptors, as listed below (please note, the distances stated are only an approximation from the Installation boundary to the assumed boundary of the properties). In instances where a number of properties are situated in close proximity, these have been grouped together:

## **Middle Pig Farm**

1. Leisure – Allotments on Old Coach Road – approximately 20m northeast of the installation boundary

## **Court Farm**

2. Residential – Dwelling associated with the farm – approximately 22m south of the installation boundary
3. Residential – Dwelling (Chandlers) – approximately 91m south of the installation boundary
4. Residential – Dwelling (Witcombe Court Lodge) – approximately 97m south of the installation boundary
5. Residential – Dwelling (Witcombe Court Farm) – approximately 80m south of the installation boundary
6. Residential – Dwelling (The Coach House) – approximately 80m south of the installation boundary

## **Bentham Lane Farm**

7. Leisure – Climbing and Activity Centre (previously Bentham Country Club) – approximately 15m northeast of the installation boundary
8. Commercial / Industrial – Galtec Engineering – approximately 72m southeast 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:

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

As there are receptors within 100m of the Installation, the Operator was required to submit a dust and bioaerosol risk assessment in this format. A revised dust and bioaerosol management plan has been provided by the Operator as part of the application supporting documentation (received in response to a request for further information (sent 03/05/24) on 23/05/24).

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 Operator has included measures in their dust and bioaerosol management plan (DBMP) as part of their operating techniques to reduce dust, which will inherently reduce bioaerosols, for the following sources:

- Pig and poultry feed (including dust from silos, storage of feed, feed spill control, feed selection and feeding method)
- Pig and poultry bedding material
- Poultry litter
- Pig and poultry ventilation systems
- Clean out of the pig and poultry houses

The DBMP provides a dust report form and a complaint form template to be used in the event that complaints are made to the Operator. The form will detail the nature of the complaint, any corrective actions implemented following investigation of the cause of the dust and the outcome of the complaint. This will be made available to the Environment Agency on request.

## **Conclusion**

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

## **Standby Generator**

There is one standby generator on each of the three farms. The net thermal rated input of each of the standby generators is < 1MWth and they are operated for a maximum of 1 hour per week for testing purposes. The



generators are used only in an emergency as a backup for mains interruption and will not be used for more than 500 hrs per annum averaged over a 3-year period.

## **Ammonia**

The Applicant has demonstrated that the housing will meet the relevant NH<sup>3</sup> BAT-AELs.

There is one Special Area of Conservation (SAC) located within 5 kilometres of the installation. There are seven Sites of Special Scientific Interest (SSSI) located within 5 km of the installation. There is also one Local Wildlife Site (LWS), one Ancient Woodland (AW) and one Local Nature Reserve (LNR) within 2 km of the installation.

### **Detailed Modelling - Ammonia assessment – SAC**

The following trigger thresholds have been designated for the assessment of European sites:

- If, using the Ammonia Screening Tool (AST v4.6), the process contribution (PC) is below 4% of the relevant critical level (CL<sub>e</sub>) or critical loads (CL<sub>o</sub>) then the farm can be permitted with no further assessment.
- Where this threshold is exceeded, detailed ammonia modelling is required, and if the PC from such modelling is below 1% of the relevant critical level (CL<sub>e</sub>) or critical loads (CL<sub>o</sub>) then the farm can be permitted with no further assessment.
- Where the PC (after modelling) exceeds 1%, further detailed assessment is required, taking into consideration the ammonia and nitrogen background concentrations and may also require an in-combination assessment.
- Where an in-combination assessment is required, the combined PC for all existing permitted installations identified within 5 km of the SAC will be considered, together with impacts from other local plans, projects, and non-permitted farms which could act in-combination. The in-combination assessment is limited to those impacts not already included in the relevant background emission baseline.

Detailed modelling [reference: 'A Report on the Modelling of the Dispersion and Deposition of Ammonia from the Existing and Proposed Piggery at Middle Pig Farm and the Egg Laying Chicken Units at Court Farm and Bentham Lane, near Brockworth in Gloucestershire', dated 17/03/23] has determined that the PCs of ammonia emissions, nitrogen deposition and acid deposition from the proposal scenario are over the 1% significance threshold at Cotswold Beechwoods SAC and as such, it is not possible to conclude no adverse effect alone.

