

Environment Agency permitting decisions

Bespoke permit

We have decided to grant the permit for Highfield Grange operated by Mr Simon Hall, Mr John Hall, Mrs Doreen Hall and Mr David Hall.

The permit number is EPR/KP3439EP

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

Groundwater Vulnerability

The site is underlain by the Corallian Limestone Principal Aquifer and is located within Source Protection Zones 2 and 3 for a groundwater abstraction which is used to supply public drinking water. There is a groundwater abstraction within the site which is licensed for 'General Farming and Domestic use'. The site is therefore also located with the default Source Protection Zone 1 for this abstraction. (A default Source Protection Zone 1 with a radius of 50m is automatically assigned to groundwater abstractions intended for human consumption.). There are no mapped drift deposits in the vicinity of the site, indicating that the bedrock may be encountered at shallow depth. This means that the aquifer may be very vulnerable to pollution.

The licensed groundwater abstraction on the site is included in our groundwater quality monitoring network. Results from ongoing sampling show that there is a rising concentration of nitrate in the groundwater at this location. Further work is being carried out by the Yorkshire GWCL and EM teams to identify the source of this pollution.

Given the importance and the high vulnerability of the underlying aquifer it is extremely important to ensure that potential pollution risks to groundwater associated with the proposed activities will be mitigated and reduced to an acceptable level.

Liquid effluent from the Pens drains via a separate drainage system to a slurry reception pit. It is then transferred to an off-site lagoon where it is stored prior to spreading on land. The environmental risk assessment includes an assessment of the potential risks to groundwater from the management of slurry / effluent and the associated infrastructure. Mitigation measures to prevent pollution of groundwater are identified. The drainage and storage infrastructure has been installed to a high specification and is currently being appropriately managed and maintained. On this basis it is considered unlikely that pollution of land and water will occur.

Groundwater monitoring

As a result of the requirements of the Industrial Emissions Directive, all permits are now required to contain condition 3.1.3 relating to groundwater monitoring. However, the Environment Agency's H5 Guidance states that it is only necessary for the operator to take samples of soil or groundwater and measure levels of contamination where the evidence that there is, or could be existing contamination and:

- The environmental risk assessment has identified that the same contaminants are a particular hazard; or
- The environmental risk assessment has identified that the same contaminants are a hazard and your risk assessment has identified a possible pathway to land or groundwater.

H5 Guidance further states that it is **not essential for the Operator** to take samples of soil or groundwater and measure levels of contamination where:

- The environmental risk assessment identifies no hazards to land or groundwater; or
- Where the environmental risk assessment identifies only limited hazards to land and groundwater and there is no reason to believe that there could be historic contamination by those substances that present the hazard; or
- Where the environmental risk assessment identifies hazards to land and groundwater but there is evidence that there is no historic contamination by those substances that pose the hazard.

The site condition report for Highfield Farm (dated 28th November 2013) and other application documents demonstrated that the hazards to land or groundwater have been mitigated/minimised such that there is little likelihood of pollution and there is no evidence of historic contamination on site.

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

Ammonia Emissions

There are 3 Special Areas of Conservation (SAC), / Special Protection Areas (SPA), / Ramsar sites located within 10km of the installation. There are 7 Sites of Special Scientific Interest (SSSI) located within 5 kilometres of the installation. There are also 4 Local Wildlife Sites (LWS), / Ancient Woodlands (AW), Local Nature Reserves within 2km of the installation.

As a result of the advice of our pre-application screening, the applicant provided “A report on the Modelling of the Dispersion and Deposition of Ammonia from the Proposed Piggery at Highfield Grange Farm, Greengate Lane, Thornton Dale, Pickering in North Yorkshire” dated 28th November. They also provided more information, including a revised predicted impacts table, in an email dated 13/3/14 in response to our schedule 5 notice requesting further information. We will call this report and email as the “applicant’s modelling report” in the rest of this document

The way in which the Applicant used dispersion models, its selection of input data, use of background data and the assumptions it made have been reviewed by the Environment Agency’s Air Quality Modelling and Assessment Unit (AQMAU) to establish the robustness of the Applicant’s air impact

assessment. The output from the model has then been used to inform further assessment of health impacts and impact on habitats and conservation sites. Our review of the Applicant's assessment leads us to agree with the Applicant's conclusions.

