

# **Environment Agency permitting decisions**

## **Variation**

We have decided to issue the variation for Heale Poultry Unit operated by Moy Park Limited.

The permit number is EPR/GP3834MS.

The variation number is EPR/GP3834MS/V004.

This was applied for and determined as a substantial variation.

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:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

## **Structure of this document**

- Key issues: Ammonia Assessment and Improvement Condition; Monitoring and Reporting; Odour; Biomass Boiler Assessment; Industrial Emissions Directive (IED); Groundwater/Soil Monitoring;
- Annex 1 the decision checklist.

## Key issues of the decision

This variation authorises the following changes:

- Demolition of six old timber poultry houses (formerly known as Houses 1 - 6);
- Two existing metal clad sheds (formerly known as Houses 7 and 8 – renamed Houses 1 and 2 by this variation) will have ridge roof ventilation stack heights increased from 7 metres to 8 metres to improve dispersion of ammonia and odour;
- Construction of two new poultry Houses (to be known as Houses 3 and 4). These will have high velocity roof fans (with exit velocity of at least 11 m/s and chimney stack height of 8 m);
- Four 199 kilowatt biomass boilers will be fitted to all four houses on site to provide indirect heating (aggregated net thermal rated input of 0.796 megawatts);
- Overall reduction in capacity to 105,000 broiler chicken places (reduced from current 156,200 broiler places).

The changes on site are part of the operators Emission Reduction Plan to reduce the ammonia emissions from the site. The Emissions Reduction Plan was submitted to the Environment Agency on 4<sup>th</sup> April 2014 in order to meet the Improvement Condition IC2. IC2 states that the reduction must ensure that contribution from site to the ammonia concentration in air at the wildlife site known as Moor Farm Site of Special Scientific Interest (SSSI) is no more than 0.5 µg/m<sup>3</sup> as an annual average.

The operator is upgrading current infrastructure on site to help comply with the Improvement Condition. In addition, the operator has stated in their application that they believe they can achieve a 35% reduction in ammonia emissions through the use of indirect heating in the form of biomass boilers. The 35% reduction would bring them within the allowable threshold of 0.5 µg/m<sup>3</sup> as an annual average across the majority of Moor Farm SSSI. The operator has proposed using the results of a detailed ammonia monitoring study from a directly comparable farm (Girton Poultry Farm) to provide evidence of the biomass boiler reduction in ammonia emissions. More details of this are given below.

### Ammonia Assessment and Improvement Condition

The Environment Agency conducted air dispersion modelling (“AFP2”) during the original determination of the application in 2007. This predicted emissions of ammonia arising from the farm would exceed the allowable thresholds at Moor Farm SSSI (i.e. above 50% of the Critical Level of 1 µg/m<sup>3</sup>). Using AFP2 modelling the predicted process contribution was estimated to be 9.6 µg/m<sup>3</sup>. In 2008, this was subsequently corrected to account for an error in the

original calculations, and the predicted process contribution was estimated at  $7.91 \mu\text{g}/\text{m}^3$ .

In support of the determination of the original permit, Natural England undertook additional site survey work to assess evidence for impacts of ammonia at the site. As a result of this survey work Natural England wrote to the Environment Agency on the 30<sup>th</sup> April 2010 concluding that the predicted risk to the sites (as predicted by the Environment Agency's original modelling assessment) does appear to be evident in the vegetation of the site. Natural England also advised that the Critical Level (CLe) for Moor Farm SSSI had been confirmed as  $1 \mu\text{g}/\text{m}^3$  due to the results of the survey.

In light of this evidence, an Improvement Condition (IC2) was amended to the permit in variation V002, requiring the applicant to produce an ammonia reduction plan demonstrating how their emissions would be reduced such that the process contribution to the Moor Farm SSSI was brought below  $0.5 \mu\text{g}/\text{m}^3$  (i.e. below 50% of the CLe).

The ammonia reduction plan from the operator was demonstrated using revised modelling with a number of different scenarios for reducing ammonia emissions. The operator proposes to install high velocity roof fans in the new poultry houses (at 11 m/s and 8 m high stacks) and retrofit 8 m high stacks at two existing poultry houses that already have high velocity roof fans. The operator also proposed to install biomass boilers to all sheds to provide indirect heating. They anticipate this measure will reduce ammonia emissions by a further 35%.

The applicant's detailed modelling was audited by our internal Air Quality Modelling Assessment Unit (AQMAU) at the pre-application stage and following the submission of the variation further checks were carried out. These included check calculations and check modelling assessments with sensitivity to terrain and consideration of the existing and proposed scenarios. The checks indicated that although the Applicants modelling methodology and assumptions deviated from our guidance the conclusion that the changes would lead to a significant reduction in ammonia emissions remained valid.

