Environment Agency permitting decisions

Bespoke permit

We have decided to grant the permit for Cherry Tree Farm operated by Wayland Farms Limited.

The permit number is EPR/UP3936RL

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

- Description of main features of the installation
- Key issues
- Annex 1 the decision checklist
- Annex 2 the consultation and web publicising responses

Description of the main features of the Installation

Cherry Tree Farm is situated approximately 800 metres south of the village of Stow Bedon, Attleborough. The installation is approximately centred on National Grid Reference TL 95607 95406.
The installation is operated by Wayland Farms Limited and comprises of ten pig houses, numbered one to ten, which operate a solid floor straw based system for production pigs >30 kg. The ten houses provide a combined capacity for 6,990 finishing pigs.
The installation consists of five converted pig houses (1-5) and five new pig houses (6-10). All pig houses will be solid floor straw based units which will be pushed out and re-strawed everyday with the exception of house 5 which will be operated as a deep litter bed and cleaned out at the end of the batch.
The existing converted houses (1-5) are naturally ventilated though the

sidewalls, with extensive Yorkshire boarding to the sides and ends of the units. The new houses (6-10) will be roof fan ventilated with stack heights of 7 metres and a fan efflux velocity greater than 10 m/s.
Manure is removed to a covered storage area prior to being spread on land either owned by the operator or third parties. Contaminated yard water and drainage from the manure storage area is channelled to a reception tank prior to being exported off site for spreading on land owned by the operator or third parties. Pig house 5 has a separate reception tank for contaminated water generated in this building. Any contaminated water will be pumped over to the main reception tank.
Houses 1-3 are guttered and roof water is piped to soakaways located along the north, east, south and west of the houses. House 4 is guttered, roof water flows across concrete areas running alongside the houses to a grassed area to the east which acts as a soakaway. House 5 has a curved roof and water flows down and across concrete areas adjacent to the house and enters a grass margin on an arable field to the east of House 5. Houses 6 to 10 are guttered and routed into soakaways in the adjacent field to the south of the houses.
The pigs will be fed with a low protein 3 stage diet. Nipple drinkers will be used to prevent water wastage and water use will be recorded on a daily basis. Water will be supplied from the on-site borehole.
The land around the site is predominantly rural. Associated food is stored in purpose built storage bins. Mortalities are collected daily and stored in a secure locked container on the site and collected by an approved contractor in accordance with the Animal By-Products regulations.
There are two Special Area of Conservation (SAC) and one Special Protection Area (SPA) within 10km of the installation and six Sites of Special Scientific Interest (SSSI) within 5km. There are 19 other nature conservation sites within 2km, comprising of one Local Nature Reserve (LNR), 17 Local Wildlife Sites (LWS) and one Ancient Woodland (AW). An assessment of the impact of emissions has been carried out and the installation is considered to have no adverse effect on the nature conservation sites.
The site is subject to a Climate Change Levy Agreement.

Key Issues of the decision

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.

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:

1. The environmental risk assessment has identified that the same contaminants are a particular hazard; or
2. 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 Cherry Tree Farm (reference 3a - Site Condition Report, received as part of application EPR/UP3936RL/A001 duly made 15/08/2016) 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 it is unlikely groundwater monitoring will be required.**

The installation is in a Source Protection Zone (SPZ) 3 and located on a major aquifer of high vulnerability. It is also within a Nitrate Vulnerable Zone (NVZ)

Ammonia Mitigation Proposals

The applicant has provided information to support claims for ammonia mitigation from the farm, to comply with conservation objectives. The applicant has provided model calculations to show the impact on conservation sites based on the Environment Agency's published emission factors (less 20% for a low protein diet) and considering the pig occupancy level (see later Ammonia Emission section).