The detailed modelling report submitted by the Operator provides a comparison between the existing permitted scenario, granted 29/01/16, and the proposed operating scenario.

The comparison indicates that the maximum PC incremental increase at Cotswold Beechwoods SAC is less than 1% as follows:

- Ammonia emission incremental increase is 0.9%
- Nitrogen Deposition incremental increase is 0.7%
- Acid Deposition incremental increase is 0.1%.

The modelling has been audited by our air quality assessment team who have concluded that they agree with the Operators modelling prediction that PC's at Cotswold Beechwoods SAC will increase by less than 1% of the CL<sub>e</sub> and CL<sub>o</sub>'s. In accordance with our process, if the PC incremental increase is 1% or less (post APIS background data, which is currently based on years 2020 – 2022, and therefore we only consider increases beyond the end of the mid-year of data i.e. after 31/12/21), it is considered insignificant and the changes to the EPR farm activities will not contribute to any significant increase in effects on the SAC site. On this basis we agree that the permit variation can be granted.

### **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 (CL<sub>e</sub>) or critical load (CL<sub>o</sub>) 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.

Detailed modelling [reference: 'A Report on the Modelling of the Dispersion and Deposition of Ammonia from the Existing and Proposed Piggery at Middle Pig Farm and the Egg Laying Chicken Units at Court Farm and Bentham Lane, near Brockworth in Gloucestershire', dated 17/03/23] has indicated that the PC's for the below SSSI's are predicted to be less than 20% of the critical level for ammonia emissions and critical loads for nitrogen deposition and acid deposition therefore can be screened out as having no likely significant effect. The results of the detailed modelling are given in the tables below. The predicted process contribution (PC) for each of the nature conservation sites in the tables below have been illustrated using the maximum PCs from the detailed modelling.

The ammonia modelling assessment has been audited in detail by our air quality assessment team and we have confidence that we can agree with the report conclusions that PCs for ammonia emissions, nitrogen deposition and acid deposition are below 20% of the critical level for ammonia emissions and critical loads for nitrogen deposition and acid deposition at all SSSI's within screening distances.

A check of critical levels and critical loads for the SSSI's stated in the tables below was conducted on 10/09/2024 using the APIS website ([www.apis.ac.uk](http://www.apis.ac.uk)).

The following should be noted in relation to Table 1 – Ammonia emissions:

- APIS states that Knap House Quarry, Birdlip SSSI is designated for geological features, therefore no Critical Level is advised by APIS for the site.
- Detailed modelling submitted by the applicant did not provide a CLe for Badgeworth SSSI, however APIS advises a CLe 3µg/m<sup>3</sup> for the site therefore an assessment has been made against a CLe 3µg/m<sup>3</sup> using the process contribution stated in the detailed modelling.
- Detailed modelling submitted by the applicant used a CLe 3µg/m<sup>3</sup> for Leckhampton Hill and Charlton Kings Common SSSI, however APIS advises a CLe 1 or 3µg/m<sup>3</sup> for the site therefore an assessment has been made against a precautionary CLe 1µg/m<sup>3</sup> using the process contribution advised in the modelling.
- Detailed modelling submitted by the applicant used a CLe 3µg/m<sup>3</sup> for Bushley Muzzard, Brimpsfield SSSI, however APIS advises a CLe 1 or 3µg/m<sup>3</sup> for the site therefore an assessment has been made against a precautionary CLe 1µg/m<sup>3</sup> using the process contribution advised in the modelling.