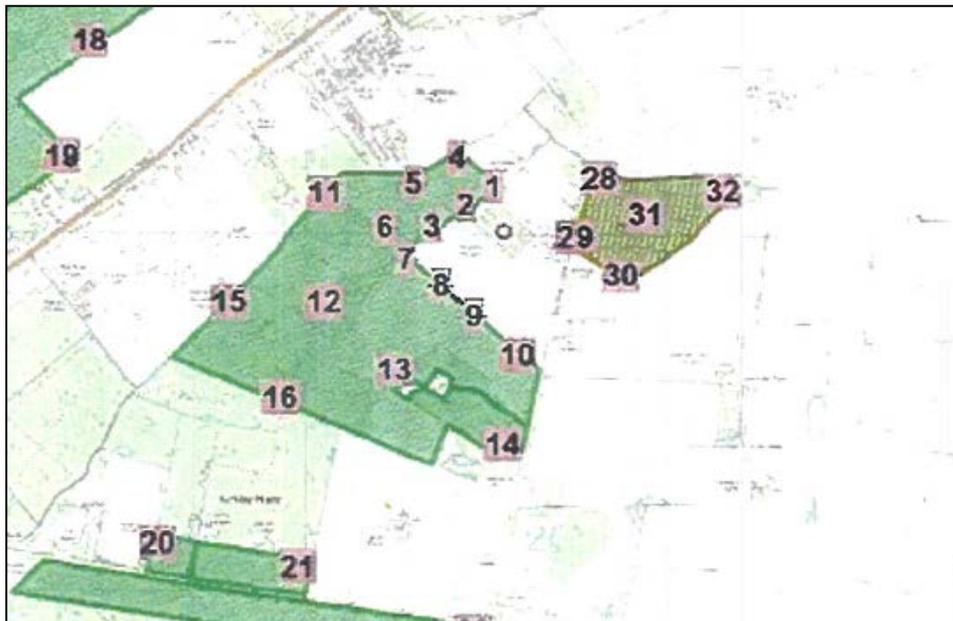
The modelling for high velocity roof fans (report reference: *A Report on the modelling of the dispersion and deposition of ammonia from the existing and proposed poultry units at Heale Farm, Wellsyke Lane, Kirby on Bain, Woodhall Spa in Lincolnshire. A S Modelling & Data. 4<sup>th</sup> April 2014*) indicates that the process contribution from the farm to the ammonia concentration in air is  $2.13 \mu\text{g}/\text{m}^3$  at the closest point of the SSSI. This drops below the  $0.5 \mu\text{g}/\text{m}^3$  threshold just beyond the SSSI boundary. The exceedance of the allowable threshold of  $0.5 \mu\text{g}/\text{m}^3$  for ammonia concentration extends over a small portion of the SSSI closest to the farm. See Figure 1 below. Receptors labelled 1–16 represent Moor Farm SSSI. The area of exceedance covers receptors 1–4. At receptors 5-16 the process contribution is predicted to be below  $0.5 \mu\text{g}/\text{m}^3$ . The area of exceedance is approximately 6.4% of the SSSI (approximately 2.98 hectares).

Natural England were consulted on the ammonia reduction plan for this site, in light of the close proximity of the SSSI. Full details of the consultation and

response can be found in Appendix 2 below. Natural England agreed that about half of the area of wet grassland in the northern part of the site would still be subject to an ammonia level in excess of  $0.5 \mu\text{g}/\text{m}^3$ . However, they confirmed this area is not noted for its lower plant species and consequently a critical level of  $3 \mu\text{g}/\text{m}^3$  (and hence a threshold of  $1.5 \mu\text{g}/\text{m}^3$ ) might be considered more appropriate for this area.

The ammonia process contribution of  $2.13 \mu\text{g}/\text{m}^3$  represents a significant (approximately 74%) reduction in ammonia emissions when compared to the baseline modelling results (of  $7.91 \mu\text{g}/\text{m}^3$ ) from AFP2 results in 2008.

Figure 1. Detailed modelling receptors. Moor Farm SSSI is represented by receptors 1 – 16. Heale Farm is situated to the south east of receptors 1 and 2.



The operator has committed to installing indirect heating in the houses in the form of biomass boilers as a mitigation technique to further reduce emissions. The operator has stated in their application that they can achieve a 35% reduction in ammonia emissions through the use of biomass boilers. Results from initial trials on other farms indicate that this level of reduction can be achieved.

