Environment Agency permitting decisions

Variation

We have decided to issue the variation for Prosperity Farm Pig Unit operated by Elsham Linc Limited.

The variation number is EPR/MP3833UN/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:

- 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
- Annex 1 the decision checklist
- Annex 2 the consultation and web publicising responses

Key issues of the decision

Variation EPR/MP3833UN/V004 authorises the following changes at the installation.

- The number of production pigs over 30 kilograms has been increased to 5,175 to include the grower places which can reach weights of 45 kg. The number of pigs less than 30 kg remains at 3,260 and there remain 788 sow places. The maximum number of production pigs (above 30kg) plus pigs less than 30kg that can be held on the farm at any one time is 6,835 to reflect the maximum capacity of the site.
- Farrowing houses 4, 5, 6, 7, 8 and 9 will be demolished and replaced by a new farrowing house 4 on the site of the existing farrowing houses 4, 5 and 6. The new farrowing house 4 will have fully slatted flooring and high velocity roof fans.

- Existing flat decks 4 and 5 will be replaced with a new flat deck 4 with a capacity for 850 weaner places. New flat deck 4 will have fully slatted flooring and high velocity roof fans. The stocking rate of existing flat decks 1, 2 and three will be reduced from 320 in each building to 250 in each building.
- A new grower house will be constructed to house 450 growing pigs on the site of existing farrowing houses 7, 8 and 9. There will be a reduction in the number of grower places in the existing grower house from 1,600 to 1,150. The new grower house will have fully slatted flooring and will have high velocity roof fans.
- Roof water from the new housing will be directed to the existing soakaways.
- Two air source heat pumps will heat the new farrowing house 4 and new flat deck 4.

Following the variation the site inventory will be as follows.

Pig house	Pig numbers	Ventilation	Pig type	Flooring
Gilt isolation pens	275	Natural	Production (gilt)	Solid floor – straw system
Gilt yard	150	Natural	Sow (served)	Solid floor – straw system
Sow house	500	Natural	Sow	Solid floor – straw system
Farrowing house 1	32	Side	Sow with litter	Fully slatted floor
Farrowing house 2	32	Side	Sow with litter	Fully slatted floor
Farrowing house 3	12	Side	Sow with litter	Fully slatted floor
Farrowing house 4	64	Roof	Sow with litter	Fully slatted floor
Babyporc 1	30	Natural	7 – 20 kgs	Pen with 2 climate system
Babyporc 2	30	Natural	7 – 20 kgs	Pen with 2 climate system
Flat deck 1	250	Side	7 – 20 kgs	Fully slatted floor
Flat deck 2	250	Roof	7 – 20 kgs	Fully slatted floor
Flat deck 3	250	Roof	7 – 20 kgs	Fully slatted floor
Flat deck 4	850	Roof	7 – 20 kg	Fully slatted
Old grower house	1150	Side	20 – 40 kg	Fully slatted

New grower house	450	Roof	20 – 40 kg	Fully slatted
Finishing house 1	300	Side	Production pig	Partly slatted
Finishing house 2	300	Side	Production pig	Partly slatted
Finishing house 3	545	Natural	Production pig	Fully slatted
Finishing house 4	545	Natural	Production pig	Partly slatted
Finishing house 5	300	Side	Production pig	Partly slatted
Finishing house 6	650	Side	Production pig	Fully slatted
Finishing house 7	660	Side	Production pig	Fully slatted

Ammonia emissions

A pre-application screening assessment was carried out prior to submission of the application to identify if further modelling was required. The screen indicated that two sites required modelling.

There are no Special Area(s) of Conservation (SAC), Special Protection Area(s) (SPA) or Ramsar sites located within 10 kilometres of the installation. There are 3 Sites of Special Scientific Interest (SSSI) located within 5 km of the installation. There are also 14 Local Wildlife Sites (LWS) and 4 sites of Ancient Woodland (AW) within 2 km of the installation.

Ammonia assessment – SSSIs

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 in combination assessment and/or detailed modelling may be required.

Screening using the ammonia screening tool (version 4.4) has indicated that the PCs for Swaby Valley SSSI and Calceby Marsh SSSI are predicted to be less than 20% critical level for ammonia, acid and nitrogen deposition therefore it is possible to conclude no damage. The results of the ammonia screening tool are given in the tables below.

