

Permitting Decisions - Variation

We have decided to grant the variation for Haveringland Poultry Unit operated by Hook 2 Sisters Limited.

The variation number is EPR/VP3232YZ/V003.

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 considerations](#) section to show how the main 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 and the variation notice.

Key issues of the decision

Variation details

This variation authorises the following changes:

- Change in operation to rear 396,000 broilers and no longer rear turkeys (previously permitted for 391,605 but currently stocking 200,000 turkeys)
- Houses numbered 1 – 11 rebuilt from the existing housing pads, including installation of high velocity roof fans and gable end fans (formerly numbered 16 – 10 and 6 – 3 in original permit)
- New house number 12 built with high velocity roof fans and gable end fans (replacing 2 houses being demolished, formerly numbered 1 and 2)
- Demolish 6 disused poultry houses (formerly numbered 7 – 9 and 18 – 21)
- Converting one old house to a chemical store (formerly numbered 17)

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 21st February 2017. There is now a separate BAT Conclusions document which sets 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.1>

Now the BAT Conclusions are published all new and redeveloped housing within variation applications issued after 21st February 2017 must be compliant in full from the first day of operation. Existing housing BAT compliance has been subject to a sector review, however for some reviewed permits, only generic limits have been included and individual housing should now be considered. Existing housing if redeveloped with changes to housing location or expansion beyond existing footprint is classed as new plant.

There are some additional requirements for permit holders. The BAT Conclusions include BAT-Associated Emission Levels (BAT-AELs) for ammonia emissions, which will apply to the majority of permits, as well as BAT-AELs for nitrogen and phosphorus excretion.

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

BAT Conclusions review

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

We sent out a not duly made request for information, requiring the Applicant to confirm that for the changes in operation brought about by this variation, the installation will comply in full with all the relevant BAT Conclusion measures.

The Applicant has confirmed their compliance with the relevant BAT conditions in their document reference Technical Standards and dated 16/08/2024 which has been referenced in Table S1.2 Operating Techniques of the permit.

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

BAT 3 Nutritional management - Nitrogen excretion

The Applicant is required to demonstrate they can achieve levels of nitrogen excretion below the required BAT-AEL of 0.6 kg N/animal place/year and will use BAT 3a technique reducing the crude protein content.

BAT 4 Nutritional management - Phosphorus excretion

The Applicant is required to demonstrate they can achieve levels of phosphorus excretion below the required BAT-AEL of 0.25 kg P₂O₅/animal place/year and will use BAT 4a technique reducing the crude protein content.

BAT 24 Monitoring of emissions and process parameters - Total nitrogen and phosphorus excretion

Table S3.3 of the permit concerning process monitoring requires the Operator to undertake relevant monitoring that complies with these BAT Conclusions.

This will be verified by means of using a mass balance of nitrogen and phosphorus based on the feed intake, dietary content of crude protein and animal performance and reported annually.

BAT 25 Monitoring of emissions and process parameters – Ammonia emissions

Table S3.3 of the permit concerning process monitoring requires the Operator to undertake relevant monitoring that complies with these BAT Conclusions.

The Applicant has confirmed they will report the ammonia emissions to the Environment Agency annually by utilising estimation by using emission factors.

BAT 26 Monitoring of emissions and process parameters - Odour emissions

The approved odour management plan (OMP) includes the following details for on Farm Monitoring and Continual Improvement:

- Internal relevant humidity, temperature and litter quality is to be monitored by farm personnel and recorded on each house card daily.
- Complaints and subsequent actions are to be logged on site.
- Staff are to receive training regarding Environmental Permitting Regulations – which will include odour management and any new company procedures.
- Staff perform daily checks for odour levels around the boundary, regular checks will also be carried out by the Area Manager.

BAT 27 Monitoring of emissions and process parameters - Dust emissions

Table S3.3 of the permit concerning process monitoring requires the Operator to undertake relevant monitoring that complies with these BAT Conclusions.

It has been confirmed previously for the Environment Agency initiated variation for Intensive Farming BAT compliance permit review (EPR/VP3232YZ/V002 issued 20/01/2021) that they will report the dust emissions to the Environment Agency annually by utilising estimation by using emission factors.

BAT 32 Ammonia emissions from poultry houses - Broilers

The BAT-AEL to be complied with is 0.01 – 0.08 kg NH₃/animal place/year. The Applicant will meet this as the emission factor for broilers is 0.034 kg NH₃/animal place/year.

