Permitting decisions

Variation

We have decided to grant the variation for North Moor Pig Farm operated by Elsham Linc Limited.

The variation number is EPR/NP3636FS/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:

- 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 operator'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

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 housing within variation applications** 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 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 only of BAT compliance for new housing introduced with this variation. A BAT review of existing housing compliance with BAT conclusions document is to be the subject of a sector permit review and is beyond the scope of this variation application permit determination.

New BAT conclusions review

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

We are satisfied that the operator will comply with all measures relevant to them.

Table 1 sets out a more specific review of the measures the operator is required to apply to ensure compliance with the above key BAT measures.

Table 1 Measures to ensure compliance with BAT Conclusions

BAT measure	Operator compliance measure
BAT 3 - Nutritional management nitrogen excretion	The operator is required to demonstrate they achieve levels of nitrogen excretion below the required BAT-AELs for the following pig types: Weaners (pigs 7 – 30 kg): 4 kg N/animal place/year Fattening pigs (production pigs > 30 kg): 13 kg N/animal place/year Sows (including piglets): 30 kg N/animal place/year by using a mass balance of nitrogen based on the feed intake, dietary content of crude protein and animal performance or an estimation by using manure analysis for total nitrogen content. Table S3.3 of the Permit concerning process monitoring requires the Operator to undertake relevant monitoring that complies with these BAT Conclusions.
BAT 4 Nutritional management phosphorus excretion	The operator is required to demonstrate they achieve levels of phosphorus excretion below the required BAT-AELs for the following pig types: Weaners (pigs 7 – 30kg) 2.2 kg P_2O_5 animal place/year Fattening pigs (production pigs > 30 kg): 5.4 kg P_2O_5 animal place/year Sows (including piglets): 15 kg P_2O_5 animal place/year by using a mass balance of phosphorus based on the feed intake, dietary content of crude protein, total phosphorus and animal performance or an estimation by using manure analysis for

Table 1 Measures to ensure compliance with BAT Conclusions	
BAT measure	**Operator compliance measure**
	total phosphorus content. Table S3.3 of the Permit concerning process monitoring requires the operator to undertake relevant monitoring that complies with these BAT Conclusions.
BAT 24 Monitoring of emissions and process parameters - Total nitrogen and phosphorus excretion	Table S3.3 Process monitoring requires the operator to undertake relevant monitoring that complies with these BAT Conclusions.
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.
BAT 26 Monitoring of emissions and process parameters - Odour emissions	The approved OMP includes the following details for on Farm Monitoring and Continual Improvement: • Every pig house and the dead box is attended by staff every day. Odour levels will be monitored on site by all staff. The source of abnormal odours will be identified and appropriate action will be taken to reduce odour levels back to normal levels. • The perimeter of the farm will be walked monthly. Odour levels will be monitored and reported by exception as part of this process. • The effectiveness of odour control measures will be reviewed in the event of any complaint; or abnormality established through the periodic monitoring; or relevant changes to operations.
BAT 27 Monitoring of emissions and process parameters - Dust emissions	Table S3.3 Process monitoring requires the operator to undertake relevant monitoring that complies with these BAT conclusions. The operator is required to report the dust emissions to the Environment Agency annually, this can be completed by calculation using standard dust emissions factors for each type of pig.
BAT 30 Ammonia emissions from pig houses	The operator is required to demonstrate they achieve levels of ammonia below the required BAT-AEL for the following pig types: Weaners (pigs up to 30kg): 0.7 kg NH3/animal place/year (existing housing, solid floor straw system) Fattening pigs > 30kg: 5.65 kg NH3/animal place/year (existing housing, solid floor straw system) Fattening pigs > 30kg: 2.6 kg NH3/animal place/year (existing housing, fully slatted floor with frequent slurry removal) Fattening pigs > 30kg: 2.6 kg NH3/animal place/year (new housing, fully slatted floor with frequent slurry removal) Farrowing sows: 5.6 kg NH3/animal place/year (existing housing, fully slatted floor with frequent slurry removal) Mating and gestating sows: 5.2kg NH3/animal place/year (existing housing, solid floor straw system) The standard emission factors do not comply with the BAT AELs for some categories of pigs, however additional measures detailed below have been incorporated to ensure compliance.