An ammonia monitoring study is currently underway on a similar Moy Park site (Girton Farm permit reference EPR/GP3934MM/V004) to demonstrate ammonia reductions through the use of biomass boilers. Girton Farm is subject to a similar requirement to reduce ammonia emissions due to the close proximity of a conservation site. Information gathered from the trials at Girton Farm will be used to demonstrate the effectiveness of biomass boilers as ammonia reduction mitigation at Heale Farm. If the monitoring study indicates that the biomass boilers do not achieve an acceptable reduction in emissions, the operator will be required to implement additional methods to reduce ammonia emissions. See below for further details of the monitoring study.

This emission reduction plan demonstrates a significant reduction in ammonia emission levels, however the modelling provided still indicates an exceedance of the allowable threshold (specified in improvement condition IC2) at Moor Farm SSSI. We therefore intend to supersede IC2 with a new improvement condition (IC5) requiring a new Emissions Reduction Plan containing an assessment of options (including costs and benefits to reduce the impact of emissions from the permitted installation) such that the contribution to the concentration of ammonia in air at Moor Farm SSSI is no more than 50% of the relevant critical level as an annual average. The Emission Reduction Plan shall contain any proposals to achieve the required reduction, a justification of why options were either proposed or not and timescales for the implementation of any individual measures proposed. Failure to meet their required emission reductions through the satisfaction of IC5, will be considered a breach of their permit and may result in enforcement action being taken.

### **Monitoring and Reporting**

To ensure that a 35% reduction is being achieved a monitoring trial is currently taking place on Girton Farm (EPR/GP3934MM/V004) to assess the impact on ammonia emissions from using indirect heating in the form of biomass boilers in sheds. The operator has proposed using the results of the Girton trial to inform the ammonia reduction mitigation at Heale Farm and more accurately predict the ammonia impact on the Moor Farm SSSI. The operator has provided evidence to demonstrate that the poultry sheds at Girton and Heale are directly comparable (i.e. similar size, ventilation system, construction, biomass boiler specification and fuel etc). In addition other parameters such as bird capacity, rearing regime, crop cycle, diet and age of bird at de-stocking are identical at both farms.

In accordance with Improvement Condition 6 (IC6) the operator is required to provide evidence to demonstrate that an ammonia emissions reduction of 35% can be achieved by using biomass boilers to heat the poultry houses. The evidence for reduction will include 12 months of operational data collected at Girton.

If the modelling results, using the data collected from Girton trials, do not demonstrate that an ammonia emissions reduction to 50% of the relevant critical level as an annual average at Moor Barn SSSI can be achieved, then the operator will be required to put in place alternative mitigation measures to ensure that this reduction is achieved in subsequent reporting periods. This requirement is addressed by the inclusion of Improvement Condition 5 (IC5).

### **Odour**

Odour emissions from the installation are the main concern for members of the public who have raised objections to this proposal. The Environment Agency's approach to regulating odour emissions, the odour history of this installation and individual responses to public objections are addressed in Annex 2 of this document.

## Odour Modelling

The operator has provided detailed odour modelling in support of the application (report reference: *An odour dispersion modelling study comparing the effects of the existing and proposed poultry units at Heale Farm, Wellsyke Lane, Kirby on Bain, Woodhall Spa in Lincolnshire. AS Modelling & Data. 4<sup>th</sup> April 2014*). The study compares three scenarios of odour emissions from the installation: the first under existing permitted conditions (156,200 broilers); under the current voluntary reduced stocking density of 88,000 birds; and after the proposed redevelopment of the unit with mitigation including high velocity ventilated sheds with stack heights of 8 m and proposed stocking rates of 105,000.

Odour dispersion modelling is a useful tool used to determine the likelihood of odour complaints. Modelling looks at odour emission rates and emission conditions (temperature and air flow rates through vents and stacks), and considers how the odour plume would disperse through the local area, in order to predict likely odour concentrations at specific nearby locations. We use these predictions to consider the likelihood of complaints at local receptors, but more importantly, we can use predictions to compare different mitigation options.

Figure 2 below shows the results of the odour modelling scenarios. The following benchmark levels have been set in the Environment Agency's H4 Odour Management horizontal guidance. The benchmark levels are based on the 98<sup>th</sup> percentile of hourly average concentrations of odour modelled over a year. The benchmarks are:

- 1.5 odour units for **most offensive** odours;
- 3 odours units for **moderately offensive** odours;
- 6 odour units for **less offensive** odours.

Odours from livestock housing are usually placed in the 'moderately offensive' group and therefore the  $30\text{ou}_E \text{m}^{-3}$  as the 98<sup>th</sup> percentile of hourly averages criteria applies. This can be revised to  $2.5\text{ou}_E \text{m}^{-3}$  for site with a history of odour complaints.