The installation does not include an air abatement treatment facility; hence the standard emission factor complies with the BAT-AEL.

More detailed assessment of specific BAT measures

Ammonia emission controls – BAT conclusion 32 (broilers)

A BAT Associated Emission Level (AEL) provides us with a performance benchmark to determine whether an activity is BAT. The BAT Conclusions include a set of BAT AEL's for ammonia emissions to air from animal housing for broilers.

'New plant' is defined as plant first permitted at the site of the farm following the publication of the BAT Conclusions.

For variations all new and redeveloped housing on existing farms will need to meet the BAT-AEL. Existing housing BAT compliance has been subject to a sector review.

Industrial Emissions Directive (IED)

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

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.

Whilst there has been no change to the installation boundary since the site was first permitted on 09/04/2008, the Applicant has submitted an updated site condition report (SCR) on 08/10/2024 (dated 30/09/2024) which 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. **Therefore, on the basis of the risk assessment presented in the SCR, we accept that they did not provide base line reference data for the soil and groundwater at the site at this stage and although condition 3.1.3 is included in the permit no groundwater monitoring will be required.**

Odour management

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.

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:

- Manufacture and selection of feed
- Feed delivery and storage
- Ventilation
- Litter management
- Carcass storage and disposal
- Poultry house clean out

Odour Management Plan Review

There are several sensitive receptors located within 400m of the installation boundary, as listed below (please note, the distance stated is only an approximation from the Installation boundary to the assumed boundary of the property):

- 3 residential properties (The Old School, Rose Cottage and 4 School Road) adjacent to the southwest installation boundary, and approximately 60m south of new poultry house 12, which are the closest to any of the poultry houses.
- 6 and 7 School Road, adjacent to the south installation boundary and approximately 340m to the southeast of poultry house 1.
- 10 and 11 School Road, adjacent to the southeast corner of the installation boundary and approximately 510m to the southeast of poultry house 1.
- 7 properties (including Quakers Farm, Long Barn, Hall Barn and 1 – 4 Quakers Court), the nearest being approximately 165m to the southeast of the installation boundary and approximately 680m to the southeast of poultry house 1.
- Several properties in an area named Haveringland Hall Park, the closest being approximately 275m north of the installation boundary, but all more than 400m from the nearest poultry houses 1 – 7.
- St Peter's Church, approximately 185m west of the northwest corner of the installation boundary and approximately 275m northwest of nearest poultry house 8.

Locks Farm Bungalow, School Road (adjacent to the south installation boundary and approximately 190m south of poultry house 1) is not included in the assessment as it is associated with the farm.

The sensitive receptors that have been considered under odour and noise, does not include the operator's property and other people associated with the farm operations as odour and noise are amenity issues.

We are not aware of any substantiated odour complaints and therefore did not require a 'high risk' OMP. The Operator has provided a revised OMP (submitted 08/10/2024) and this 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' and our Top Tips Guidance and 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, with details of odour control measures, contingency measures and complaint procedures described below.

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, procedural controls such as manufacture and selection of feed, feed delivery and storage, ventilation techniques, litter management, carcass storage and disposal, destocking of livestock, house clean out, dirty water management and abnormal conditions.

The OMP also provides a suitable procedure in the event that complaints are made to the Operator. The OMP will be reviewed at least every four years (as committed to in the OMP) or after a complaint is received which has been substantiated by the Environment Agency, whichever is the sooner.

The Environment Agency has reviewed the OMP and considers it complies with the requirements of our H4 Odour management guidance note. 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.

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.

Conclusion

We have assessed the OMP and conclude that the Applicant has followed the guidance set out in EPR 6.09 Appendix 4 'Odour 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 odour pollution/nuisance.

Noise management

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

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

- Large and small vehicles travelling to and from the farm
- Large vehicle movement on site – including delivery of feed, transporting birds, equipment used to clean houses, litter and dirty water removal
- Feed transfer from lorry to bins
- Ventilation fans
- Alarm system and standby generator
- Chickens – including catching and removal from site
- Personnel
- Building work and repairs

Noise Management Plan Review

The revised NMP provided by applicant and assessed below was received 08/10/2024.

The sensitive receptors have been listed under the ‘Odour’ section. The sensitive receptors that have been considered under odour and noise and do not include the operator’s property and other people associated with the farm operations as odour and noise are amenity issues.