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.

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.

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'.

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.

More detailed assessment of AEL's

Pig housing

The operator has confirmed that the housing systems with fully slatted flooring (FSF) and frequent slurry removal systems meet the following criteria:

• All slurry pits are to be operated with a maximum slurry liquor depth of 800 mm as defined as optimal depth in section 4.7.1.2 of the latest Intensive Farming BREF http://eippcb.jrc.ec.europa.eu/reference/BREF/IRPP/JRC107189_IRPP_Bref_2017_published.pdf, and

• Slurry removal frequency of a maximum of 12* weeks. (*The operator has agreed removal every 10 weeks)

In addition, all houses with the above FSF systems also have acidification of slurry which will reduce the ammonia emissions by 64%, therefore will meet the ammonia BAT AELs.

All houses with solid floor straw litter systems meet the ammonia BAT AELs with the standard emission factors.

The following emission factors were assigned for the ammonia assessment, and are within the BAT AELs:

House 1 (Gilt and Service House)

Sows and served gilts – the standard emission factor of 4.57 kg NH3/animal place/year was applied (BAT AEL 5.2kg NH3/animal place/year (existing housing, solid floor straw system))

Unserved gilts (classed as production pigs > 30kg) – standard emission factor of 2.97 kg NH_3/animal place/year was applied (BAT AEL for fattening pigs > 30kg: 5.65 kg NH3/animal place/year (existing housing, solid floor straw system)). An AHDB Pork Trial emission factor of 2* kg NH_3/animal place/year could have been applied in this case (*based on the results from AHDB Pork trials report titled: 'Establishing ammonia emission factors for straw-based buildings' (September 2017) it has been agreed that a conservative emission factor of 2 kg NH_3/animal place/year can be applied for production pigs over 30kg, on solid floor straw systems).

Houses 2 and 3 (Dry Sow Houses 1 and 2)

Sows and served gilts - standard emission factor 4.57 kg NH3/animal place/year (BAT AEL 5.2kg NH3/animal place/year (existing housing, solid floor straw system)).

House 4 (Farrowing House)

Farrowers (including piglets) 1.58 kg NH_3/animal place/year, based on standard emission factor 4.38 x 0.36 for 64% reduction (BAT AEL 5.6 kg NH_3/animal place/year (existing housing, fully slatted floor with frequent slurry removal)).

House 5 (Orphanage)

Pigs 7 - 20kg – an emission factor of 1.14 kg NH_3/animal place/year was used in the ammonia screening assessment but this number does not meet the BAT AEL. However it is a worst case scenario as it is for pigs in the weight range 15 – 30kg, in reality an overestimated average can be assumed for pigs in the weight range 7 – 15kg (emission factor 0.21) and 15 - 30kg (emission factor 1.14) = 0.675 kg NH3/animal place/year (BAT AEL 0.7 kg NH3/animal place/year (existing housing, solid floor straw system).

Houses 6 – 8 (Nurseries 1 – 3)

Pigs 7 – 45kg – a bespoke emission factor of 0.47 kg NH3/animal place/year was agreed, calculated as a weighted average, as confirmed in the modelling report, based on 21.0% of the time the pigs in the nurseries are in the 7 – 15 kg weight range (emission factor 0.22), 39.5 % of the time the pigs are in the 15 – 30 kg weight range (emission factor 1.19) and 39.5% of the time they are > 30 kg (emission factor 2 - based on the results from AHDB Pork trials report titled: "Establishing Ammonia Emissions Factors for Shallow Pit, Fully Slatted Finisher Buildings (September 2017)" it has been agreed that a conservative emission factor of 2 kg NH_3/animal place/year can be applied for production pigs over 30kg, where pig housing meets the above criteria for fully slatted flooring with frequent slurry removal

In addition, a reduction of 64% was applied due to the acidification of slurry system. The calculation is as follows:

((0.21 x 0.22) + (0.395 x 1.19) + (0.395 x 2)) x 0.36 = 0.47 kg NH3/animal place/year.