Low Protein Diet:
The applicant is adopting a 3 stage low protein diet for the pigs in compliance with Best Available Techniques (BAT) reference document for Intensive Rearing of Poultry or Pigs (Draft BREF document) and also for ammonia mitigation purposes.
' *It is possible to reduce the nitrogen excretion by up to 20 %, by reducing up to 2 % the initial protein level in feeds for all categories of pigs and without requiring any specific technical skills [34, Ajinomoto 2000]. However, it is necessary to add the four essential amino acids (lysine, methionine, threonine and tryptophan) and to formulate diets respecting net energy requirements to prevent a deterioration in growth and carcass quality.'*

The proposal is that the pigs will be fed with 3 different diets throughout the life cycle. The crude protein content of the diet at stage 1 will be 17.2 %; stage 2 will be 15.5 % ; and stage 3 will be 13.5%. Stage 1 will be fed for 36% of the cycle; Stage 2 fed at 29% of the cycle; and finally stage 3 at 33% of the cycle. The weighted average feed protein content (over the whole growth cycle) considering the time the pigs will be fed each diet is 15%. When compared to the crude protein benchmark for the year 2000 (19-21%) this is a reduction in crude protein of 4-6%.

These reductions in dietary protein go beyond the 2% (2% is equivalent to 20% ammonia reduction) referenced as BAT. Given there is no documented evidence to support the reductions that could be obtained from reducing crude protein further (beyond 2%) we have only been able to accept the 20% ammonia reduction, which has been applied to the emission factor used in the modelling assessment (see section later in the document). In reality however we would expect the ammonia reductions to be much greater than this.

Occupancy:
The farm will be operated on an 'all in – all out' basis, which is an operating system that keeps animals together in a group.

The farm will take a period of time to fill to maximum numbers (6,990). It will then run for a period of time normally 10 weeks at capacity before being emptied over a period of time as the pigs reach the required slaughter weight.

This will be followed by down time during which repairs and cleaning can be done before the refilling process starts again.

The system has been in operation by the applicant (at other farms) for many years. Each new batch is allocated a scheme number and a computer spread sheet is started for that batch of pigs. A record of pigs in, date, weight, value, feed, pigs out, date, number and value is kept. The computer has a programme to calculate the actual pig days allowing for mortality in the batch.

The computer system calculates the actual days that the pigs have occupied the unit.

The applicant has provided examples of other pig farms run by themselves, of a similar size that have been assessed to calculate the occupancy percentage.

The average occupancy percentage for the 4 examples runs at 77.6 %. Therefore the unit is unoccupied for 22.4 % of the time during a 365 day period. The applicant has requested that occupancy is also considered for ammonia mitigation purposes. We have applied a further 20% ammonia emission reduction based on this evidence for pig occupancy.

Ammonia emissions

There are two Special Area of Conservation (SAC), one Special Protection Area (SPA) within 10km of the installation and six Sites of Special Scientific Interest (SSSI) within 5km. There are 19 other nature conservation sites within 2km, comprising of one Local Nature Reserve (LNR), 17 Local Wildlife Sites (LWS) and one Ancient Woodland (AW).

Ammonia assessment – SAC/SPA/Ramsar

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

- If the process contribution (PC) is below 4% 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 10 km of the application.

Brecklands SAC and Norfolk Valley Fens SAC

Detailed modelling submitted by the applicant [Air Impact Assessment March 2016] has determined that the PC on the SACs for ammonia emissions from the application site are under the 4% significance threshold and can be screened out as having no likely significant effect. See results below.

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.

We noted that the applicant had not included an assessment of Norfolk Valley Fens (SAC). However for our review/assessment we have used the results from Thompson Water Carr and Common (SSSI) which covers exactly the same area as Norfolk Valley Fens (SAC) which has been assessed.

Table 1 – Ammonia emissions

Site	Critical level ammonia µg/m^3	Predicted PC µg/m^3	PC % of Critical level
Brecklands SAC	1*	0.04**	3.6
Norfolk Valley Fens SAC	1*	0.04**	3.6

* Lichens and Bryophytes present information obtained from APIS 18/01/2016
** taken from the applicant's modelling report - the applicant's spreadsheet has automatically rounded up the predicted PC, which should be 0.036 µg/m^3

Where the precautionary level of 1µg/m^3 is used, and the process contribution is assessed to be less than 4% the site automatically screens out as insignificant and no further assessment of critical load is necessary.

No further assessment is necessary.