Ammonia Assessment – SAC / SPA / Ramsar sites

The following trigger thresholds have been designated for assessment of European sites including Ramsar 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 overlapping in combination assessment will be completed where existing farms are identified within 10km of the application.

North York Moors SAC & SPA,
Screening using the Ammonia Screening Tool (v4.4) shows that the emissions of ammonia are just over 4% for the North York Moors SAC and SPA, the applicant did not model this themselves however AQMAU check modelling has determined that the Process Contribution (PC) for ammonia emissions will be below the 4% significance threshold and can be screened out as having no likely significant effect on the North York Moors SAC and SPA.

A precautionary ammonia critical level of $1 \mu\text{g}/\text{m}^3$ has been assigned to this site. Where the precautionary level of $1 \mu\text{g}/\text{m}^3$ is used, and the process contribution is assessed to be less than the 4% insignificance threshold in this circumstance it is not necessary to further consider Nitrogen Deposition or Acidification Critical Load values.

River Derwent SPA,
The applicant's modelling report has determined that the Process Contribution (PC) on the River Derwent SAC for ammonia, from the application site are under the 4% significance threshold and can be screened out as having no likely significant effect.

A precautionary ammonia critical level of $1 \mu\text{g}/\text{m}^3$ has been assigned to this site. Where the precautionary level of $1 \mu\text{g}/\text{m}^3$ is used, and the process contribution is assessed to be less than the 4% insignificance threshold in this circumstance it is not necessary to further consider Nitrogen Deposition or Acidification Critical Load values.

Ellerswood wood and Sand Dale SAC, Screening using the applicant's modelling report has determined that the process contributions of Ammonia, and N deposition from the application site are just over the 4% threshold, and are therefore potentially significant. As such, it is not possible to conclude no likely significant effect alone. Where the process contribution falls between 4% and 20%, Environment Agency guidance indicates that an in combination assessment should be undertaken.

The results of the applicant's modelling report are given in tables 1 & 2 below:

Table 1 – Ammonia Emissions

Site	Critical Level Ammonia $\mu\text{g}/\text{m}^3$	Predicted Process Contribution $\mu\text{g}/\text{m}^3$	% of Critical Level
Ellerswood wood and Sand Dale SAC	1	0.05	5.5%

Table 2 – N deposition

Site	Critical Load kg N/ha/yr	PC Kg N/ha/yr	PC % Critical Load
Ellerswood wood and Sand Dale SAC	5	0.28	5.7

An in-combination assessment has been carried out. There are 3 other farms acting in-combination with this application. A detailed assessment has been carried out. A search of all existing active intensive agriculture installations permitted by the Environment Agency has identified the following farms within 10km of the maximum concentration point for Ellerswood wood and Sand Dale SAC:

- South View Poultry Farm,
- Middle Flat Farm and
- Elm house farm.

However the emissions from all 3 of these farms have been assessed to be insignificant and so do not count as part of any in-combination assessment. Therefore the in-combination effects will be well below the 20% threshold.

In line with Environment Agency guidelines, where the ΣPC is <20% of the Critical Level/load, in-combination impacts can be considered as not having a likely significant effect, therefore we have concluded no likely significant effect from in-combination impacts at the SAC.

It is also worth noting that the applicant modelled for 7 boars in boar pens 2, however they have stated that they will not have boars in these pens. Our check modelling has shown that removing these pigs actually brings the ammonia PC down below the 4% insignificance threshold.