This complies with the fattening pigs > 30kg BAT AEL of 2.6 kg NH3/animal place/year (for new and existing housing, fully slatted floor with frequent slurry removal).

Houses 9 – 13 (Finishing Houses 1 – 4 and Lairage)

Finisher pigs 45 – 110kg – a bespoke emission factor of 0.72 kg NH3/animal place/year was calculated, based on an agreed emission factor of 2* and a reduction of emissions by 64% for the acidification of slurry system (* based on the results from AHDB Pork trials report as detailed above, which is less than the 2.6 kg NH_3/animal place/year BAT-AEL).

Industrial Emissions Directive (IED)

The Environmental Permitting (England and Wales) (Amendment) Regulations 2013 were made on the 20 February 2013 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.

Slurry Acidification System

Slurry acidification is one of the agreed BAT measures for ammonia emissions control under BAT 30 d within the latest Intensive Farming BAT conclusions document issued 21/02/17

For reasons of flooring, site drainage and building schedules it is not appropriate to acidify the slurry from all of the buildings at North Moor Pig Farm. In this variation the operator has applied for usage of this BAT measure for the following pig types and pig house numbers:

All livestock in houses 4 and 6 - 13.

There is an agreed certification system, by which suppliers of such systems can obtain a pre-agreed ammonia emissions reduction %. The VERA certification for the operator's technology provider Jørgen Hyldgaard Staldservice A/S (JH Agro) is given in document 21 JH Agro VERA performance statement and follows the guidance as given in the link below:

http://www.vera-verification.eu/fileadmin/download/Press/201710_VERA_general.pdf

The operator has provided a certification document for ammonia emissions reduction factor for their acidification of slurry system for pigs up to 30kg and production pigs > 30kg of 64 %. This is based on usage of slurry acidification at a pH of 5.5 which has been confirmed in this application under supporting document reference 'VERA Verification Statement' received in support of the application.

Critical environmental controls for this technology include:

- 96 % Sulphuric acid tank bunded in compliance with latest CIRIA 736 guidance
- Sulphuric acid tank volume of 25 m^3 is designed to suit maximum fill volume of 22.3 m^3
- Mixing tank has level control and high level alarms to prevent overfill plus pH control to ensure compliance with a pH of 5.5 or lower to ensure ammonia emissions reduction % as detailed above.
- Mixing tank is also located on a concrete base to minimise groundwater and land contamination
- Acidified slurry pipework is sealed and maintenance procedures in place to ensure minimization of risk of slurry fugitives emissions to land and ground water.

We consider the above measures allow compliance with BAT 18 measures to prevent emissions to soil and water from slurry collection within Intensive Farming BAT conclusion document dated February 2017.

In addition the following measures have been assessed as satisfactory:

- Odour control measures. These included static mixing tank with high level control to prevent overfilling and usage of a mechanical separator to remove particulate matter over 2mm in diameter. All the slurry transfer pipework is also sealed. The operator has updated their Odour Management Plan to include contingency measures to assess in event of odour complaints whether the acidification of slurry system is the odour source to allow corrective actions. The mixing tank has been designed to have a concrete lid which is sealed. While the slurry within this tank does smell, the tank is sealed so there are no odour emissions sources from this tank. Any vent from the mixing tank will be designed such that a carbon filter could be added in the event of odour complaints beyond the installation boundary. There is a pH monitor, a mixing pump and an acid dosing pump to dose the sulphuric acid into the slurry all contained within the mixing tank
- Environmental Management System (EMS) includes procedures, controls and training of operatives linked to addition of Acidification of Slurry within the installation

The operating techniques for this technology was provided for the previous variation EPR/NP3636FS/V003 and included within the permit S1.2 Operating techniques table.