The NMP provides a suitable procedure in the event of complaints in relation to noise. The NMP is required to be reviewed at least every four years (as committed to in the NMP), however the Operator has confirmed that it will be reviewed if an Environment Agency substantiated complaint is received, whichever is sooner.

Operations with the most potential to cause noise nuisance have been assessed as ventilation fans, feed delivery and mixing, standby generator, mechanical noise from equipment, broiler noise when catching, forklift trucks and other

vehicles when catching, noise during cleaning out and testing of alarms, and control measures put in place for these.

We have included our standard noise and vibration condition, condition 3.4.1, in the Permit, which requires that 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 NMP (which is captured through condition 2.3 and Table S1.2 of the Permit), to prevent or where that is not practicable to minimise the noise and vibration.

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 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 management

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.

In addition, guidance on our website concludes that Applicants need to produce and submit a dust and bioaerosol management plan beyond the requirement of the initial risk assessment, with their applications only if there are relevant receptors within 100 metres including the farmhouse or farm workers' 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 are receptors within 100m of the installation, the Applicant was required to submit a dust and bioaerosol management plan in this format. A revised dust

and bioaerosol management plan provided by applicant and assessed below was received on 08/10/2024.

There are eight sensitive receptors within 100m of the installation boundary:

- 3 residential properties (The Old School, Rose Cottage and 4 School Road) adjacent to the southwest installation boundary, and approximately 60m south of new poultry house 12, which are the closest to any of the poultry houses.
- Locks Farm Bungalow, School Road, adjacent to the south installation boundary and approximately 190m south of poultry house 1.
- 6 and 7 School Road, adjacent to the south installation boundary and approximately 340m to the southeast of poultry house 1.
- 10 and 11 School Road, adjacent to the southeast corner of the installation boundary and approximately 510m to the southeast of poultry house 1.

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 the risk of spillages, e.g. litter and feed management/delivery procedures, all reduce the potential for emissions impacting the nearest receptors. In addition, the predominant wind direction is from the southwest and all the properties are located to the south, southwest or southeast of the poultry housing. The Applicant has confirmed measures in their dust and bioaerosol management plan to reduce dust (which will inherently reduce bioaerosols).

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 with a net thermal rated input of 0.65 MWth and it will not be tested more than 52 hours per year or operated (including testing) for more than 500 hours per year (averaged over 3 years), for emergency use only as a temporary power source if there is a mains power failure.

Ammonia

There are two Special Areas of Conservation (SAC) and six Sites of Special Scientific Interest (SSSI) located within 5 km of the installation boundary. There

are also five Local Wildlife Sites (LWS) and one Ancient Woodland (AW) within 2 km of the installation boundary.

Initial screening using the Environment Agency's Ammonia Screening Tool version 4.6 (AST v4.6) indicated that all but the two SACs and one LWS screened out from further assessment, and detailed modelling was required to be submitted by the Applicant for the three sites that did not screen out. The detailed modelling demonstrates that impacts of ammonia and ammonia deposition (nutrient nitrogen and acid) will reduce as a result of the proposal, and that the ammonia process contribution will be below $0.13\mu\text{g}/\text{m}^3$ at Norfolk Valley Fens SAC, as required by improvement condition IC5.

Detailed modelling provided by the Applicant has been audited by our air quality modelling team and they confirmed that we can use their predicted process contributions (PCs) for permit determination.

Further details are provided below.

Ammonia assessment – SAC

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

- If, using the Ammonia Screening Tool (AST v4.6) the process contribution (PC) is below 4% of the relevant critical level (CL_e) or critical load (CL_o) 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_e) or critical loads (CL_o) 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 relevant existing permitted installations identified within 5 km of the SAC/SPA/Ramsar 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.

Revised ammonia modelling was submitted in support of the application (titled 'A Report on the Modelling of the Dispersion and Deposition of Ammonia from the Existing and Proposed Broiler Chicken Rearing Houses at Haveringland, School Road, Broadland in Norfolk', dated 23/03/2024, revised 19/09/2024 and received

23/09/2024) and the worst-case modelled process contributions are summarised in tables 1 and 2 below. There were no results included for acid deposition in the modelling report, but we have estimated these from the nitrogen deposition PC divided by 14, and these are provided in table 3. See results below:

