Pre-application Report

To: [redacted] (on behalf of Wayland Farms Limited)

Pre-application number: EPR/XP3632QE/V003

Methwold Farm Pig Unit (comprising Airfield Farm, Feltwell Farm and Methwold Farm)
Brandon Road
Methwold
Thetford
Norfolk
IP26 4RJ

Date Completed – 28/07/22

Thank you for seeking advice before submitting an application for an Environmental Permit.

We have completed an initial ammonia screening assessment for your proposal to identify if you will need to submit a detailed modelling assessment with your application.

The screening assessment is based on your proposal to increase the permitted number of animal places at Methwold Farm Pig Unit to 14,000 production pigs over 30 kg and 870,000 broiler places.

Summary of the assessment:

The ammonia screening results carried out by the Environment Agency are only intended to apply to any EPR permit application and not for use in local council planning submissions.

Based on the information you have provided you will need to submit detailed modelling with your application. Further information about the screening results is provided in detail in Annex 1.

It will generally be necessary to employ experienced consultants to undertake this work. For more information about consultants, you could contact your industry body representative or refer to the ENDs Directory:
http://www.endsdirectory.com/

A useful guide to choosing and using an environmental consultant can be found on the government's online resource for businesses 'Business Link':
http://webarchive.nationalarchives.gov.uk/20120823131012/http://www.businesslink.gov.uk/bdotg/action/detail?itemId=1079422318&type=RESOURCES

When completed, please include the detailed modelling report and supporting modelling files with your H1 Environmental Risk Assessment and submit these with your completed application form to the address given below.

For an example H1 Environmental Risk Assessment refer to the example Intensive Farming EPR application available on the national archives for Environment Agency Website:
http://webarchive.nationalarchives.gov.uk/20140328084622/http://www.environment-agency.gov.uk/business/sectors/40057.aspx

The Nature Conservation, Landscape and Heritage Factsheet screening lists all the sites that we currently consider when screening. The table details the supporting legislation and policies and the lead organisations for the protected area / species. Please note not all the sites listed are relevant to the Intensive Farming sector.
It is available on the Environment Agency website:
http://webarchive.nationalarchives.gov.uk/20140328084622/http://cdn.environment-agency.gov.uk/geho0612burd-e-e.pdf

Applying for your permit

You will need to complete application form part C3.5
https://www.gov.uk/government/publications/application-to-vary-an-environmental-permit-part-c35

Your application should be emailed to:
PSC@environment-agency.gov.uk

or sent to:

Environment Agency Permitting and Support Centre
Environmental Permitting Team
Quadrant 2
99 Parkway Avenue
Parkway Business Park
Sheffield
S9 4WF

If you need further information about this screening assessment or applying for your permit, please email us at the following address:

preapplicationservice@environment-agency.gov.uk

Pre-application nature conservation data are correct at the time of screening. We will consider all nature conservation sites using best available information at the time of permitting. Our GIS data are updated regularly, and we are occasionally

made aware of additional nature conservation sites by other organisations which we will consider when determining a permit.

The Environment Agency takes care to ensure that the conclusions of the screening assessment are correct at the time of preparation but reserves the right to change the basis of the assessment in the light of technical developments or changes in Environment Agency procedures.

Annex 1 Ammonia Screening Results

Screening Input

Grid Reference used for the assessment: 573212, 292765 (with a 765m buffer)

Animal numbers and types

Animal numbers and types, housing systems, manure and slurry storage assessed are listed below. The animal numbers and emission factors are based on an interpretation of the information provided by the applicant during the pre-application process and have been used in this initial risk assessment to identify if modelling is necessary.

It is strongly recommended that the numbers of animal places by category, ventilation type and housing system is reviewed, and appropriate emission factors are assigned before undertaking the detailed modelling assessment.

Category of livestock	Housing system	Number of animal places	Ammonia emission factor (kg NH3/animal place/year)
Broilers	Fan ventilated fully littered floor, non-leaking drinkers Roof ventilation only (vents greater than 5.5 metres high, fan efflux velocity at or greater than 11 m/s)*	870,000	0.034
Pigs >30 kg and unserved gilts	Solid Floor – straw system Side ventilation, natural or combination ventilation - inlet gale breaker curtains on side of houses	14,000	2[1]

* this can include gable end fans that are used for heat extraction only during the summer months

[1] Emission factor based on AHDB monitoring studies.