**Table 1 – Ammonia emissions**

Site	Ammonia Cle (µg/m <sup>3</sup> )	PC (µg/m <sup>3</sup> )	PC % critical level
Crickley Hill and Barrow Wake SSSI	1	0.172	17.2
Cotswold Commons and Beechwoods SSSI	1	0.107	10.7
Badgeworth SSSI	3	0.070	2.3
Leckhampton Hill and Charlton Kings Common SSSI	1	0.044	4.4
Knap House Quarry, Birdlip SSSI	-	0.044	-
Hucclecote Meadows SSSI	3	0.038	1.3
Bushley Muzzard, Brimpsfield SSSI	1	0.014	1.4

The following should be noted in relation to Table 2 – Nitrogen deposition:

- APIS states that Knap House Quarry, Birdlip SSSI is designated for geological features, therefore no Critical Load is advised by APIS for the site.
- No Critical Load was given on APIS for Badgeworth SSSI as APIS advises that nitrogen is not assessed for the features of this site.

- Detailed modelling submitted by the applicant used a CLo 20kg N/ha/yr\* for nitrogen deposition for Hucclecote Meadows SSSI, however APIS advises a CLo 10kg N/ha/yr\* for nitrogen deposition therefore an assessment has been made against a CLo 10kg N/ha/yr\* using the process contribution advised in the modelling.

**Table 2 – Nitrogen deposition**

Site	Critical load kg N/ha/yr*	PC kg N/ha/yr.	PC % critical load
Crickley Hill and Barrow Wake SSSI	10	1.342	13.4
Cotswold Commons and Beechwoods SSSI	10	0.831	8.3
Badgeworth SSSI	-	-	-
Leckhampton Hill and Charlton Kings Common SSSI	10	0.346	3.5
Knap House Quarry, Birdlip SSSI	-	-	-
Hucclecote Meadows SSSI	10	0.198	2
Bushley Muzzard, Brimpsfield SSSI	15	0.071	0.5

The following should be noted in relation to Table 3 – Acid deposition:

- No process contributions for acid deposition were included in the Applicants modelling. We have estimated these by dividing the process contributions of nitrogen deposition by 14.
- APIS states that Knap House Quarry, Birdlip SSSI is designated for geological features, therefore no Critical Load is advised by APIS for the site.
- No Critical Load is given on APIS for Badgeworth SSSI as APIS advises that acidity is not assessed for the features of this site.
- No Critical Load is given on APIS for Bushley Muzzard, Brimpsfield SSSI for acidity.

**Table 3 – Acid deposition**

Site	Critical load keq/ha/yr*	PC keq/ha/yr.	PC % critical load
Crickley Hill and Barrow Wake SSSI	4.856	0.096	2
Cotswold Commons and Beechwoods SSSI	4.856	0.059	1.2
Badgeworth SSSI	-	-	-
Leckhampton Hill and Charlton Kings Common SSSI	4.856	0.025	0.5
Knap House Quarry, Birdlip SSSI	-	-	-
Hucclecote Meadows SSSI	4.928	0.014	0.3
Bushley Muzzard, Brimpsfield SSSI	-	0.005	-

No further assessment is required.

#### **Ammonia assessment - LWS/AW/LNR**

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.

Detailed modelling [A Report on the Modelling of the Dispersion and Deposition of Ammonia from the Existing and Proposed Piggery at Middle Pig Farm and the Egg Laying Chicken Units at Court Farm and Bentham Lane, near Brockworth in Gloucestershire', dated 17/03/23] has determined that the PCs for ammonia emissions, nitrogen deposition and acid deposition at the LWS, AW and LNR from the application site are under the 100% significance threshold and can be screened out as having no likely significant effect. The results of the detailed modelling are given in the tables below. The predicted PCs for each of the nature conservation sites in the tables below have been illustrated using the maximum PCs from the detailed modelling.

Detailed modelling provided by the applicant has been audited in detail by our air quality assessment team and we have confidence that we can agree with the report conclusions.

**Table 4 - Ammonia emissions**

Site	Critical level ammonia $\mu\text{g}/\text{m}^3$	Predicted PC $\mu\text{g}/\text{m}^3$	PC % of critical level
Witcombe Reservoirs LWS	1*	0.663	66.3
Witcombe/Buckle Woods AW**	1*	0.099	9.9
Coopers Hill, Gloucester LNR**	1*	0.107	10.7

\* Precautionary CLe  $1\mu\text{g}/\text{m}^3$  has been used as protected lichen or bryophytes species were found when checking the Easimap layer. Where the precautionary level of  $1\mu\text{g}/\text{m}^3$  is used, and the process contribution is assessed to be less than 100% the site automatically screens out as insignificant, and no further assessment of critical load is necessary. In these cases, the CLe  $1\mu\text{g}/\text{m}^3$  used has not been confirmed, but it is precautionary.