The modelling demonstrates that this variation proposal to stock at a capacity of 105,000 broilers which includes increasing stack height to 8 m high on two existing houses, will result in a reduction in odour impact when compared to the current stocking and sheds on site (88,000 birds). The odour units at the closest residential receptor (Receptor 1) will reduce from  $6.03 \text{ou}_E/\text{m}^3$  to  $2.99 \text{ou}_E/\text{m}^3$ . The odour impact of the site if stocked to current permitted capacity (of 156,200 birds) is estimate to be  $14.9 \text{ou}_E/\text{m}^3$ . This demonstrates a significant environmental improvement in terms of reduction of odour emissions.

Figure 2 – Odour modelling results for three modelled scenarios

NOTE receptors 3 and 4 are owned by the operator and therefore not included in the impacts assessment

*Table 3. Predicted maximum annual 98<sup>th</sup> percentile hourly mean odour concentrations at the discrete receptors*

Receptor number	X(m)	Y(m)	Maximum annual 98 <sup>th</sup> percentile hourly mean odour concentration (ou <sub>e</sub> /m <sup>3</sup> )		
			Existing 152k (7m stacks)	Intermediate 88k (7m stacks)	Proposed 105k (8m stacks)
1	522597	364168	14.90	6.03	2.99
2	522607	364192	11.87	4.90	2.47
3	522652	363979	36.45	9.02	3.04
4	522672	363954	23.18	7.73	3.10
5	522682	364353	4.22	1.92	1.07
6	522828	363887	5.34	2.20	1.31
7	522722	363743	3.78	1.53	0.81
8	522379	363586	1.95	0.89	0.58

The audit and check monitoring on the air quality modelling submitted with the application carried out by AQMAU agreed with the applicants conclusions that the proposed changes would result in a significant improvement on the existing scenario.

### Odour Management Plan

The following text is taken from the operator's Odour Management Plan (OMP) which has been reviewed by the operator and the Environment Agency as part of this proposal. The following extract describes the main measures which the operator employs to management odour emissions at this installation:

*Potentially odorous materials on the poultry farm include:*

- Chick litter
- Chick odour
- Waste skips
- Dirty water from house washing
- Stagnant water
- Bird carcasses
- Feed
- Liquid Petroleum Gas (LPG) or Fuel oil
- Catching poultry and cleaning out at end of crop
- Bedding materials.

### *Responsibilities*

*The Farm Manager and Assistant are directly responsible for day to day management of the farm and ensuring that the appropriate control measures are in place to minimise odour emissions from the farm. Bird health, ventilation*

and litter condition are checked three times a day. Adjustments for weather/conditions are made, if required. And issues are reported to the Area Manager.

The Area Manager is responsible for the feed quality, ration and mill. They ensure the litter quality, type and supplier is appropriate. The Area Manager is also responsible for bird health assessments and veterinary/medical care; audit management and procedures; and the investigation of complaints – reporting to senior managers if appropriate.

The Environmental/Senior managers are responsible for investigating complaints; co-ordinating emergency action; priority resource; liaison between company and farm owners to ensure capital if required; and liaison with the Environment Agency.

**Waste skips** – collection will be controlled to ensure waste is not left decomposed;

**Chicken litter** – odour is minimised by a controlled environment, friable litter and good bird health; litter moisture is assessed by the farm manager on a daily basis with industry specific identification;

**Dirty water from washing** – waste water is channelled into the catchment system using smooth sloping house floors and a sloped yard; water is stored in a slurry storage system which is checked for integrity; waste water tanks are emptied at the end of the washing operation to prevent odorous releases;

**Stagnant water** – drains are well maintained to ensure containment of wash water and an unrestricted flow; roadways and concrete aprons are cleaned down as soon as possible after house washing and are maintained in a good state of repair; water is retained in the effluent tank preventing accumulation of stagnant water on site;

**Bird carcasses** – containers have lockable lids and emptied on a regular basis as required (normally one to three times a week); containers are collected by a licensed waste contractor and rendered at a local site; containers are disinfected when they have been emptied;

**Feed delivery** – feed deliveries are scheduled for times when residents are least likely to be affected by dust; dust 'sock' filters are fitted to all silo exhausts; filters are replaced when they become excessively contaminated (normally every week);

**Diet** – a four stage diet is fed on site, reducing the amount of protein fed as birds get older; careful monitoring of ingredients to avoid excessive water consumption;

**Bird catching** – catching curtains are used to reduce odour and dust emissions; modular catching is implemented; the site minimises lorry stand times during catching; doors of the houses are closed as soon as catching is completed;

**Cleaning at end of crop** – number of houses from which litter is removed is controlled to minimise amount of disturbed litter exposed at any time; 'double handing' is prevented using telescopic loaders; a protocol of minimising tipping is in place; trailers are covered during transit as vehicles travel around and leave the site; littering takes place when neighbours are least likely to be

*affected; roadways and house floors are blown down immediately after the litter operation to avoid accumulation and dispersion of litter;*

**Washing** – detergent and DEFRA-approved disinfectant is used at the manufacturers dose rate; dirty wash water is removed from underground storage tanks on completion of washing or when full;

**Bedding materials** – bedding is blown into poultry houses and spread by mechanical means; bedding is dried during the preheating stage prior to chicks being placed; odour and dust is kept to a minimum by keeping the houses as sealed as possible.