Manure Storage

Storage type	Maximum tonnage of fresh manure stored at any one time	Ammonia emission factor kg NH_3 / tonne fresh manure / year
Manure heap	600	1.49

Slurry Storage

Storage type	Cover	Floor area of store (m^2)	Ammonia emission factor kg NH_3 / m^2 / year
Slurry – lagoon	Floating cover	3,667	0.56

If you decided to alter your proposal by increasing the number of animal places or by changing the animal housing type or by increasing the manure or slurry storage you should include these changes in your modelling report.

Screening Overview

This screening assessment has considered any Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites within 5km, any Sites of Special Scientific Interest (SSSI) within 5km and also any National Nature Reserves (NNR), Local Nature Reserves (LNR), ancient woodlands and Local Wildlife Sites (LWS) within 2km of the farm.

We have used the Environment Agency's Ammonia Screening Tool (AST v4.6) to assess the impact of your proposal at those sites identified within the above distance criteria.

We have applied a two-stage screening criteria to the ammonia screening tool results:

For SAC, SPA, Ramsar and SSSIs the screening assessment has taken into account other intensive farms that could act in combination with the proposal, where applicable.

Where the ammonia screening tool predicts that emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) will be <Y% (see Table 1 below) of the relevant Critical Level (CLe) (ammonia) or Critical Load (CLo) (nutrient nitrogen or acid), the proposal screens out of the requirement for an ammonia assessment.

Further modelling is required where:

- emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) are in excess of Z% of the relevant CLe or CLo at SSSIs and/or other nature conservation sites (e.g. NNR, LNR, LWS, ancient woodland);

- emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) are in excess of Y% of the relevant CLe or CLo for a SAC, SPA or Ramsar site;

- there is the potential for an in-combination effect with existing farms at a SSSI if emissions are > Y% of the critical level or critical load;

- the proposal is within 250m of a nature conservation site.

Table 1 Screening thresholds

Designation	Y%	Z%
SAC, SPA, Ramsar	4	20
SSSI	20	50
NNR, LNR, LWS, ancient woodland	100	100

Screening Results

The ammonia screening tool predicts that emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) will be between Y and Z% at the SSSIs listed in Tables 2 and 3 below. However, there are currently no other farms that could act in-combination with the proposal, therefore detailed modelling is not required.

Table 2 Assessment of ammonia emissions

Site Name	Designation / Status	Ammonia Critical Level (µg/m^3)	Process contribution (PC) (µg/m^3)	PC as % Critical Level
Weeting Heath	SSSI	1	0.495	49.5
Breckland Farmland	SSSI	3	1.351	45.0
The Brinks, Northwold	SSSI	3	0.617	20.6

Table 3 Assessment of nutrient nitrogen deposition

Site Name	Designation / Status	Nutrient Nitrogen Critical Load (kg N/ha/yr)	Process contribution (PC) (kg N/ha/yr)	PC as % Critical Load
The Brinks, Northwold	SSSI	15	3.206	21.4

The ammonia screening tool predicts that emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) will be between Y and Z% at the SSSI listed in Table 4 below. However, there are currently other farms that could act in-combination with the proposal, **therefore detailed modelling is required**.

Table 4 Assessment of ammonia emissions

Site Name	Designation / Status	Ammonia Critical Level (µg/m^3)	Process contribution (PC) (µg/m^3)	PC as % Critical Level
Cranwich Camp	SSSI	1	0.383	38.3

The nature conservation sites listed in the tables below require detailed modelling as the emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) are predicted to be > Z% of the relevant Critical Level (ammonia) or Critical Load (nutrient nitrogen or acid). Detailed modelling is therefore required to assess the impact of airborne ammonia at the following sites:

Table 5 Assessment of ammonia emissions

Site Name	Designation / Status	Ammonia Critical Level (µg/m^3)	Process contribution (PC) (µg/m^3)	PC as % Critical Level
Breckland Forest	SSSI	3	10.856	361.9

Table 6 Assessment of nutrient nitrogen deposition

Site Name	Designation / Status	Nutrient Nitrogen Critical Load (kg N/ha/yr)	Process contribution (PC) (kg N/ha/yr)	PC as % Critical Load
Breckland Farmland	SSSI	5	7.015	140.3
Breckland Forest	SSSI	5	56.38	1127.7