Brecklands SPA

Table 2 – Ammonia emissions

Site	Critical level ammonia µg/m^3	Predicted PC µg/m^3	PC % of Critical level
Brecklands SPA	3*	0.06**	1.9

* Lichens and Bryophytes present information obtained from APIS 09/03/2016 (Operator) 18/01/2016 (Environment Agency)
** taken from the applicants modelling report which has included a 20% ammonia reduction for applying a low protein diet, the applicant's spreadsheet has automatically rounded up the predicted PC, which should be 0.057 µg/m^3

Table 3 – Nitrogen deposition

Site	Critical load kg N/ha/yr *	Predicted PC kg N/ha/yr	PC % of critical load
Brecklands SPA	10	0.36 **	3.6

* Critical load values taken from Air Pollution Information System (APIS) website (www.apis.ac.uk) – 09/03/2016 – Information from Critical load ranges for use in air pollution impact assessment it recommends for coniferous forest with a critical load of 5 -15 kgN/ha/yr the value of 10 kgN/ha/yr should be used for detailed assessment if no lichens and bryophytes are present.
**taken from the applicant's modelling report which has included a 20% ammonia reduction for applying a low protein diet, - and in addition we have applied a further 20% reduction to account for occupancy as the farm will not be continuously stocked to full capacity.

Table 4 – Acid deposition

Site	Critical load keq/ha/yr *	Predicted PC keq/ha/yr	PC % of critical load
Brecklands (SPA)	0.536	0.024**	4.4

* Critical load values taken from APIS website (www.apis.ac.uk) - 09/03/2016 (Operator) 18/01/2016 (Environment Agency)
**taken from the applicant's modelling report which has included a 20% ammonia reduction for applying a low protein diet, - and in addition we have applied a further 20% reduction to account for occupancy as the farm will not be continuously stocked to full capacity.

The applicant's detailed modelling has determined that the process contributions of acid deposition from the application site are over the 4% threshold, even after applying the 20% reduction for occupancy and are therefore potentially significant. An in-combination assessment has been carried out. There are 21 other farms potentially acting in-combination with this application. A detailed assessment has been carried out as shown below.

A search of all existing active intensive agriculture installations permitted by the Environment Agency has identified the following farms within 10 km of the maximum concentration point for Brecklands SPA.

Table 5 – In combination farms assessment for acid deposition

Application	Reference Number	Receptor location	Estimated acid deposition PC (keq/ha/yr)	PC % of CLo* (see note 1)
Scolton Poultry Unit	EPR/EP132FQ	598200, 298100	0.009	1.7
Frostrow Farm Poultry Unit	EPR/HP3138FN	600450, 301350	0.064	11.9
Hingham Road Poultry Unit	EPR/AP3933UM	601800, 298800	0.002	0.4
Stallards Farm	EPR/PP3232VM	602200, 298700	0.006	1.1
Woodland Duck Farm	EPR/PP3732VN	610200, 298500	0.015	2.8
Peels Farm	EPR/HP937GU	597740, 295400	0.075	14
The Willows Pig Farm	EPR/TP3737MR	597600, 294860	0.092	17.2
Lyng Farm	EPR/WP3734TQ	602400, 295200	0.006	1.1
West Carr Poultry Unit	EPR/NP3936ZS	602200, 294500	0.01	1.9
High View Farm	EPR/KP3631TL	597490, 293670	0.066	12.3
Populars Farm	EPR/RP3030KF	596940, 292580	0.031	5.8
Shropham Mobile Site	EPR/RP3433NM	597200, 292300	0.023	4.3
Snetterton Farm	EPR/UP3236NT	598500, 288700	0.011	2.1
Snetterton Poultry Farm	EPR/EP3132FQ	600690, 290840	0.019	3.5
Barn Farm	EPR/PP3931FP	597870, 286210	0.009	1.7
Barradale Farm	EPR/EP3836AV	596520, 290320	0.008	1.5
Cuttings Farm	EPR/AP3533UD	592920, 288940	0.015	2.8
Bridge Farm	EPR/RP3236TC	592730, 289850	0.026	4.9
Middle Farm and Saw Pitt Farm	EPR/EP3932NQ	591390, 290320	0.027	5.0
West Farm Pig Unit	EPR/RP3137MV	594640, 292350	0.271	50.6
Brookside Poultry Unit	EPR/VP3332VC	594720, 294130	2.043	381.2
Cherry Tree Farm	EPR/UP3936RL	595581, 295410	0.03	4.4
Total (ΣPCs)				511.4%
Note 1: For in-combination assessments we only consider PCs > 4% of the CLo				

