

Environment Agency permitting decisions

Bespoke permit

We have decided to grant the permit for Highfield Grange operated by Mr John David Lumley.

The permit number is EP/ZP3630AY.

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.

Description of the main features of the Installation

Highfield Grange is situated approximately 1.5 kilometres north of the village of Aislaby, near Pickering in North Yorkshire. The installation is approximately centred on National Grid Reference SE 77732 86964. The land around the site is predominantly agricultural.

The installation is operated by Mr David Lumley. The farm currently comprises two houses for pigs (Pig Building 1, Pig Building 2). After expansion a further three buildings will house pigs (Proposed Buildings 1 and 2, and Cattle Building). All buildings will house production pigs over 30 kg, on a solid floor, straw-bedded system. The houses combined will have a total capacity for 4,100 production pigs.

Nursery pigs (from three weeks old) are currently reared in batches for 9 to 11 weeks outside in straw pens. When the pigs reach 30kg they will be moved inside for a further 9 to 11 weeks. The buildings are empty for approximately three weeks between batches of pigs. There are four batches of pigs per year.

The proposed buildings will be built to Best Available Technique (BAT) standard. Two of the current houses have been assessed as being BAT. One existing building (Pig Building 1) is not currently BAT, and does not have a straw concrete yard. This is addressed in the improvement conditions. All houses are naturally ventilated. All manure will be stored in either the existing cattle muck midden, the new pig manure store or on a purpose built concrete pad at the end of proposed building 2.

Pigs are fed diets that are matched to the growth stages of the animals, with low levels of crude protein, supplemented with amino acids. Feed is delivered in bulk and stored in secure bins. River flow drinkers are used.

Underground tanks for each building collect dirty water following clean out and each has a metal grate on top to collect solid manure. Roof water from the buildings is directed to soakaways around the site.

Associated food is stored on the installation in sealed food bins. Mortalities are collected daily and stored in a secure container on site for removal under the National Fallen Stock Scheme.

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

Ammonia Impacts

There are two Special Areas of Conservation (SAC) and one Special Protection Area (SPA) within 10km of Highfield Grange. There are seven Sites of Special Scientific Interest (SSSI) within 5 kilometres of the site. There is also one Local Wildlife Site and two Ancient Woodland sites within 2km of the installation. An assessment of the impacts of ammonia from the site has demonstrated that there will be no significant impact on the nature conservation sites from the farm installation, as detailed below.

Assessment of SAC and SPA's

Ellers Wood & Sand Dale SAC is located over 8,100m from the farm site. North York Moors SAC and SPA is located 5,045. From the farm.

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 (CL_e) or critical load (CL_o) 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.

Initial screening using Ammonia Screening Tool v4.4 has indicated that emissions from Highfield Grange will only have a potential impact on Ellers Wood & Sand Dale SAC with a precautionary critical level of $1\mu\text{g}/\text{m}^3$ if they are within 7,420 metres of the emission source.

Initial screening indicates that beyond 7,420m the PC is less than $0.04\mu\text{g}/\text{m}^3$ (i.e. less than 4% of the precautionary $1\mu\text{g}/\text{m}^3$ critical level) and therefore beyond this distance the PC is insignificant. Ellers Wood & Sand Dale SAC is approximately 8,150m from the SAC and therefore screens out of any further assessment.

Where the precautionary level of $1\mu\text{g}/\text{m}^3$ 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. In this case the $1\mu\text{g}/\text{m}^3$ level used has not been confirmed by Natural England, but it is precautionary. It is therefore possible to conclude no likely significant effect on Ellers Wood & Sand Dale SAC.

Assessment of North York Moors SAC and SPA using AST V4.4 has determined that the PC on the SAC and SPA for ammonia and acid deposition from the application site are under the 4% significance threshold and can be screened out as having no likely significant effect. See results below.