Table 1 – Ammonia emissions

Name of SSSI	Ammonia CLe ($\mu g/m^3$)	PC ($\mu g/m^3$)	PC as % of Critical level
Swaby Valley SSSI	3*	0.222	7.4
Calceby Marsh	1**	0.207	20.7

*Natural England confirmed that a CLe of 3 for ammonia should be applied to Swaby Valley SSSI as no presence of priority species lichens and bryophytes (May 2013)

** A precautionary level of 1 $\mu g/m^3$ has been used during the screen. Where the precautionary level of 1 $\mu g/m^3$ is used, and the process contribution is assessed to be less than the 20% insignificance threshold in this circumstance it is not necessary to further consider nitrogen deposition or acid deposition critical load values. In these cases the 1 $\mu g/m^3$ level used has not been confirmed, but it is precautionary.

Table 2 – Nitrogen deposition

Site	Critical load kg N/ha/yr	PC kg N/ha/yr	PC % critical load
Swaby Valley SSSI	15**	1.153	7.7

**Critical load values taken from APIS website (www.apis.ac.uk) – 09/06/14

Table 3 – Acid deposition

Site	Critical load keq/ha/yr	PC keq/ha/yr	PC % critical load
Swaby Valley SSSI	4.856*	0.082	1.7

*Critical load values taken from APIS website (www.apis.ac.uk) – 09/06/14

Initial modelling using the ammonia screening tool (version 4.4) has determined that the PC of ammonia, nitrogen deposition and acid depostion from the application site are over the 20% threshold, and therefore may cause damage to features of Muckton Wood SSSI. An in combination assessment has therefore been carried out.

There are no other farms acting in combination with this application. In line with Environment Agency guidelines, where the total PC is < 50% of the CLe/CLo, in combination impacts can be considered as not being likely to damage the features of the SSSI for which it has been designated. The PCs for ammonia and acid deposition are predicted to be below 50% and therefore it is possible to conclude no damage to the site from the installation, no further assessment is required. Although the PC for nitrogen deposition is marginally above the 50% threshold, further modelling for Muckton Wood (see table 11 below) shows that the airborne ammonia emissions were modelled at only 12% of the PC predicted by the pre-application ammonia screen. This indicates that nitrogen deposition would fall well below the 50% threshold were it modelled.

Table 4 – Ammonia emissions

Site	Critical level ammonia µg/m^3	Predicted process contribution µg/m^3	% of critical level
Muckton Wood SSSI	3*	1.045	34.8

*Natural England advised that a CLe of 3 for ammonia could be applied to Muckton Wood SSSI due to absence of priority species bryophytes and lichens (April 2013)

Table 5 – Nitrogen deposition

Site	Critical load kg N/ha/yr	Predicted PC kg N/ha/yr	PC % of critical load
Muckton Wood SSSI	10*	5.429	54.3

*Critical load values taken from APIS website (www.apis.ac.uk) – 09/06/14

Table 6 – Acid deposition

Site	Critical load keq/ha/yr	Predicted PC keq/ha/yr	PC % of critical load
Muckton Wood SSSI	1.793	0.388	21.6

*Critical load values taken from APIS website (www.apis.ac.uk) – 09/06/14

No further assessment is required.

Ammonia assessment - LWS/AW

There are 14 Local Wildlife Sites (LWS) and 4 Ancient Woodlands within 2 km of Prosperity Farm Pig Unit. The following trigger thresholds have been applied for the assessment of these sites.

1. If PC is <100% of relevant critical level or load, then the farm can be permitted (H1 or ammonia screening tool)
2. If further modelling shows PC <100%, then the farm can be permitted.

For the following sites this farm has been screened out at stage 1, as set out above, using results of the ammonia screening tool (version 4.4).

Screening using ammonia screening tool (version 4.4) has indicated that emissions from Prosperity Farm Pig Unit will only have a potential impact on sites with a critical level of 1 µg/m^3 if they are within 1844 metres of the emission source. Screening indicates that beyond this distance, the PC at conservation sites is less than 1 µg/m^3. 1 µg/m^3 is 100% of the 1 µg/m^3 CLe and therefore beyond this distance the PC is insignificant. In this case the AW in table 7 is beyond this distance.

Table 7 – distance from source

Site	Distance (m)
Hall Wood AW	1866

The PC at this site has been screened as insignificant. It is possible to conclude no significant pollution will occur at this site and no further assessment is required.