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 North Moor Pig Farm (received in support of the application, duly made 04/03/19) 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 have not provided 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.

Pre-operational conditions

Pre-operational condition PO2 has been removed as there are no boreholes at the installation, and the risk to groundwater is low as the installation lies over > 150m of clay. PO3 has been included to ensure that the acidification of slurry system has been installed and is operational prior to stocking the increased number of livestock permitted with this variation.

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).

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 and has been updated to include the risks from the finishing pigs (effects of diet on odour and ammonia emissions) and the new fully slatted finishing houses.

Odour Management Plan Review

The Installation is located within 400m of 8 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):

1. Northmoor Farmhouse, approximately 20m to the east of the installation boundary
2. High Harbour Farmhouse, approximately 99m to the west
3. High Harbour Farm Yard 1, approximately 165m to the north
4. High Harbour Farm Yard 2, approximately 200m to the south west
5. Beechcroft, approximately 390m to the north west
6. Ten Acres, approximately 370m to the north
7. Ashfield, approximately 370m to the north
8. Pyewipe Farmhouse and Yard, approximately 366m to the east

In this instance property 1 is not considered as it is owned by the operator. The operator has provided a revised OMP (received 16/05/19) in response to a request for further information sent 09/05/19. This revised 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' 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 revised OMP includes odour control measures linked to the variation changes, and procedural controls for the acidification of slurry system.

The OMP also provides a suitable procedure in the event that complaints are made to the operator. The OMP is required to be reviewed at least every 4 years and/or after a complaint is received, 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.

Conclusion

Although there is the potential for odour pollution from the Installation, the operator's compliance with the Permit and its OMP 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 stated in the odour section above. The operator has provided a revised noise management plan (NMP), received 16/05/19, 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, including the slurry transfer pump, acid dosing pump, mixing pump and the recirculation pump.

Noise Management Plan Review

The operator is required to manage activities at the Installation in accordance with condition 3.4.1 of the Permit and its NMP. The NMP includes noise control measures including those for the slurry transfer pump, acid dosing pump, mixing pump and the recirculation pump.

Conclusion

We have assessed the NMP and the H1 risk assessment for noise and conclude that the operator 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.

There are 2 sensitive receptors within 100m of the Installation boundary, the nearest sensitive receptor (the nearest point of their assumed property boundary) is approximately 20 metres to the east 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 are receptors within 100m of the Installation, the operator was required to submit a dust and bioaerosol 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 operator has confirmed the following measures in their operating techniques to reduce dust, which will inherently reduce bioaerosols, for the following: General – day-to-day activity; Pig feed – Dust from filling and emptying feed bins, dust from feed storage, feed spill control, the use of wet and dry feed and feeding method; Type of slurry system; Ventilation systems; House cleaning – general management; Building layout and design

Conclusion

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

Ammonia

The operator has demonstrated that the housing will meet the relevant NH3 BAT-AEL.

There are no Special Areas of Conservation (SAC), Special Protection Areas (SPA) or Ramsar sites located within 5 kilometres of the installation. There are two Sites of Special Scientific Interest (SSSI) located within 5 km of the installation and four Local Wildlife Sites (LWS) within 2 km of the installation.

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 dated 17/04/19 has indicated that emissions from North Moor Pig Farm will only have a potential impact on SSSI sites with a precautionary critical level of 1µg/m^3 if they are within 2,768 metres of the emission source.

Beyond 2,768m the PC is less than 0.2µg/m^3 (i.e. less than 20% of the precautionary 1µg/m^3 critical level) and therefore beyond this distance the PC is insignificant. In this case all SSSIs are beyond this distance (see table below) and therefore screen out of any further assessment.

Where the precautionary level of 1µg/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 1µg/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 2 – SSSI Assessment

Name of SSSI	Distance from site (m)
Linwood Warren SSSI	4,756
Kingerby Beck Meadows SSSI	4,637

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.