Table 1 – Ammonia emissions - North York Moors SAC and SPA

Site	Critical level ammonia $\mu\text{g}/\text{m}^3$	Predicted PC $\mu\text{g}/\text{m}^3$	PC % of Critical level
North York Moors SAC & SPA	3*	0.081	2.7%

*Natural England advised that a CLe of 3 for ammonia should be applied across the SAC/ SPA

Table 2 – Acid deposition - North York Moors SAC and SPA

Site	Critical load keq/ha/yr	Predicted PC keq/ha/yr	PC % of critical load
North York Moors SAC & SPA	4.962**	0.030	0.6%

** Critical load values taken from APIS website (www.apis.ac.uk) – 18/02/2015

No further assessment is necessary for ammonia and acid deposition.

Assessment of North York Moors SAC and SPA using AST V4.4 has determined that the process contributions of nitrogen deposition from the application site is over the 4% significance threshold. As such, it is not possible to conclude no adverse effect alone. Where the process contribution falls between 4% and 20%, Environment Agency guidance indicates that an in combination assessment should be undertaken.

There are three other farms within 10km of the point of the SAC/SPA with the maximum process contribution from Highfield Grange acting in combination with this application. However, the PC of each on the SAC/SPA are less than 4%. The total PC on the SAC/SPA is predicted to be less than 20% critical load significance threshold. It is possible to conclude no adverse effect to the site from the installation and therefore no further assessment is required. See results below.

Table 3 – Nitrogen deposition emissions - North York Moors SAC and SPA

Site	Critical load kg N/ha/yr	Predicted PC kg N/ha/yr	PC % of critical load
North York Moors SAC & SPA	10***	0.423	4.2

***Critical load values taken from APIS website (www.apis.ac.uk) – 18/02/2015

No further assessment of SACs and SPA is required.

Assessment of Site of Special Scientific Interest (SSSI)

The following trigger thresholds have been applied for the assessment of SSSIs. If the PC is less than 20% of relevant CLe or CLo, then the farm can be permitted.

For two SSSIs, initial screening using AST v4.4 has indicated that emissions from the installation are less than $0.2\mu\text{g}/\text{m}^3$ (i.e. less than 20% of the precautionary $1\mu\text{g}/\text{m}^3$ critical level) and it is therefore possible to conclude no damage on these sites (see table 4 below).

Where the precautionary level of $1\mu\text{g}/\text{m}^3$ 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 these cases the $1\mu\text{g}/\text{m}^3$ level used has not been confirmed by Natural England, but it is precautionary. It is therefore possible to conclude no damage on the interest features of these sites.

In addition, Newbridge Quarry SSSI is designated for its geological features, therefore no further assessment of this site from the impacts of ammonia is required.

Table 4 – SSSI Assessment

Name of SSSI	Distance from site (m)
Cawthorn Moor	4,710m
North York Moors	5,045m

For the remaining SSSI's, screening using AST v4.4 has indicated that the PCs are predicted to be less than 20% critical level for ammonia, acid and nitrogen deposition therefore it is possible to conclude no damage to these sites. The results of the ammonia screening tool (version 4.4) are given in the tables below.

Table 5 – Ammonia emissions – SSSI's

Name of SSSI	Ammonia CLe ($\mu\text{g}/\text{m}^3$)	PC ($\mu\text{g}/\text{m}^3$)	PC as % of Critical level
Newtondale	3*	0.240	8%
Haugh and Gundale Slacks	3*	0.343	11.4%
Cropton Banks and Howlgate Head Woods	3*	0.226	7.5%
Bull Ings	3*	0.284	9.5%

*Natural England advised that a CLe of 3 for ammonia should be applied for all SSSI

Table 6 – Nitrogen deposition – SSSI's

Site	Critical load kg N/ha/yr**	PC N/ha/yr	kg	PC % critical load
Newtondale	10	1.245		12.5%
Haugh and Gundale Slacks	15	1.779		11.9%
Cropton Banks and Howlgate Head Woods	15	1.176		7.8%
Bull Ings	20	1.476		7.4%