\*\*Predicted PC's for Witcombe/Buckle Woods AW and Coopers Hill, Gloucester LNR have been taken from receptor points in the detailed modelling for Cotswold Beechwoods SAC and Cotswold Commons and Beechwoods SSSI which overlap with the closest point on the AW and LNR.

No further assessment is required.

## 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.  The decision was taken in accordance with our guidance on confidentiality.
<b>The facility</b>	
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'.  The extent of the facility is defined in the site plans and in the permit. The activities are defined in table S1.1 of the permit.
<b>The site</b>	
Extent of the site of the facility	The Operator has provided plans which we consider are satisfactory, showing the extent of the site of the facility. The plans are included in the permit.
Biodiversity, heritage, landscape and nature conservation	The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.  There is one Special Area of Conservation (SAC) located within 5 kilometres of the installation. There are seven Sites of Special Scientific Interest (SSSI) located within 5 km of the installation. There is also one Local Wildlife Site (LWS), one Ancient Woodland (AW) and one Local Nature Reserve (LNR) within 2 km of the installation.  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.  We consider that the application will have no adverse effect on any sites of nature conservation, landscape and heritage, and/or protected species or habitats identified.  We have sent a Habitats Regulations Assessment Stage 1 to Natural England 'for information only'. The decision was taken in accordance with our guidance.  Further information is provided in the key issues section.
<b>Environmental risk assessment</b>	
Environmental risk	We have reviewed the Operator's assessment of the environmental risk from the facility.  The Operator's risk assessment is satisfactory.
<b>Operating techniques</b>	

<b>Aspect considered</b>	<b>Decision</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> <p>The operating techniques are summarised in the introductory note of the permit variation notice.</p> <p>The proposed techniques for priorities for control are in line with the benchmark levels contains in the Sector Guidance Note EPR6.09 and we consider them to represent appropriate techniques for the facility. The permit conditions ensure compliance with the Best Available Techniques (BAT) Reference document (BREF) for the Intensive Rearing of Poultry or Pigs (IRPP) published on 21st February 2017.</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> <p>Further information is provided in the key issues section.</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> <p>Further information is provided in the key issues section.</p>
<b>Permit conditions</b>	
Updating permit conditions during consolidation	<p>We have updated permit conditions to those in the current generic permit template as part of permit consolidation. The conditions will provide the same level of protection as those in the previous permit(s).</p>
Use of conditions other than those from the template	<p>Based on the information in the application, we consider that we do not need to impose conditions other than those in our permit template.</p>
Improvement programme	<p>Existing improvement conditions IC1, IC2, IC3 and IC4 in table S1.3 of the permit were marked as complete at variation reference EPR/VP3834UB/V004 and have therefore been removed from the consolidated permit as per process.</p> <p>The Area Land and Water Team have confirmed that the outstanding improvement condition (IC5) has been satisfied and it has therefore been marked as complete within table S1.3 of the permit (as confirmed by email dated 21/11/23).</p>
Emission limits	<p>We have decided that emission limits are not required in the permit. BAT-AEL's have been added in line with the Intensive Farming sector BAT conclusions document dated 21/07/2017. These limits are included in the table S3.3 of the permit.</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>

Aspect considered	Decision
	These monitoring requirements have been imposed in order to ensure compliance with the Intensive Farming BAT conclusions document dated 21/02/17.
Reporting	<p>We have decided that reporting should be carried out for the parameters listed in the permit, using the methods detailed and to the frequencies specified.</p> <p>We made these decisions in accordance with the Intensive Farming BAT conclusions document dated 21/02/17.</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>
<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 the standards applied to the Operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.</p>