Table 7 Assessment of acid deposition

Site Name	Designation / Status	Acid Critical Load (keq/ha/yr)	Process contribution (PC) (keq/ha/yr)	PC as % Critical Load
Breckland Farmland	SSSI	0.536	0.501	93.5
Breckland Forest	SSSI	0.536	4.027	751.3

The SACs and SPA listed in the tables below require detailed modelling as the emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) are predicted to be > Y% of the relevant CLe or CLo. Detailed modelling is therefore required to assess the impact of airborne ammonia at the following sites:

Table 8 Assessment of ammonia emissions

Site Name	Designation / Status	Ammonia Critical Level (µg/m^3)	Process contribution (PC) (µg/m^3)	PC as % Critical Level
Norfolk Valley Fens	SAC	1	0.154	15.4
Breckland	SAC	1	0.495	49.5
Breckland	SPA	3	10.856	361.9

Table 9 Assessment of nutrient nitrogen deposition

Site Name	Designation / Status	Nutrient Nitrogen Critical Load (kg N/ha/yr)	Process contribution (PC) (kg N/ha/yr)	PC as % Critical Load
Breckland	SPA	5	56.38	1127.7

Table 10 Assessment of acid deposition

Site Name	Designation / Status	Acid Critical Load (keq/ha/yr)	Process contribution (PC) (keq/ha/yr)	PC as % Critical Load
Breckland	SPA	0.536	4.027	751.3

In addition to the above we have identified that there are existing permitted farms that could act in-combination with your proposal.

How we decided the sensitivity of the nature conservation site

Relevant Critical Loads were obtained from the Air Pollution Information System.

Relevant Critical Levels were assigned using the best information available at the time from our internal mapping and data application.

Permitting Outcomes

For SAC, SPA, Ramsar a permit may be issued where either:

- the ammonia screening tool indicates that the process contribution is <4% Critical Level and Critical Load

  or

- detailed modelling indicates the process contribution plus contributions from other relevant intensive farms is <20% Critical Level and Critical Load, AND additional checks* during determination are acceptable

  or

- detailed modelling indicates the process contribution plus contributions from other relevant sources plus background is **below** the relevant Critical Level or Critical Load.

Please note (for SACs, SPAs and Ramsar sites only, where detailed ammonia modelling is required):

Following receipt of an application, determination may require an additional, more detailed assessment of the installation's impact on SACs, SPAs and Ramsar sites including, if appropriate, consideration of impacts of other local plans, projects, and non-permitted farms which could act in-combination. It may also include consideration of the condition of the SAC, SPA or Ramsar site and the background concentrations at the sites for ammonia, nitrogen deposition and acid deposition. This potential additional assessment is required to take into consideration recent case law.

The trigger level for completing the additional assessment during determination will be if the process contribution exceeds 1% of the critical level/loads. Following further detailed assessment, we may require the applicant to ensure ammonia emissions do not result in a process contribution at any SAC, SPA or Ramsar that exceeds 1%. We will contact the Applicant when duly making if we require any additional information to assess whether to grant/issue or refuse the variation.

For SSSI, a permit may be issued where the ammonia screening tool or detailed modelling demonstrates that either:

- the process contribution is <20% Critical Level and Critical Load; or
- the process contribution plus contributions from other relevant intensive farms is <50% Critical Level or Critical Load;
- the process contribution plus contributions from other relevant intensive farms plus background is **below** the relevant Critical Level or Critical Load.

Proposing ammonia emission reduction techniques

Where your modelling indicates the predicted process contribution is greater than the allowable thresholds your assessment and application should include ammonia reduction techniques* to reduce the contribution to the allowable threshold.

Where these criteria can not be met a detailed assessment of the proposal will be carried out by the Environment Agency. For SAC, SPA, Ramsar and SSSI we will need to consult with Natural England before the determination of the application can be completed.

Factsheets and guidance about ammonia emissions to the atmosphere and nature conservation, the Environment Agency's assessment process and how to model ammonia emissions from intensive farms can be found on our website at:

http://webarchive.nationalarchives.gov.uk/20140328084622/http://www.environment-agency.gov.uk/business/sectors/40071.aspx

*Please note: for SACs, SPAs and Ramsar sites where additional checks are required during determination, further reduction of ammonia emissions may be required.