* Critical load values taken from Air Pollution Information System (APIS) website (www.apis.ac.uk) – 18/01/16. Critical load of 0.536 keq/ha/yr used.

The predicted process contributions for each of the farms listed above are calculated using the Environment Agency's Ammonia Screening Tool version 4.5 (ASTv4.5). The values are conservative in their estimate of process contributions and thus may potentially predict a greater impact than would be predicted if detailed modelling was undertaken for each farm.

The assessment above shows that there is a potential for an impact on the interest features of Breckland SPA, however we anticipate that this will be unlikely in reality. The following bullet points provide further clarity on the activities being proposed at Cherry Tree Farm, and as a result of this information, we have concluded that there will be no adverse effect from Cherry Tree Farm alone and in-combination at Breckland SPA.

- **Further reduction in dietary protein**

The reductions in dietary protein go further than the 2% (2% is equivalent to 20% ammonia reduction) referenced as Best Available Technology in the BREF document. However given there is no documented evidence to support the reductions that could be obtained from reducing crude protein further (up to 4.7%) we have only been able to apply the 20% ammonia reduction, which has been applied to the emission factor used in the screening / modelling assessment . In reality however we would expect the ammonia reductions to be much greater than this.

- **Further considerations /activities for reducing ammonia**

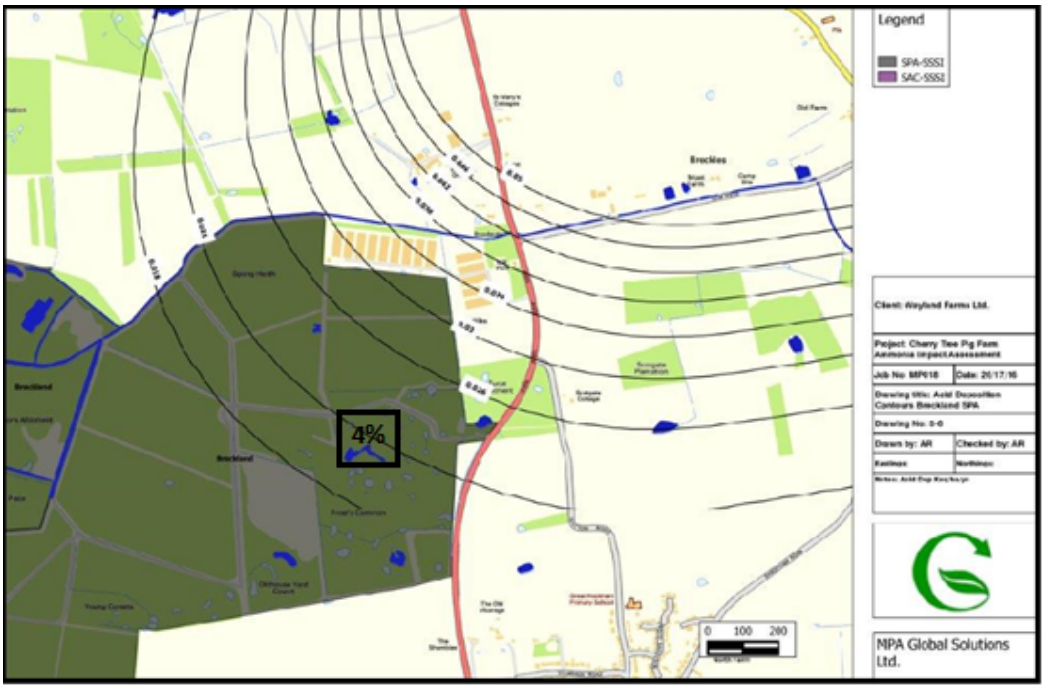
In addition to the low protein diet the following measure will also be applied :-

  - Manure will be removed daily from all buildings with the exception of building 5 (140 pigs) which will be operated as a deep straw bed system.
  - Straw bedding will be used to absorb liquids and bind together excreta
  - The manure storage area will be kept covered and manure removed frequently to field storage areas prior to landspreading.
  - Good housekeeping measures will be applied to the pig houses and surrounding areas to ensure they are kept clean.