Ammonia Assessment – SSSI's

The following trigger thresholds have been applied for assessment of SSSI's. 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 (v4.4) and, where required, the applicants modelling has indicated that the PC for all the SSSI's (other than Eller's Wood and Sand Dale SSSI) is predicted to be less than 20% of the Critical Level for ammonia, acid and N deposition therefore it is possible to conclude no damage. The results of the ammonia screening tool v4.4 and applicant modelling are given in the tables below. As to be expected the applicant's dispersion modelling gives lower results and these figures (where available) have been used in our conclusions.

Table 3 Ammonia Screening tool results for SSSI's and applicants modelling results in brackets where required

Habitat Type	Habitat Name	Ammonia Screening Tool Predicted Ammonia (ug/m3)	CLe Ammonia	PC as % of CLe Ammonia
e.g. SAC/SSSI/LWS			µg/m ³	%
SSSI	HAUGH AND GUNDALE SLACKS	0.227	3	7.57
SSSI	ELLERBURN BANK	0.393 (0.07)	1	39.30 (7)
SSSI	NEWTONDALE	0.469	3	15.63
SSSI	ELLER'S WOOD AND SAND DALE	0.368	1	36.80
SSSI	SEIVE DALE FEN	0.133	1	13.30
SSSI	NEWBRIDGE QUARRY	0.261	N/A	N/A
SSSI	NABGATE	0.223 (0.08)	1	22.30 (8.3)

Where the precautionary level of 1µg/m³ 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

Acidification Critical Load values. In these cases the 1µg/m³ level used has not been confirmed, but it is precautionary.

For Newtondale and Haugh & Gundaes Slacks SSSI's the Nitrogen Deposition or Acidification was also assessed using the screening tool as their ammonia modelling used 3µg/m³:

Table 4 Ammonia Screening tool results for SSSI's, and applicants modelling results in brackets where required, for Acid and N Deposition

Habitat Type	Habitat Name	Ammonia Screening Tool Predicted Deposition (N) - kg/ha/yr	Predicted Acidification (converted from AST Predicted Deposition (N)) in keq/ha/yr	Clo N Deposition kg N/ha/year	Clo Acid Deposition keq/ha/yr	PC as % of Clo N Deposition %	PC as % of Clo Acid Deposition %
SSSI	HAUGH AND GUNDALE SLACKS	1.179	0.084	5	1.14	23.6	7.4
SSSI	NEWTONDAL E	2.434 (0.65)	0.174 (0.05)	5	1.14	48.7 (13.0)	15.3 (4.1)

Eller's Wood and Sand Dale SSSI,

Initial modelling using the Ammonia Screening Tool v4.4 has determined that the process contributions of ammonia from the application site are over the 20% threshold, and therefore may cause damage to features of the SSSI. An in-combination assessment has therefore been carried out.

There are no other farms acting in-combination with this application. The PC is predicted to be 36.8% which is below the 50% Critical Level threshold. Under Environment Agency guidelines it is therefore possible to conclude no damage to the site from the installation, no further assessment is required.

Ammonia assessment - LWS/AW

There are 4 Local Wildlife Sites (LWS) / Ancient Woodlands (AW) within 2 km of Highfield Farm Farm. 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, as set out above, using results in the applicant's modelling report:

Table 5 - Ammonia Emissions

Site	Critical Level Ammonia $\mu\text{g}/\text{m}^3$	PC $\mu\text{g}/\text{m}^3$	PC % Critical Level
Ellerburn Wood	3*	1.0	33.3%
Hagg Wood	3*	0.4	13.4%
Howl Dale wood	3*	0.52	17.2%
Buffit Wood	3*	0.33	11.1%

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

Table 6 - Nutrient enrichment - nitrogen

Site	Critical Load nutrient enrichment kg N/ha/yr	PC Kg N/ha/yr	PC % Critical Load
Ellerburn Wood	10*	7.77	77.7%
Hagg Wood	10*	3.14	31.4%
Howl Dale wood	10*	4.03	40.3%
Buffit Wood	10*	2.59	25.9%

* Critical load values taken from APIS website

Table 7 - Acidification

Site	Critical Load acidification keq/ha/yr	PC Kg Keq/ha/yr	PC % Critical Load
Ellerburn Wood	1.14*	0.56	48.7%
Hagg Wood	1.14*	0.22	19.7%
Howl Dale wood	1.14*	0.29	25.3%
Buffit Wood	1.14*	0.18	16.2%

* Critical load values taken from APIS website

No further assessment for these sites is required.