**Feeding equipment and drinkers** – feed and drinker equipment is checked three times a day to ensure it is operating correctly and in good condition to prevent spillages; spillages are cleared up and causes investigated so measures can be put in place to prevent a re-occurrence; nipple drinkers minimise water spillage and waste.

*Building structure is maintained in sound condition to prevent ingress of water into the house; sealing strips are installed on doors and baffles fitted to ventilation and extraction systems to prevent rainwater ingress. Housing condition and associated equipment is checked three times a day by the farm manager or their deputy and results recorded on the crop chart and retained on the farm for two years.*

The operator also details measures of odour monitoring and the complaints procedure followed on site. We are satisfied that the control measures employed on site are robust enough to cope with the variation proposal changes on site.

### **Biomass Boiler Assessment**

The operator is proposing to install four 199 kW biomass boilers to the site to provide the poultry sheds with indirect heating (aggregated net thermal rated input of 0.796 MWth).

In line with the Environment Agency's revised H1 risk assessment guidance an assessment has been undertaken to consider the proposed addition of the biomass boilers on intensive farms.

The guidance states that emissions from small biomass boilers burning fuel derived from virgin timber, clean non virgin timber, straw and *Miscanthus* are not likely to pose a significant risk to the environment or human health providing certain criteria are met. For poultry sites a quantitative assessment of air emissions is not required where:

- the fuel will be derived from virgin timber, clean non virgin timber, straw or *Miscanthus*; and
- the biomass boiler appliance and its installation meets the technical criteria to be eligible for the Renewable Heat Incentive; and
- the aggregate boiler net rated thermal input is less than or equal to 4 MWth, and no individual boiler has a net thermal input greater than 1 MWth; and

- the stack height must be a minimum of 5 metres above the ground (where there are buildings within 25 metres the stack height must be greater than 1 metre above the roof level of buildings within 25 metres); and
- there are no sensitive receptors within 50 metres of the emission point(s).

The biomass boilers meet all the requirements above. Therefore no further assessment is required.

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

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

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

### **Groundwater/Soil Monitoring**

As a result of the requirements of the Industrial Emissions Directive, all permits are now required to contain condition 3.1.3 relating to 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 the 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 your 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 for Heale Poultry Unit (received with original application in 2007) demonstrates that there are no hazards to land or groundwater and no historic contamination on site that may present a hazard.

**Therefore, although this condition is included in the permit, no groundwater monitoring will be required at this installation as a result.**

## Annex 1: decision checklist

This document should be read in conjunction with the Duly Making checklist, the application and supporting information and permit/notice.