- **The extent of the acid deposition exceedance 'alone' and the type of habitat**

The plan below shows the acid deposition contours for impacts from Cherry Tree Farm, where 0.21 Keq/ha/year is equivalent to 4% CLo for acidity. The extent of the exceedance of the acid deposition threshold for Breckland SAC is very small compared to full extent of the conservation site, with the exceedance being just limited to the extreme top north-west tip of the SAC in an area known as Frost Common. This habitat is a mixture of broadleaf and conifer woodland. Information from APIS states (for Breckland SPA) that for the European Nightjar and Woodlark for a broad habitat type of coniferous woodland and dwarf shrub heath, also for Stone curlew on neutral grassland/arable/horticulture……. **'no expected negative impact on the species due to impacts on the species' broad habitat.'**

Figure 1: Plan to show Acid deposition contours (0.21Keq/ha/year = 4%CLo for acidity)



The farm shown on figure 1 at the northwest tip of the SAC (shaded in dark green) is is a poultry farm not Cherry Tree Farm.

- **In combination assessment**

Cherry Tree Farm is located within an area heavily populated with other farms. The in combination assessment shows that for acidity at Breckland SPA the result is signicantly >20% and the 0.4% 'alone' exceedence is insignificant when compared to the overall background figure already exisiting.

As a result of the bullet points listed above, we have concluded that there will be no adverse effect from acid deposition at Cherry Tree Farm alone or in-combination on Breckland SPA qualifying features. This conclusion is based on

APIS……. **'no expected negative impact on the species due to impacts on the species' broad habitat.'**

And also the assumption that where all of the 'further considerations/activities for reducing ammonia' (as listed in the above bullet points) proposed by Cherry Tree Farm are implemented, the threshold for acid deposition would not be exceeded by the farm alone (*i.e. it would be <4%*) and as a result of this, further consideration of acid deposition in-combination with other relevant intensive farms would not be required.

We consulted with Natural England on the 11/11/2016, they responded on the 15/12/2016 and agreed with our conclusion, that the installation is not likely to have a significant effect on European sites(specifically the Breckland Special Protection Area), either alone, or in combination with other plans or projects.

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 application.

Initial screening using the ammonia screening tool version 4.5 has indicated that emissions from Cherry Tree Farm will only have a potential impact on SSSI sites with a precautionary critical level of 1µg/m^3 if they are within 2702 metres of the emission source.

Beyond 2702m 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 the 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 7 – SSSI Assessment

Name of SSSI	Distance from site (m)
Stanford Training Centre	4063
Breckland Farmland	4461
Wayland Wood (Walton)	4722

Screening using the detailed modelling [Air Impact Assessment March 2016] has indicated that the PC for Thompson Water, Carr & Common; Brecklands Forest and Cranberry Rough Hockham is predicted to be less than 20% of the critical level for ammonia emissions/nitrogen deposition/acid deposition therefore it is possible to conclude no damage. The results of the ammonia screening tool version 4.5 are given in the tables below.

The ammonia modelling assessment has been audited in detail by our Air Quality Modelling and Assessment Unit and we have confidence that we can agree with the report conclusions.

Table 8 – Ammonia emissions

Site	Ammonia CIe (µg/m^3)	PC (µg/m^3)	PC % critical level
Thompson Water, Carr & Common SSSI	1*	0.04	4
Breckland Forest SSSI	3**	0.06	1.9
Cranberry Rough Hockham SSSI	1*	0.03	2.8

* A CLe of 1 µg/m^3 has been assigned using information obtained from APIS 18/01/2016 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.
**CLe of 3 µg/m^3 assigned using information obtained from APIS 18/01/2016

For Thompson Water Carr & Common SSSI and Cranberry Rough Hockham SSSI where a critical level of 1 has been used no further assessment is necessary.