Table 1 – Ammonia emissions

Site	Critical level ammonia $\mu\text{g}/\text{m}^3$	Predicted process contribution $\mu\text{g}/\text{m}^3$	% of critical level
Norfolk Valley Fens SAC	1*	0.124	12.4
River Wensum SAC	1*	0.02	2

* Critical level values taken from APIS website (www.apis.ac.uk) – 15/10/2024

Table 2 – Nitrogen deposition

Site	Critical load kg N/ha/yr	Predicted PC kg N/ha/yr	PC % of critical load
Norfolk Valley Fens SAC	5*	0.64	12.8

*Critical load values taken from APIS website (www.apis.ac.uk) – 15/10/2024

Table 3 – Acid deposition

Site	Critical load keq/ha/yr	Predicted PC keq/ha/yr	PC % of critical load
Norfolk Valley Fens SAC	0.514*	0.046	8.9

*Critical load values taken from APIS website (www.apis.ac.uk) – 15/10/2024

The River Wensum SAC screened out from further assessment using AST v4.6 for nitrogen and acid deposition.

The applicant has included, in their modelling, a comparison of the current predicted PCs with that of the proposal, for ammonia and nitrogen deposition (we have again calculated the acid deposition PC based on the PC for nitrogen deposition divided by 14).

The impacts from the existing houses and 200,000 turkeys are as follows:

Table 4 – Ammonia emissions

Site	Critical level ammonia $\mu\text{g}/\text{m}^3$	Predicted process contribution $\mu\text{g}/\text{m}^3$	% of critical level
Norfolk Valley Fens SAC	1*	0.323	32.3
River Wensum SAC	1*	0.038	3.8

* Critical level values taken from APIS website (www.apis.ac.uk) – 15/10/2024

Table 5 – Nitrogen deposition

Site	Critical load kg N/ha/yr	Predicted PC kg N/ha/yr	PC % of critical load
Norfolk Valley Fens SAC	5*	1.68	33.6

*Critical load values taken from APIS website (www.apis.ac.uk) – 15/10/2024

Table 6 – Acid deposition

Site	Critical load keq/ha/yr	Predicted PC keq/ha/yr	PC % of critical load
Norfolk Valley Fens SAC	0.514*	0.12	23.3

*Critical load values taken from APIS website (www.apis.ac.uk) – 15/10/2024

Conclusion:

This shows that the impacts from the proposed site are lower than those of the existing site and in addition the impacts will be below $0.13\mu\text{g}/\text{m}^3$ at Norfolk Valley Fens SAC for ammonia, as required by improvement condition IC5. On this basis we agree that the variation can be issued based on a reduction of impacts and IC5 being satisfied.

No further assessment is required.

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.

Screening using the ammonia screening tool version 4.6 (dated 27/02/2024) has indicated that emissions from Haveringland Poultry Unit will only have a potential impact on SSSIs with a precautionary CLe of $1\mu\text{g}/\text{m}^3$ if they are within 1,756 metres of the emission source.

Beyond 1,756m the PC is less than $0.2\mu\text{g}/\text{m}^3$ (i.e. less than 20% of the precautionary $1\mu\text{g}/\text{m}^3$ CLe) and therefore beyond this distance the PC is insignificant. In this case five SSSIs are 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 PC is assessed to be less than 20%, the site automatically screens out as insignificant and no further assessment of CLo 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 7 – SSSI Assessment

Name of SSSI	Distance from site (m)
Swannington Upgate Common SSSI	2,502
Cawston and Marsham Heaths SSSI	2,740
Alderford Common SSSI	3,267
River Wensum SSSI	4,352
Booton Common SSSI	4,569

No further assessment is required for these sites.

Screening using AST v4.6 (dated 27/02/2024) has determined that the process contributions of ammonia emissions and nitrogen deposition at Buxton Heath SSSI from the installation are over the 20% threshold, and therefore may cause damage to features of the SSSI. An in-combination assessment has therefore been carried out. There is one other permitted farm with the potential to act in combination with this installation. A detailed assessment has been carried out as shown below.

A search of all existing active intensive agriculture installations permitted by the Environment Agency has identified the following farm within 5 km of the maximum concentration point for Buxton Heath SSSI.