Aspect considered	Justification / Detail	Criteria met Yes
<b>Consultation</b>		
Scope of consultation	The consultation requirements were identified and implemented. The decision was taken in accordance with Regulatory Guidance Note (RGN) 6 High Profile Sites, our Public Participation Statement and our Working Together Agreements.	✓
Responses to consultation	The consultation responses (Annex 2) were taken into account in the decision.  The decision was taken in accordance with our guidance.	✓
<b>The site</b>		
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  A plan is included in the permit and the operator is required to carry on the permitted activities within the site boundary.	✓
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. <b>See Key Issues section above for more detailed information.</b>  A full assessment of the application and its potential to affect Moor Barn SSSI has been carried out as part of the permitting process. The following Operational controls have been placed on the permit to mitigate against any effect of ammonia on this site: <ul style="list-style-type: none"> <li>• Inclusion of IC5;</li> <li>• All sheds are heated using biomass boilers to reduce ammonia emissions;</li> <li>• An improvement condition (IC6) has been added to the permit which requires the operator to provide a revision of the ammonia emissions modelling following completion of 12 months of data collection from a trial site using biomass boilers to</li> </ul>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<p>mitigate for reductions in ammonia.</p> <p>Formal consultation has been carried out with Natural England. They agreed the improvement condition approach in a letter to the Environment Agency (dated 20/06/2014). The consultation response was taken into account in the permitting decision. The consultation response was saved to EDM on 05/11/2014.</p>	
<b>Operator</b>		
Control of the facility	We are satisfied that the applicant (now the operator) is the person who will have control over the operation of the facility after the grant of the permit. The decision was taken in accordance with EPR RGN 1 Understanding the meaning of operator.	✓
<b>European Directives</b>		
Applicable directives	<p>All applicable European directives have been considered in the determination of the application.</p> <p>This consolidated permit document now meets the requirements of the Industrial Emissions Directive – please see Key issues section above for details.</p>	✓
<b>Environmental Risk Assessment and operating techniques</b>		
Environmental risk	<p>We have reviewed the operator's assessment of the environmental risk from the facility.</p> <p>The operator's risk assessment is satisfactory.</p>	✓
Operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes.</p> <p>The proposed techniques for priorities for control are in line with the benchmark levels contained in Sector Guidance Note EPR6.09 'How to comply with your environmental permit for intensive farming (version 2)' Technical Guidance Note and we consider them to represent appropriate techniques for the facility.</p> <p>The operator has proposed the following key techniques with regards to the biomass boilers on site:</p> <ul style="list-style-type: none"> <li>the fuel is derived from virgin timber;</li> </ul>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<ul style="list-style-type: none"> <li>the biomass boiler appliance and its installation meets the technical criteria to be eligible for the Renewable Heat Incentive.</li> </ul> <p>We consider that the operating techniques specified in the permit reflect the Best Available Technique (BAT) for the installation.</p>	
<b>The permit conditions</b>		
Updating permit conditions during consolidation.	<p>We have updated previous permit conditions to those in the new generic permit template as part of permit consolidation. The new conditions have the same meaning as those in the previous permit.</p> <p>The operator has agreed that the new conditions are acceptable.</p>	✓
Raw materials	<p>We have specified limits and controls on the use of raw materials and fuels.</p> <p>We have specified that only virgin timber (including wood chips and pellets), miscanthus or straw shall be used as a fuel for the biomass boiler. These materials are never to be mixed with, or replaced by, waste.</p>	✓
Improvement conditions	<p>Based on the information on the application, we consider that we need to impose an additional improvement condition.</p> <p>We have imposed Improvement Condition 5 (IC5) to ensure that:</p> <ul style="list-style-type: none"> <li>the operator reviews their ammonia reduction techniques in 5 years time (see Key Issues section for more information).</li> </ul> <p>And Improvement Condition 6 (IC6) to ensure that:</p> <ul style="list-style-type: none"> <li>the operator submits a report providing evidence to demonstrate that an ammonia emissions reduction of at least 35% can be achieved by installing biomass boilers on site. This evidence for a reduction will need to include 12 months of operational data collected at Girton Farm (EPR/GP3934MM/V004).</li> </ul>	✓
Incorporating the application	We have specified that the applicant must operate the permit in accordance with descriptions in the application,	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<p>including all additional information received as part of the determination process.</p> <p>These descriptions are specified in the Operating Techniques table in the permit.</p>	
<b>Operator Competence</b>		
Environment management system	There is no known reason to consider that the operator will not have the management systems to enable it to comply with the permit conditions. The decision was taken in accordance with RGN 5 on Operator Competence.	✓
Relevant convictions	<p>The National Enforcement Database has been checked to ensure that all relevant convictions have been declared.</p> <p>Relevant convictions were found and declared in the application. We considered relevant convictions as part of the determination process. We concluded that the operator satisfies the criteria in RGN 5 on Operator Competence.</p>	✓

## Annex 2: Consultation and web publicising responses

Summary of responses to consultation and web publication and the way in which we have taken these into account in the determination process.

Response received from
Gordon Wyatt (Senior Specialist, Air Quality, Biodiversity Delivery Team), Natural England – 20 <sup>th</sup> June 2014
Brief summary of issues raised
<p>Natural England acknowledges and welcomes the proposed measures to significantly reduce the ammonia emissions from Heale Poultry Unit by the proposed measures. However they note that, despite these reductions, it is predicted that the <math>0.5 \mu\text{g.m}^{-3}</math> threshold would still be exceeded over part of the Moor Farm SSSI.</p> <p>However having also examined the distribution of the designated habitats within the SSSI, it is apparent that the reduction to the pollution footprint is such that the wet mire habitats would be completely removed from within the area likely to be subject to a level of <math>0.5 \mu\text{g.m}^{-3}</math>; and the area of heathland and acid grassland habitats that would still be so affected is predicted to be greatly reduced (from the entirety of these habitats on the site, down to about 1 ha of the combination of these two habitats).</p> <p>About half of the area of wet grassland in the northern part of the site would still be subject to an ammonia level in excess of <math>0.5 \mu\text{g.m}^{-3}</math>. However, this area is not noted for its lower plant species and consequently a critical level of <math>3 \mu\text{g.m}^{-3}</math> (and hence a threshold of <math>1.5 \mu\text{g.m}^{-3}</math>) might be considered more appropriate for this area. Although part of this habitat would still be subject to an ammonia level in excess of this higher threshold, the area thus affected is relatively small (about 0.2 ha); and also appears from available evidence to be significantly less species-rich than most other locations within this compartment.</p> <p>Natural England agrees that the Improvement Condition approach and notes it is compatible with that previously agreed in the cases of other intensive pig and poultry farms with Improvement Conditions.</p> <p>Consequently, Natural England have no objection to the issuing of the permit with these new conditions.</p>
Summary of actions taken or show how this has been covered
The Pre-operational condition and Improvement Condition (IC5) provide an agreed approach with Natural England.