Table 9 – Nitrogen deposition

Site	Critical load kg N/ha/yr *	PC kg N/ha/yr	PC % critical load
Breckland Forest SSSI	10	0.45	4.5

* Critical load values taken from Air Pollution Information System (APIS) website (www.apis.ac.uk) – 09/03/2016 – Information from CLo ranges for use in air pollution impact assessment it recommends for coniferous forest with a critical load of 5 -15 kgN/ha/yr the value of 10 kgN/ha/yr should be used for detailed assessment if no lichens and bryophytes are present.

Table 10 – Acid deposition

Site	Critical load keq/ha/yr *	PC keq/ha/yr	PC % critical load
Breckland Forest SSSI	0.536	0.03	6

* Critical load values taken from APIS website (www.apis.ac.uk) - 09/03/2016 (Operator) 18/01/2016 (Environment Agency)

No further assessment is required.

Ammonia assessment - LWS/AW/LNR

The following trigger thresholds have been applied for the assessment of these sites:

- If the process contribution (PC) is below 100% of the relevant critical level (CLe) or critical load (CLo) then the farm can be permitted with no further assessment.

Initial screening using ammonia screening tool version 4.5 has indicated that emissions from Cherry Tree 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 1047 metres of the emission source. This figure can be found on the pre-application screening results spreadsheet.

Beyond 1047m the PC is less than 1µg/m^3 and therefore beyond this distance the PC is insignificant. In this case the LWS/AW/LNRs listed in Table 11 below are beyond this distance and therefore screen out of any further assessment.

Table 11 – LWS/AW/LNR Assessment

Name of LWS/AW/LNR	Distance from site (m)
Great Eastern Pingo Trails LNR	1810
The Spinney LWS	1634
Caston Common LWS	1366
Lower Stow Bredon Hall LWS	1844
Furze Allotment LWS	1974
Stow Bredon Meadow LWS	1960
Lower Stow Bedon LWS	1833
Breckles Wood LWS	1554
Breckles Moor LWS	1511
Shropham Hall Grounds LWS	1869
North of Lower Stow Bedon LWS	1924
Unknown (Great Gove) AW	1932

For sites within 1047m, screening using ASTv4.5 have determined that the PCs on the LWS/AW/LNRs listed in Tables 12 – 14 below for ammonia emissions, nitrogen deposition and acid deposition from the application site are under the 100% significance threshold and can be screened out as having no likely significant effect.

Table 12 - Ammonia emissions

Site	Critical level* ammonia µg/m^3	Predicted PC µg/m^3	PC % of critical level
West of Stow Bedon Mere LWS	3	1.33	44
East of Stow Bedon LWS	3	1.35	44.9
Stow Bedon Mere LWS	3	1.33	44.4
Adjacent to Mere Road LWS	3	2.16	72.1
Land in Stow Bedon LWS	3	2.29	76.2

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

Table 13 – Nitrogen deposition

Site	Critical load Nitrogen	Predicted PC	PC % of critical level

	deposition* KgN/ha/yr	KgN/ha/yr	
West of Stow Bedon Mere LWS	10	6.9	69.2
East of Stow Bedon LWS	20	7.0	35
Stow Bedon Mere LWS	10	6.92	69.2
Adjacent to Mere Road LWS	20	11.24	56.2
Land in Stow Bedon LWS	20	11.88	17.7

*Critical Load taken from Pre-application report

Table 14 – Acid deposition

Site	Critical load acid deposition keq/ha/yr *	Predicted keq/ha/yr	PC % of critical level
West of Stow Bedon Mere LWS	1.21	0.49	40.8
East of Stow Bedon LWS	4.78	0.5	10.5
Stow Bedon Mere LWS	1.21	0.49	40.8
Adjacent to Mere Road LWS	4.78	0.80	16.8
Land in Stow Bedon LWS	4.78	0.85	17.7

*Critical Load taken from Pre-application report

No further assessment is required.