** Critical load values taken from APIS website (www.apis.ac.uk) – 18/02/2015

Table 7 – Acid deposition – SSSI's

Site	Critical load keq/ha/yr***	PC keq/ha/yr	PC % critical load
Newtondale	1.997	0.089	4.5%
Haugh and Gundale Slacks	4.856	0.127	2.6%
Cropton Banks and Howlgate Head Woods	1.917	0.084	4.4%
Bull Ings	4.856	0.105	2.2%

*** Critical load values taken from APIS website (www.apis.ac.uk) – 18/02/2015

Assessment of Local Wildlife Sites (LWS) and Ancient Woodland (AW)

The following trigger thresholds have been applied for the assessment of LWSs. If the PC is less than 100% of relevant CLe or CLo, then the farm can be permitted.

Screening using AST v4.4 has indicated that the PCs on Cass Hagg Wood AW are predicted to be less than 100% critical level for ammonia, acid and nitrogen deposition therefore it is possible to conclude no damage to these sites. The results of the ammonia screening tool (version 4.4) are given in the tables below.

Table 8 – Ammonia emissions – AW

Name of SSSI	Ammonia CLe ($\mu\text{g}/\text{m}^3$)	PC ($\mu\text{g}/\text{m}^3$)	PC as % of Critical level
Cass Hagg Wood	3*	1.191	39.7%

* CLe3 applied as no protected lichen or bryophytes species were found when checking easimap protected species layer

Table 9 – Nitrogen deposition – AW

Site	Critical load kg N/ha/yr**	PC N/ha/yr	kg	PC % critical load
Cass Hagg Wood	10	6.184		61.48%

** Critical load values taken from APIS website (www.apis.ac.uk) – 18/02/2015

Table 10 – Acid deposition – SSSI's

Site	Critical load keq/ha/yr***	PC keq/ha/yr	PC % critical load
Cass Hagg Wood	10.93	0.442	4.0%

*** Critical load values taken from APIS website (www.apis.ac.uk) – 18/02/2015

No further assessment of Cass Hagg Wood AW is required.

Two other LWS/AW do not screen out using ammonia screening tool v4.4, and therefore required detailed ammonia modelling to be carried out.

Beadale Wood LWS and AW is situated approximately 330m from the farm. For these sites, the farm has screened out, as set out above, using results of the detailed modelling supplied by the applicant as part of the application (Document Reference: *An ammonia concentration and deposition study for the pig unit at Highfield Grange Farm*. ADAS UK Limited. June 2015).

Table 11 - Ammonia Emissions

Site	Critical Level Ammonia µg/m ³	PC µg/m ³	PC % Critical Level
Beadale Wood LWS / AW	3*	1.16	38.73%

* CLe3 applied as no protected lichen or bryophytes species were found when checking easimap protected species layer

Table 12 - Nutrient enrichment - nitrogen

Site	Critical Load nutrient enrichment kg N/ha/yr	PC Kg N/ha/yr	PC % Critical Load
Beadale Wood LWS / AW	10**	9.05	90.52%

** Critical load values taken from APIS website (www.apis.ac.uk) – 18/02/2015

Table 13 - Nutrient enrichment - acid

Site	Critical load keq/ha/yr***	PC keq/ha/yr	PC % critical load
Beadale Wood LWS / AW	1.14**	0.65	56.72%

* Critical load values taken from APIS website (www.apis.ac.uk) – 18/02/2015

The applicants modelling was reviewed by our Air Quality Modelling and Assessment Unit (AQMAU) to confirm the reports conclusions and basic checks were carried out on the modelling files provided. AQMAU confirmed that we can agree with the applicants conclusion that the proposed variation would not result in a significant impact on the neighbouring non-statutory

habitat sites, Beadale Wood LWS and Ancient Woodland. We can therefore have reasonable confidence that the environmental risk is low, and a detailed audit would provide little additional information that would be likely to change this conclusion.