Response received from
Health and Safety Executive – 8 <sup>th</sup> December 2014
Brief summary of issues raised
No comments to make.
Summary of actions taken or show how this has been covered
No action necessary.

The following organisations were also consulted, however no response was received:

- East Lindsey District Council – planning department; and
- East Lindsey District Council – environmental health department.

This proposal was also publicised on the Environment Agency's website between 05/12/2014 and 07/01/2015.

Two responses were received from members of the public following notification. Some responses referred to the same concerns. A summary of the relevant responses and how we have considered them during our determination have been listed below.

Responses received from members of the public during from consultation, publicising and advertisement of the application and supporting information	
The consultation responses received were wide ranging and a number of the issues raised were outside the Environment Agency's remit in reaching its permitting decisions. Specifically questions were raised which fall within the jurisdiction of the local council and planning system, both on the decision of previous planning decisions, planning permission condition breaches, local council record keeping and the granting of planning permission.	
Guidance on the interaction between planning and pollution control is given in the National Planning Policy Framework. It says that the planning and pollution control systems are separate but complementary. We are only able to take into account those issues which fall within the scope of the Environmental Permitting Regulations.	
Relevant comments and how we have considered them during our determination have been listed below.	
Brief summary of issues raised	Summary of actions taken or show how this has been covered
<p><b>Odour</b></p> <p>A number of issues were raised relating to odour arising from this site. These issues included:</p> <ul style="list-style-type: none"> <li>• Concerns that expanding the site will increase odour.</li> <li>• Complaints about odour from the site have already been made to the Environment Agency.</li> <li>• Odour is an infringement and affects neighbours enjoyment of the residents nearby.</li> <li>• Concern that there will be increased odour from increasing chicken numbers.</li> </ul>	<p>The modelling demonstrates that this variation proposal to stock at a capacity of 105,000 broilers which includes increasing stack height to 8 m high on two existing houses, will result in a reduction in odour impact when compared to the current stocking and sheds on site (88,000 birds).</p> <p>In addition the permit contains the following conditions designed to enable odour to be controlled;</p> <p><i>3.2.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as</i></p>

*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.*

*3.2.2. The operator shall:*

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;*
- (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.*

Intensive farms, by their nature, may be odorous sites. Residual odours may be detected in the vicinity of the farm that are not considered a permit breach.

The operator has an Odour Management Plan (OMP) relating to this site which outlines their approach to dealing with odour (see Odour Management Plan in Key Issues section above for more details).

In accordance with our enforcement procedures, each complaint has been fully investigated by the Environment Agency. An

	<p>OMP is in place and has been approved by The Environment Agency. This has been revised as a result of the variation proposal. The management plan includes suitable measures to reduce the risk of odour from the site. This plan is included in table S1.2 Operating techniques in Schedule 1 of the permit. The operator must carry out the activities in accordance with these operating techniques. If activities at the site give rise to pollution, we can request a revised OMP from the operator using our powers under condition 3.2.2(a) of the permit.</p> <p>The applicant provided odour management plans as part of their permit application. The operator was required to review and update the management plan as part of the application process for this variation. The updated plan is considered satisfactory for the proposals.</p> <p>The Operator is required to operate the site in accordance with their OMP, and is committed to periodically reviewing this OMP to ensure its continued suitability for this installation.</p>
<p><b>Odour modelling</b></p> <ul style="list-style-type: none"> <li>• Concerns over incorrect data used for odour modelling assessment</li> <li>• Concerns over location and distances of sensitive receptors</li> <li>• Concerns that the odour modelling shows an impact at Moor Farm SSSI</li> </ul>	<p>Odour dispersion modelling is a useful tool used to determine the likelihood of odour complaints. Modelling looks at odour emission rates and emission conditions (temperature and air flow rates through vents and stacks), and considers how the odour plume would disperse through the local area, in order to predict likely odour concentrations at specific nearby locations. We use these predictions to consider the likelihood of complaints at local receptors, but more importantly, we can use predictions to compare different mitigation options.</p>