Table 8 – In combination assessment for ammonia emissions for Buxton Heath SSSI

Name of Farm	PC µg/m ³	Critical Level µg/m ³	PC as % of Critical level
Haveringland Poultry Unit	0.221	1*	22.1
Woods End Farm	0.059	1*	5.9**
Total PC	0.221	1*	22.1

* CLe values taken from APIS website (www.apis.ac.uk) – 15/10/2024

** PC can be excluded from in-combination calculation as < 20% of CLe

Table 9 – In combination assessment for nitrogen deposition for Buxton Heath SSSI

Name of Farm	PC µg/m ³	Critical load kg N/ha/yr	PC as % of Critical load
Haveringland Poultry Unit	1.145	5*	22.9
Woods End Farm	0.308	5*	6.2**
Total PC	1.145	5*	22.9

* CLo values taken from APIS website (www.apis.ac.uk) – 15/10/2024

** PC can be excluded from in-combination calculation as < 20% of CLo

Tables 8 and 9 show that the total PCs at Buxton Heath SSSI from all farms is 22.1% for ammonia emissions and 22.9% for nitrogen deposition. In line with Environment Agency guidelines, where the total PC is less than 50% of the critical level/load, in-combination impacts can be considered as not being likely to damage the features of the SSSI for which it has been designated and therefore we have concluded no likely damage from in combination impacts at the Buxton Heath SSSI.

No further assessment is required for this site.

Ammonia assessment - LWS/AW

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.

Screening using AST v4.6 (dated 27/02/2024) has indicated that emissions from Haveringland Poultry Unit will only have a potential impact on the LWS or AW sites with a precautionary CLe of 1µg/m³ if they are within 607m of the emission source.

Beyond 607m the PC is less than $1\mu\text{g}/\text{m}^3$ and therefore beyond this distance the PC is insignificant. In this case three LWS are| beyond this distance (see table below) and therefore screen out of any further assessment.

Table 10 – LWS/AW Assessment

Name of LWS/AW/LNR	Distance from site (m)
Quakers Farm Meadows LWS	739
Meadows by Cushion’s Common Plantat LWS	829
Green Lane LWS	1,810

No further assessment is required for these sites.

Screening using AST v4.6 (dated 27/02/2024) has determined that the PC on the LWS and AW sites below for ammonia emissions, nitrogen deposition and 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 11 - Ammonia emissions

Site	Critical level ammonia $\mu\text{g}/\text{m}^3$	Predicted PC $\mu\text{g}/\text{m}^3$	PC % of critical level
Fishpool Covert LWS	3*	1.383	46.1
Great Wood ancient woodland	3*	1.367	45.6
Haveringland Hall LWS	3*	2.508	83.6

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

Table 12 – Nitrogen deposition

Site	Critical load kg N/ha/yr	Predicted PC kg N/ha/yr	PC % of critical load
Fishpool Covert LWS	10*	7.186	71.9
Great Wood ancient woodland	10*	7.098	71

* CLo values taken from APIS website (www.apis.ac.uk) – 15/10/2024

Table 13 – Acid deposition

Site	Critical load keq/ha/yr	Predicted PC keq/ha/yr	PC % of critical load
Fishpool Covert LWS	1.263*	0.513	40.6
Great Wood ancient woodland	1.263*	0.507	40.1
Haveringland Hall LWS	1.263	1.396	11.1

* CLo values taken from APIS website (www.apis.ac.uk) – 15/10/2024

Haveringland Hall LWS did not screen out for nitrogen deposition using AST v4.6, and the worst-case modelled process contribution is summarised in table 14 below:

Table 14 – Nitrogen deposition

Site	Critical load kg N/ha/yr	Predicted PC kg N/ha/yr	PC % of critical load
Haveringland Hall LWS	10*	19.54	195.4

*CLO values taken from APIS website (www.apis.ac.uk) – 15/10/2024

The applicant has included, in their modelling, a comparison of the current predicted PC with that of the proposal, and for nitrogen deposition the PC from the existing houses and 200,000 turkeys is as follows:

Table 15 – Nitrogen deposition

Site	Critical load kg N/ha/yr	Predicted PC kg N/ha/yr	PC % of critical load
Haveringland Hall LWS	10*	67.91	679.1

*Critical load values taken from APIS website (www.apis.ac.uk) – 15/10/2024

This shows that the PC from the proposed site is lower than that of the existing site. On this basis we agree that the variation can be issued based on a reduction of impacts.

No further assessment is required.

Decision considerations

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

The consultation requirements were identified in accordance with the Environmental Permitting (England and Wales) Regulations (2016) and our public participation statement.

The application was publicised on the GOV.UK website.