For sites within 1047m, screening using detailed modelling [Air Quality Impact Assessment March 2016] have determined that the PCs on the LWS/AW/LNRs listed in Tables 15 – 17 below for ammonia emissions, nitrogen deposition and acid deposition from the application site are under the 100% significance threshold and can be screened out as having no likely significant effect.

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 15 - Ammonia emissions

Site	Critical level* ammonia $\mu g/m^3$	Predicted PC $\mu g/m^3$	PC % of critical level
South-east of Stow Bedon Hall LWS	3	1.14	38
Near Stow Bedon Hall LWS	3	0.51	17

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

Table 16 – Nitrogen deposition

Site	Critical load	Predicted	PC % of

	Nitrogen deposition* KgN/ha/yr	PC KgN/ha/yr	critical level
South-east of Stow Bedon Hall LWS	10	8.9	89
Near Stow Bedon Hall LWS	10	3.3	33

*Critical Load taken from Pre-application report

Table 17– Acid deposition

Site	Critical load acid deposition keq/ha/yr *	Predicted keq/ha/yr	PC % of critical level
South-east of Stow Bedon Hall LWS	1.27	0.63	49.9
Near Stow Bedon Hall LWS	1.27	0.874	68.8

*Critical Load taken from Pre-application report

No further assessment is required.

Monitoring - Performance Parameters

The Operator has made a declaration of the maximum protein content of the diet which will be fed to the pigs (Benefits of 3 stage feed system 14/10/2016). This declaration is listed in the operating techniques table S1.2 which means they must operate their site in accordance with this low protein diet regime. In addition the operator will need to present evidence of the reduced protein diet claimed in accordance with reporting condition 4.2.3 (a) and tables S4.1 and S4.2.

Odour

There are sensitive receptors within 400 metres of the installation boundary of Cherry Tree Farm and therefore an odour management plan (OMP) has been provided by the applicant. The nearest properties are as follows:

1. Bowes Farm, a bungalow located within the installation boundary. This dwelling is derelict and will be demolished.

2. Breckles House and Breckles House Annex located approximately 350 metres north of the installation boundary.

A revised OMP was received on the 11/10/2016 . It is considered satisfactory as assessed against the requirements of EPR 6.02 Appendix 4: Odour Management at Intensive Livestock Installations and also our Top Tips Guidance and Pig Industry Good Practice Checklist.
The Operator will be required to manage activities at the installation in accordance with condition 3.3.1 and the OMP.

The OMP includes the following :-

- identifies sensitive receptors within 400 metres of Cherry Tree Farm;
- identifies the odour sources;
- provides details of odour management and control measures;
- provides details of proposed monitoring ; and
- provides details of odour complaints procedures and review of OMP.

The main control measures are as follows:-

- feed selection;
- feed storage and delivery;
- ventilation techniques;
- carcass storage and disposal;
- stocking densities;
- management of drinking water;
- pig movements on and off site; and
- good housekeeping.
- covering of the manure storage area.

Whilst there is a potential for odour pollution from the installation, the overall risk is not significant with careful management and compliance with the OMP.

Noise

There are sensitive receptors within 400 metres of the installation boundary of Cherry Tree Farm and therefore the applicant has provided a noise management plan (NMP).

The operations which have the potential to cause the most noise nuisance are as follows:-

- large vehicles - travelling to and from the farm delivering feed, removing manure, dirty water etc. ;
- small vehicles – travelling to and from the farm , staff cars, courier vans etc;
- feed transfer from lorry to storage bins;
- operation of the fans;
- alarm system and standby generator;
- pigs;
- personnel/site staff;
- repairs; and
- manure collection.

The main control measures are as follows:-

- deliveries made during the day time wherever possible;
- vehicles are used and maintained to minimise engine noise e.g engines turned off when not in use, vehicles driven slowly on site etc;
- roads and tracks are maintained to minimise road noise;

- vehicles with audible ‘vehicle reversing’ warning systems are generally used only in the daytime.
- Tanker filling and emptying done as an intermittent activity

Whilst there is a potential for noise nuisance from the installation, the overall risk is not significant with careful management and compliance with the NMP.