	<p>The applicant's detailed modelling was audited by our internal Air Quality specialists at the pre-application stage and following the submission of the variation further checks were carried out. These included check calculations and check modelling assessments with sensitivity to terrain and consideration of the existing and proposed scenarios. The checks indicated that although the Applicants modelling methodology and assumptions deviated from our guidance the conclusion that the changes would lead to a significant reduction in emissions and associated odour remained valid.</p> <p>We do not assess the impact of odour on conservation sites.</p>
<p><b>Operator competence:</b></p> <ul style="list-style-type: none"> <li>• Concerns regarding information provided in the Post Conviction Plan (PCP)</li> <li>• Concerns that the operator is not a 'considerate' neighbour</li> <li>• Concerns that Moy Park are not able to comply with the current permit</li> <li>• Concerns that Moy Park have breached planning conditions with regards to bund screening and tree planting</li> </ul>	<p>The post conviction plan that Moy Park submitted as part of the application has been accepted by the local Area team. The plan considers all court cases where Moy Park have been prosecuted.</p> <p>The site was a Band D performer in 2013. Since then they have risen to be a Band B performer in 2014, so are therefore showing an improvement in compliance of the site.</p> <p>No permit breaches for odour occurred in 2014, however minor non compliances with their management system were recorded. However on the whole the site is currently compliant with their permit and it is generally well run.</p> <p>The planning authority determines whether the activity is an acceptable use of land. It considers matters such as visual impact, traffic and access issues, which do not form part of our environmental permit decision making process. Therefore</p>

	breaches to planning permission with regards to bund screening and tree planting are outside the remit of this determination.
<p><b>Ammonia emissions modelling</b></p> <ul style="list-style-type: none"> <li>• Concerns that new technology is being used to reduce ammonia emissions from the site</li> <li>• Concerns that modelling data is incorrect</li> <li>• Concerns that biomass boiler emissions will affect nearby residents.</li> </ul>	<p>Ammonia modelling was submitted with the application. This modelling indicated there would be a significant reduction in impact compared to current scenarios that were modelled. This is due to the new building proposals having high velocity fan ventilation and 8 m high stacks height to disperse ammonia more effectively than the current sheds. In addition the operator is proposing to install biomass boilers on site to provide indirect heating to the sheds. They propose that this will result in a 35% reduction of ammonia compared to the current broiler emission factor of 0.034 kg NH<sub>3</sub>/bird place/year.</p> <p>The applicant's detailed modelling was audited by our internal Air Quality specialists at the pre-application stage and following the submission of the variation further checks were carried out. These included check calculations and check modelling assessments with sensitivity to terrain and consideration of the existing and proposed scenarios. The checks indicated that although the Applicants modelling methodology and assumptions deviated from our guidance the conclusion that the changes would lead to a significant reduction in emissions and associated odour remained valid.</p> <p>Results seen from a number of biomass boiler trials have suggested that this technology is capable of reducing ammonia emissions by similar amounts. The operator is currently involved in monitoring trials at a similar site to Heale Farm, the results of which will inform the ammonia impact assessment of Heale</p>

	<p>Farm. The Improvement Condition IC6 requires the operator to report the results of the trial providing evidence to demonstrate that an ammonia emissions reduction of at least 35% can be achieved by installing biomass boilers on site. Further information can be found in the 'monitoring and reporting' section above.</p> <p>We have assessed the risk to nearby receptors from the biomass boilers to be installed on site. Our guidance states that emissions from small biomass boilers burning fuel derived from virgin timber, clean non virgin timber, straw and <i>Miscanthus</i> are not likely to pose a significant risk to the environment or human health providing certain criteria are met. The biomass boilers on site meet all criteria that we would expect therefore no further assessment is required (see Biomass Boiler section above).</p>
<p><b>Concerns on the effect to surrounding area</b></p> <ul style="list-style-type: none"> <li>• Land use surrounding the site includes Moor Farm SSSI, Wellsyke Wood Local Wildlife Site; areas of Ancient Woodland; Area of Outstanding Natural Beauty</li> <li>• Residential areas and large private gardens;</li> <li>• Possible threats to tourism to areas including Bainland Park Leisure complex, Wellsyke Camping and Caravanning Club; Woodhall Spa destination area; the Viking Way.</li> </ul>	<p>A full assessment of the application and its potential to affect the conservation sites has been carried out as part of the permitting process. We consider that the application will not affect the conservation sites identified within the relevant screening distances of the installation (See Ammonia section in Key Issues above) and is likely to produce a significant environmental improvement in comparison to the current permit.</p> <p>Natural England have been consulted regarding the effects of the proposal on Moor Farm SSSI. Their response can be found in Annex 2 above.</p> <p>The planning authority determines whether the activity is an acceptable use of land. It considers matters such as visual</p>

	impact, traffic and access issues, which do not form part of our environmental permit decision making process.
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