Initial screening using ammonia screening tool version 4.5 dated 17/04/19 has indicated that emissions from North Moor Pig Farm will only have a potential impact on the LWS/AW/NNR sites with a precautionary critical level of 1µg/m^3 if they are within 1,124 metres of the emission source. Beyond 1,124m the PC is less than 1µg/m^3 and therefore beyond this distance the PC is insignificant. In this case one LWS is beyond this distance (see table below) and therefore screens out of any further assessment.

Table 3 – LWS/AW/LNR Assessment

Name of LWS/AW/LNR	Distance from site (m)
Walesby Moor West LWS	1,559

Screening using the ammonia screening tool version 4.5 indicated that 3 LWS's did not screen out therefore the operator submitted detailed modelling (reference 'An Assessment of the Ammonia Impact of the Regulated Facilities: Northmoor Farm, Lincolnshire', received with the application, duly made 04/03/19). This has determined that the PCs on the LWSs 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.

Detailed modelling (received as part of the application duly made on 04/03/19) provided by the operator has been audited in detail by the Environment Agency and, whilst we do not agree with the consultant's exact numerical predictions, we have confidence that we can agree with the report's overall conclusion that ammonia, nutrient nitrogen and acid deposition PCs are unlikely to exceed 100% at the nearby LWSs. The modelling results are given in the following tables:

Table 4 - Ammonia emissions

Site	Critical level ammonia µg/m^3 *	Predicted PC µg/m^3	PC % of critical level
Osgodby Plantation LWS	3	1.01	33.67
Usselby Plantation LWS	3	0.86	28.67
Middle Rasen Plantation LWS	3	1.26	42.0

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

Table 5 – Nitrogen deposition

Site	Critical load kg N/ha/yr *	Predicted PC kg N/ha/yr.	PC % of critical load
Osgodby Plantation LWS	10	5.46	54.6
Usselby Plantation LWS	10	4.58	45.8

Middle Rasen Plantation LWS	10	6.6	66.0

* Critical load values taken from APIS website (www.apis.ac.uk) – 21/02/19

Table 6 – Acid deposition

Site	Critical load keq/ha/yr*	Predicted PC keq/ha/yr.	PC % of critical load
Osgodby Plantation LWS	0.878	0.39	44.42
Usselby Plantation LWS	0.492	0.327	66.46
Middle Rasen Plantation LWS	0.502**	0.472	94.02

* Critical load values taken from APIS website (www.apis.ac.uk) – 21/02/19

** In the modelling report a critical load of 0.566 keq/ha/year has been used, we have assigned a more appropriate critical load.

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	The consultation requirements were identified in accordance with the Environmental Permitting Regulations and our public participation statement. The application was publicised on the GOV.UK website. We consulted the following organisations: • East Lindsey District Council (Environmental Health) • Public Health England (PHE) • Director of Public Health, Lincolnshire County Council • Health and Safety Executive (HSE) The comments and our responses are summarised in the consultation section.
The facility	
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	
Extent of the site of the facility	The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility. The plan is included in the permit.
Site condition report	The operator has provided a description of the condition of the site, which we consider is satisfactory. The decision was taken in accordance with our guidance on site condition reports. .
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. 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 not affect any sites of nature conservation, landscape and heritage, and/or protected species or habitats identified. We have not consulted Natural England on the application. The decision was taken

Aspect considered	Decision
	in accordance with our guidance.
Environmental risk assessment	
Environmental risk	We have reviewed the operator's assessment of the environmental risk from the facility. The operator's risk assessment is satisfactory.
Operating techniques	
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 operator must use are specified in table S1.2 in the environmental permit. The operating techniques are as follows: • New housing has high velocity roof fans (efflux velocity > 10m/s) • New housing has fully slatted flooring (slurry depth no greater than 800mm), frequent slurry removal (every 10 weeks or sooner) and acidification of slurry system • the slurry acidification operational detail was provided for the previous variation EPR/NP3636FS/V003
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.
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
Permit conditions	
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.
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.
Pre-operational conditions	Based on the information in the application, we consider that we need to impose pre-operational conditions. Two pre-operational conditions were included in the previous variation (V003) as follows: We have included pre-operational condition PO1 as described in table S1.4 requiring the operator to submit a written plan for approval providing details of the drainage, location and operating techniques for the emergency shower to minimise the risk of sulphuric acid run-off to ground or surface water from the emergency