We consulted the following organisations:

- Health and Safety Executive (HES)
- UK Health Security Agency (UKHSA)
- Director of Public Health Norfolk County Council
- South Norfolk Council and Broadland District Council Environmental Protection

The comments and our responses are summarised in the [consultation responses](#) section.

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 plan and in the permit. The activities are defined in table S1.1 of the permit.

The site

The Operator has provided a plan which we consider to be satisfactory, showing the extent of the site facilities.

The plan is included in the permit.

Nature conservation, landscape, heritage and protected species and habitat designations

We have checked the location of the application to assess if it is within the screening distances, we consider relevant for impacts on nature conservation, landscape, heritage and protected species and habitat designations. The application is within our screening distances for these designations.

See Ammonia section in the Key Issues above for more details.

We have not consulted Natural England.

The decision was taken in accordance with our guidance.

Environmental risk

We have reviewed the Operator's assessment of the environmental risk from the facility.

The Operator's risk assessment is satisfactory.

General operating techniques

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.

The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.

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 The Best Available Techniques (BAT) Reference document (BREF) for the Intensive Rearing of Poultry or Pigs (IRPP) published on 21st February 2017.

Odour management

We have reviewed the odour management plan in accordance with our guidance on odour management.

We consider that the odour management plan is satisfactory, and we approve this plan.

See Key Issues section 'Odour management' for further details.

The plan has been incorporated into the operating techniques table S1.2.

Noise management

We have reviewed the noise management plan in accordance with our guidance on noise assessment and control.

We consider that the noise management plan is satisfactory, and we approve this plan.

See Key Issues section 'Noise management' for further details.

The plan has been incorporated into the operating techniques table S1.2.

Dust and bioaerosol management

We have reviewed the dust and bioaerosol management plan in accordance with our guidance on emissions management plans for dust.

We consider that the dust and bioaerosol management plan is satisfactory and we approve this plan.

See Key Issues section 'Dust and bioaerosol management' for further details.

The plan has been incorporated into the operating techniques S1.2.

Updating permit conditions during consolidation

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 permits.

Improvement programme

There are historic improvement programmes carried over from the previous permits, one of which (IC5) was still outstanding at the time of the application. This has now been satisfied (see Key Issues Ammonia section) as a result of this variation, and the rest have been confirmed as removed or completed.

Emission limits

We have decided that emission limits are required in the permit. BAT-AELs have been added in line with the Intensive Farming sector BAT conclusions document dated 21/02/2017. These limits are included in table S3.3 of the permit.

Monitoring

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.

These monitoring requirements have been imposed in order to ensure compliance with Intensive Farming BAT conclusions document dated 21/02/2017.

Reporting

We have specified reporting in the permit, using the methods detailed and to the frequencies specified.

We made these decisions in order to ensure compliance with the Intensive Farming sector BAT conclusions document dated 21/02/2017.

Management system

We are not aware of any reason to consider that the Operator will not have the management system to enable it to comply with the permit conditions.

The decision was taken in accordance with the guidance on Operator competence and how to develop a management system for environmental permits.

Growth duty

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 variation.

Paragraph 1.3 of the guidance says:

“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.”

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.

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.

Consultation Responses

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.

The consultation commenced on 28/08/2024 and ended on 25/09/2024.

Responses from organisations listed in the consultation section

Response received from UK Health Security Agency (UKHSA) on 23/09/2024

Brief summary of issues raised: They confirmed the main emissions of potential public health significance are emissions to air of bioaerosols, dust including particulate matter and ammonia.

It is assumed by UKHSA that the installation will comply in all respects with the requirements of the permit, including the application of Best Available Techniques (BAT). This should ensure that emissions present a low risk to human health.

However, they included the following:

The Environment Agency may wish to confirm that no nuisance complaints have been received by the local authority and to consider whether dust monitoring should be undertaken as part of the daily checks.

Summary of actions taken:

No response has been received from the local authority when consulted about the application and we are not aware of any nuisance complaints regarding the installation.

The dust management plan is acceptable as a dust and bioaerosol management plan as the Operator has included measures in their plan to reduce dust (which will inherently reduce bioaerosols). We do not consider it necessary for dust monitoring to be undertaken. Please refer to the Key Issues section on dust and bioaerosols for further details of our assessment.

The Health and Safety Executive, Director of Public Health Norfolk County Council and South Norfolk Council and Broadland District Council Environmental Protection were also consulted but no responses were received.