This is based on the following:

- AQMAU ran the applicants model (using AQMAU generated met data, terrain data and time varying emission files) and reviewed their approach and model set up. Preliminary results were in line with the applicants predictions;
- The critical loads and critical levels and background concentrations presented in the consultant's report are appropriate;
- The predicted process contributions are shown to be less than 100% of the critical level or critical load at all selected sensitive receptors. Whilst variation in meteorological data, specific sensitive receptor locations and model input parameters may vary the outputs, it is unlikely that the process contribution would significantly exceed 100% of the relevant assessment parameters.

No further assessment for this site is required.

Annex 1: decision checklist

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

Aspect considered	Justification / Detail	Criteria met
		Yes
Consultation		
Scope of consultation	<p>The consultation requirements were identified and implemented. The decision was taken in accordance with RGN 6 High Profile Sites, our Public Participation Statement and our Working Together Agreements.</p> <p>For this application we consulted the following bodies:</p> <ul style="list-style-type: none"> • Health and Safety Executive; • Ryedale District Council – Planning department; • Ryedale District Council – Environmental Health. 	✓
Responses to consultation and web publicising	<p>The web publicising and consultation responses (Annex 2) were taken into account in the decision.</p> <p>The decision was taken in accordance with our guidance.</p>	✓
Operator		
Control of the facility	<p>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.</p>	✓
European Directives		
Applicable directives	<p>All applicable European directives have been considered in the determination of the application.</p>	✓
The site		
Extent of the site of the facility	<p>The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility.</p> <p>A plan is included in the permit and the operator is required to carry on the permitted activities within the site boundary.</p>	✓
Site condition report	<p>The operator has provided a description of the condition of the site.</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<p>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).</p>	
Biodiversity, Heritage, Landscape and Nature Conservation	<p>The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat .</p> <p>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.</p> <p>Formal consultation has been carried out with Natural England. The consultation responses (Annex 2) were taken into account in the permitting decision.</p>	✓
Environmental Risk Assessment and operating techniques		
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> <p>The assessment shows that, applying the conservative criteria in our guidance on Environmental Risk Assessment, all emissions may be categorised as environmentally insignificant.</p>	✓
Operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes.</p> <p>The operator has proposed the following key techniques:</p> <ul style="list-style-type: none"> • Dirty water storage facilities are in place on site; • Protein is reduced over the growing cycle by providing different feeds and phosphorus levels in rations are reduced over the production cycle. <p>The proposed techniques for priorities for control are in line with the benchmark levels contained in Sector Guidance Note (SGN) EPR6.09 'How to comply with your environmental permit for intensive farming (version 2)' and we consider them to represent appropriate techniques for the facility.</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	We consider that the operating techniques specified in the permit reflect the Best Available Techniques (BAT) for the installation.	
The permit conditions		
Improvement conditions	<p>Based on the information on the application, we consider that we need to impose improvement conditions.</p> <p>We have imposed improvement conditions to ensure that:</p> <ul style="list-style-type: none"> A review of existing pig housing and management practices at the installation shall take into account the appropriate measures in S2.3 of SGN How to Comply – Intensive Farming, Version 2. The plan shall identify measures to reduce emissions to all media, the likely cost of such measures and a proposed timetable for their implementation. The plan shall include specific reference to Pig Building 1 which should be upgraded to meet BAT. 	✓
Incorporating the application	<p>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.</p> <p>These descriptions are specified in the Operating Techniques table in the permit.</p>	✓
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 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>No relevant convictions were found. The operator satisfies the criteria in RGN 5 on Operator Competence.</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
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 RGN 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.

Response received from
Natural England – 2 nd October 2015
Brief summary of issues raised
Natural England confirmed that they agree with our conclusion relating to air quality impacts from ammonia emissions following our processes for dealing with these applications.
Summary of actions taken or show how this has been covered
No action taken.

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

- Health and Safety Executive
- Ryedale District Council – Planning department
- Ryedale District Council – Environmental Health

This proposal was also publicised on the Environment Agency's website between 21/09/2015 and 22/10/2015, but no representations were received during this period.