For the following sites this farm has been screened out, using the ammonia screening tool (version 4.4). The predicted PC on the LWSs and AWs for ammonia, acid and nitrogen deposition from the application site are under the 100% significance threshold and can be screened out as having no likely significant effect.

Table 8 - Ammonia emissions

Site	Critical level ammonia µg/m^3	Predicted PC µg/m^3	PC % of critical level
The Holt LWS	3*	1.385	46.2
Legbourne Dismantled Railway Hud Holes LWS	3*	1.660	55.3
Tothill Churchyard LWS	3*	1.114	37.1
Castle Wood LWS	3*	1.320	18.3
Hall Wood LWS	3*	1.072	35.7
Authorpe Scrubs LWS	3*	1.119	37.3
Hud Holes to Legbourne Wood Track LWS	3*	1.230	41.0
Authorpe Railway Cutting LWS	3*	2.090	69.7
Castle Farm Hedge LWS	3*	1.405	46.8
Reedings Plantation LWS	3*	1.581	52.7
Great Eau	1**	0.830	83.0
Frisby to Louth Dismantled Railway LSW	3*	2.237	74.6
Hall Wood AW	1**	0.979	97.9
Authorpe Woods AW	3*	1.111	37.0

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

** A precautionary level of 1 µg/m^3 has been used during the screen. Where the precautionary level of 1 µg/m^3 is used, and the process contribution is assessed to be less than the 20% insignificance threshold in this circumstance it is not necessary to further consider nitrogen deposition or acid deposition critical load values. In these cases the 1 µg/m^3 level used has not been confirmed, but it is precautionary.

Table 9 – Nitrogen deposition

Site	Critical load kg N/ha/yr [1]	Predicted PC kg N/ha/yr	PC % of critical load
The Holt LWS	10*	7.194	71.9
Legbourne Dismantled Railway Hud Holes LWS	10*	8.621	82.6
Tothill Churchyard LWS	10*	5.786	57.9
Castle Wood LWS	10*	6.858	68.6
Hall Wood LWS	10*	5.569	55.7
Authorpe Scrubs LWS	10*	5.811	58.1
Hud Holes to Legbourne Wood Track LWS	10*	6.388	63.9
Castle Farm Hedge LWS	10*	7.297	73.0
Muckton Wood East LWS	10*	6.076	60.8

Reedings Plantation LWS	10*	8.210	82.1
Great Eau	NA**	-	-
Hall Wood AW	NA**	-	-
Authorpe Woods AW	10*	5.768	57.7
Muckton Wood AW	10*	6.076	60.8

*Critical load values taken from APIS website (www.apis.ac.uk) – 09/06/14

**Critical load value not considered as site screens out at CLo 1.

Table 10 – Acid deposition

Site	Critical load keq/ha/yr	Predicted PC keq/ha/yr	PC % of critical load
The Holt LWS	1.8*	0.514	28.5
Legbourne Dismantled Railway Hud Holes LWS	4.74*	0.616	13.0
Tothill Churchyard LWS	2.68*	0.413	15.4
Castle Wood LWS	2.68*	0.490	18.3
Hall Wood LWS	4.74*	0.398	8.4
Authorpe Scrubs LWS	1.81*	0.415	22.9
Hud Holes to Legbourne Wood Track LWS	1.8*	0.456	25.3
Authorpe Railway Cutting LWS	1.81*	0.775	42.8
Castle Farm Hedge LWS	2.68*	0.521	19.4
Muckton Wood East LWS	1.793*	0.434	24.2
Reedings Plantation LWS	2.68*	0.586	21.9
Great Eau	NA**	-	-
Frisby to Louth Dismantled Railway LSW	1.8*	0.830	46.1
Hall Wood AW	NA**	-	-
Authorpe Woods AW	1.81*	0.412	22.8
Muckton Wood AW	1.793*	0.434	24.2

* Critical load values taken from APIS website (www.apis.ac.uk) – 09/06/14

**Critical load value not considered as site screens out at CLo 1.

No further assessment is required.

For the following sites this farm has been screened out, as set out above, using results of the detailed modelling supplied by the applicant as part of the application (Document reference: *An Assessment of the Ammonia Impact of the Regulated Facilities: Prosperity Farm, near Authorpe, Lincolnshire received 27/08/2014*).

Detailed modelling provided by the applicant has been audited in detail by our Air Quality Modelling and Assessment Unit (AQMAU) and we have confidence that we can agree with the report conclusions.