Aspect considered	Decision
	shower. We have removed pre-operational condition PO2 which was included in the previous variation, which required 'the operator to submit a written plan for approval providing details of the operating techniques to contain fugitive emissions from the slurry acidification system to minimise the risk of entry of slurry and/or sulphuric acid into groundwater and of land contamination specifically, in light of all relevant groundwater boreholes within the installation boundary'. There are no boreholes at the installation and the risk to groundwater is low, therefore it was not required. In addition for this variation, we have added PO3 to ensure that the acidification of slurry system has been installed and is operational prior to stocking the increased livestock numbers permitted with this variation.
Improvement programme	Based on the information on the application, we have removed the improvement programme. We had previously imposed an improvement programme to ensure that proposals are provided for replacing or covering existing uncovered slurry stores and lagoons to comply with the requirements of S3.2 of SGN How to Comply – Intensive Farming, Version 2. We have decided to remove this improvement programme as the slurry acidification system is compliant with the 2017 "BAT conclusions for the intensive rearing of poultry or pigs", BAT 16c. If the operator does not install the slurry acidification system, the operator will need to present an alternative measure to ensure that any slurry store will be complaint with BAT 16 by 2021. This will be addressed as part of on-going compliance checks.
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 21/02/17. These limits are included in permit table S3.3.
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 21/02/17.
Reporting	We have specified reporting in the permit. We made these decisions in order to ensure compliance with Intensive Farming BAT conclusions document dated 21/02/17.
Operator competence	
Management system	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.
Growth Duty	
Section 108 Deregulation Act 2015 – 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.

Aspect considered	Decision
	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

The following summarises the responses to consultation with other organisations, our notice on GOV.UK for the public, and the way in which we have considered these in the determination process.

Responses from organisations listed in the consultation section

Response received from
Public Health England (received 21/03/19)
Brief summary of issues raised
The main emissions of potential public health significance are emissions to air of bioaerosols, dust including particulate matter and ammonia. It is a rural environment with few human receptors within 400 m of the installation. The operator considers risks from bioaerosols, dust and particulate matter to be low. It is assumed by PHE 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. More information is available on the public health impacts of intensive farms in the Public Health England Position Statement which can be found at: http://webarchive.nationalarchives.gov.uk/20140714084352/http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1195733812766
Summary of actions taken or show how this has been covered
We are satisfied that the operator will comply with the requirements of the permit, including the application of BAT. No further action required.

Response received from
Director of Public Health (DoPH), Lincolnshire County Council (received 01/04/19)
Brief summary of issues raised
The permit holder must take all appropriate measures to prevent or control pollution and nuisance in accordance with the relevant sector guidance and industry best practice, including using Best Available Techniques (BAT). Given this and the main risk to public health is emissions to air of bioaerosols, dust (including particulate matter) and ammonia; the operation should then present a low risk to health. The DoPH has seen the PHE response to this consultation and reiterates that the PHE position statement on intensive farming should be taken into account.
Summary of actions taken or show how this has been covered
We are satisfied that the operator will take all appropriate measures to prevent or control pollution and nuisance in accordance with the relevant sector guidance and industry best practice, including using Best Available Techniques (BAT). No further action required.

The Health and Safety Executive, East Lindsey District Council Environmental Health were also consulted, with a deadline for responses of 03/04/19, but no responses were received.

In addition, the application was publicised on the www.gov.uk website, but no comments were received by the deadline of 03/04/19.