Annex 1: decision checklist
This document should be read in conjunction with the application, supporting information and permit.

Aspect considered	Justification / Detail	Criteria met Yes
Receipt of submission		
Confidential information	A claim for commercial or industrial confidentiality has not been made.	✓
Identifying confidential information	We have not identified information provided as part of the application that we consider to be confidential. The decision was taken in accordance with our guidance on commercial confidentiality.	✓
Consultation		
Scope of consultation	The consultation requirements were identified and implemented. The decision was taken in accordance with our Public Participation Statement and our Working Together Agreements. For this application we consulted the following bodies: • Health and Safety Executive • Brecklands Council Environmental Health	✓
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 our guidance on what a legal operator is.	✓
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.	✓

Aspect considered	Justification / Detail	Criteria met Yes
Site condition report	The operator has provided a description of the condition of the site. We consider this description is satisfactory. The decision was taken in accordance with our guidance on site condition reports and baseline reporting under IED– guidance and templates (H5).	✓
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 permitting process. We consider that the application will not affect the features of the site. **Please refer to Key Issues section Ammonia Assessment for further information.** An Appendix 11/12 has been sent to Natural England for consultation (dated 11/11/16) and saved on the Environment Agency's Electronic Document and Records Management system (EDRM). Natural England responded on the 15/12/2016 and agreed with our conclusion, that the installation is not likely to have a significant effect on European sites (specifically the Breckland Special Protection Area), either alone, or in combination with other plans or projects.	✓
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. The assessment shows that, applying the conservative criteria in our guidance on Environmental Risk Assessment, all emissions may be categorised as environmentally insignificant.	✓
Operating techniques	We have reviewed the techniques used by the operator and compared these with the relevant guidance notes. The operating techniques include the following:	✓

Aspect considered	Justification / Detail	Criteria met Yes
	• Five pig houses are naturally ventilated through the sidewalls and gable ends as a result of Yorkshire boarding. In addition five new pig houses are roof ventilated with stack heights for 7 metres and a fan efflux velocity of greater than 10m/s • Manure dirty wash water is exported off site and is spread on land either owned by the operator or third parties • Roof water drains to soakaways or grassed areas acting as soakaways • Sealed and collision-protected feed storage bins • Carcasses are collected daily and stored in a secure container on site prior to disposal contractor in accordance with the Animal By-Products regulations. • Phosphorous and protein levels are reduced over the production and growing cycle by providing different feeds The proposed techniques for priorities for control are in line with the benchmark levels contained in the SGN EPR6.09 and we consider them to represent appropriate techniques for the facility. The permit conditions ensure compliance with relevant BREFs and BAT Conclusions. **Odour Management Plan** We, the Environment Agency, have reviewed and approved the Odour Management Plan and consider 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.	
The permit conditions		
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.	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
Emission limits	We have decided that emission limits should be not set 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 our guidance on what a competent operator is.	✓
Relevant convictions	The Case Management System and National Enforcement Database have been checked to ensure that all relevant convictions have been declared. No relevant convictions were found.	✓
Financial provision	There is no known reason to consider that the operator will not be financially able to comply with the permit conditions. The decision was taken in accordance with our guidance on what a competent operator is.	✓

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.

1) Local Authority Environmental Health

Response received on 17/10/2016 from
Environmental Health – Breckland Council
Brief summary of issues raised
They are not aware of any noise or amenity issues, there have been complaints of noise from other farms locally and complaints regarding the level of flies. We recommend pest control measures to include flies.
Summary of actions taken or show how this has been covered
A fly management plan would be required for an intensive farm permit application if the site has a history of fly nuisance complaints (therefore would be rarely included in a new bespoke permit application). All new, modern permits have a specific pest condition that allows the Environment Agency if required to request fly management plans. *3.6.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.* *3.6.2 The operator shall:*

(a) *if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;*

(b) *implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.*

This should be sufficient to ensure pest control.

Reponses not received

The Health and Safety Executive (HSE) was also consulted; however, a consultation response was not received.

The application was also advertised on the www.gov.uk website, from the 23/09/2016 until 21/10/2016, but no comments were received.