Table 11 - Ammonia emissions

Site	Critical level ammonia µg/m^3	Predicted PC µg/m^3	PC % of critical level
Muckton Wood East LWS	1*	0.15	15.0
Tothill Wood LWS	3*	1.59	53.0

Tothill Claythorpe Woods AW	3*	1.59	53.0
Muckton Wood AW	1*	0.14	14.0

* 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
Authorpe Railway Cutting LWS	10*	2.13	21.3
Tothill Wood LWS	10*	8.44	84.4
Frisby to Louth Dismantled Railway	10*	1.04	10.4
Tothill Claythorpe Woods AW	10*	8.44	84.4

*Critical load values taken from APIS website (www.apis.ac.uk) – 09/06/14

Table 13 – Acid deposition

Site	Critical load keq/ha/yr	Predicted PC keq/ha/yr	PC % of critical load
Tothill Wood LWS	2.68*	0.60	22.4
Tothill Claythorpe Woods AW	2.68*	0.60	22.4

*Critical load values taken from APIS website (www.apis.ac.uk) – 09/06/14

No further assessment for these sites is required.

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
Consultation		
Scope of consultation	The consultation requirements were identified and implemented. The decision was taken in accordance with Regulatory Guidance Note 6 High Profile Sites, our Public Participation Statement and our Working Together Agreements.	✓
Responses to consultation and web publicising	The web publicising and consultation responses (Annex 2) were taken into account in the decision. The decision was taken in accordance with our guidance.	✓
Operator		
Control of the facility	We are satisfied that the applicant (now the operator) is the person who will have control over the operation of the facility after the grant of the permit. The decision was taken in accordance with Environmental Permitting Regulations (EPR) Regulatory Guidance Note 1 Understanding the meaning of operator.	✓
European Directives		
Applicable directives	All applicable European directives have been considered in the determination of the application.	✓
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. 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. A full assessment of the application and its potential to affect the sites has been carried out as part of the	✓

Aspect considered	Justification / Detail	Criteria met Yes
	permitting process. We consider that the application will not affect the features of the sites. **See key issues section above for further information.** We have not formally consulted on the application. The decision was taken in accordance with our guidance.	
Environmental Risk Assessment and operating techniques		
Environmental risk	We have reviewed the operator's assessment of the environmental risk from the facility. The operator's risk assessment is satisfactory. **See key issues section above for further information.**	✓
Operating techniques	We have reviewed the techniques used by the operator and compared these with the relevant guidance notes. The following key measures are proposed by the operator: • New weaner and grower housing to have fully slatted flooring and high velocity roof fans. • Heating of new housing via air source heat pumps. • Existing soakaways to take only uncontaminated roof water from new buildings. The proposed techniques/ emission levels for priorities for control are in line with the benchmark levels contained in the Sector Guidance Note 'EPR 6.9 How to comply with your environmental permit for intensive farming' and we consider them to represent appropriate techniques for the facility. The permit conditions ensure compliance with relevant Best Available Techniques Reference Documents (BREFs). We consider that the emission limits included in the installation permit reflect the Best Available Techniques for the sector.	✓
The permit conditions		
Updating permit conditions during consolidation.	We have updated previous permit conditions to those in the new generic permit template as part of permit consolidation. The operator has agreed that the new conditions are acceptable.	✓

Aspect considered	Justification / Detail	Criteria met Yes
Incorporating the application	We have specified that the applicant must operate the permit in accordance with descriptions in the application, including all additional information received as part of the determination process. These descriptions are specified in the Operating Techniques table in the permit.	✓
Operator Competence		
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 Regulatory Guidance Note 5 on Operator Competence.	✓
Relevant convictions	The National Enforcement Database has been checked to ensure that all relevant convictions have been declared. The operator satisfies the criteria in Regulatory Guidance Note 5 on Operator Competence.	✓

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. (Newspaper advertising is only carried out for certain application types, in line with our guidance.)

Response received from
East Lindsey District Council – Regulatory Services (Environmental Health)
Brief summary of issues raised
No response received
Summary of actions taken or show how this has been covered
No further action required

Response received from
East Lindsey District Council – Regulatory Services (Environmental Planning)
Brief summary of issues raised
No response received
Summary of actions taken or show how this has been covered
No further action required

Response received from
Health and Safety Executive
Brief summary of issues raised
No response received
Summary of actions taken or show how this has been covered
No further action required

This proposal was also publicised on the Environment Agency's website for 20 working days and no representations were received during this period.