The applicants modelling report is based on the conversion of the older finishing shed to having roof fans in line with their new finishing shed. The applicant has stated they will only do this if required by us. We have assessed the impact of not converting the shed and this could result in a PC of over 100% at Ellerburn Wood, and so we have set an improvement condition to ensure that the conversion is completed.

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 RGN 6 High Profile Sites, our Public Participation Statement and our Working Together Agreements.	✓
Responses to	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 EPR RGN 1 Understanding the meaning of operator.	✓
The facility		
The regulated facility	The extent/nature of the facilities taking place at the site required clarification. The applicant confirmed that the biomass boiler on site is only used by the farm office and farm houses and consequently does not form part of the installation. The slurry lagoon is 2 miles away from the site and is not considered part of the installation. The decision on the facility was taken in accordance with RGN 2 interpretation of installation.	✓
European Directives		
Applicable directives	All applicable European directives have been considered in the determination of the application.	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	The Environmental Permitting (England and Wales) (Amendment) Regulations 2013 were made on the 20 February 2014 and came into force on 27 February 2014. These Regulations transpose the requirements of the Industrial Emissions Directive (IED). This permit implements the requirements of the EU Directive on Industrial Emissions.	
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>The original installation included fields to the west of the facility as part of the installation. These have been removed from the installation boundary in agreement with the applicant.</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> <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> <p>Further details on the SCR are given in the key issues section of this document</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 sites.</p> <p>Further details on the assessment can be found in the</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<p>key issues section of this document</p> <p>In accordance with our guidance, as there are statutory sites within 10km of the installation, we are required to complete an Appendix 11 Habitats Directive Assessment for the SACs and SPA and an Appendix 4 CRoW Act Assessment for the SSSIs for auditing purposes only. This was done on 20/03/2014.</p> <p>We have not formally consulted on the application. The decision was taken in accordance with our guidance.</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 with the exception of:</p> <ul style="list-style-type: none"> • ammonia which is discussed in detail in the key issues section of this document • odour which is not expected to be significant, especially as they have an odour management plan in place and are over 400m from the nearest sensitive receptor. • noise which is not expected to be significant, especially as they have an noise management plan in place and are over 400m from the nearest sensitive receptor. 	✓
Operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes.</p> <p>The farm has a smaller slurry reception pit which holds approximately 50m³. The purpose of this pit is simply to allow the slurry tanker to remove the slurry from the sheds as the finisher sheds are gravity fed into the reception pit through an 8inch pipe. Slurry is removed from all buildings on approximately a monthly basis (although they are capable of five months worth or</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<p>storage) and is mixed prior to removal to prevent blockages in the pipes and reduce sediment in the slurry pits. Slurry is removed on a regular basis using a sealed tanker and either spread on the operators own land or taken to the secure lagoon depending on season and nutrient requirement of the crops in accordance with their manure management plan and Nitrate Vulnerable Zone (NVZ) regulations.</p> <p>Only lightly contaminated water and clean water is fed into soakaways (from shed roofs which is considered lightly contaminated), any water which is potentially contaminated from farm yard manure or milling activities is fed into dirty water tanks or slurry pits.</p> <p>The sow house and boar pens are the only buildings not on a slatted surface so require straw bedding. They are cleaned out 3 times weekly using a scraper and the manure/soiled bedding is contained in an undercover manure heap until it is relocated to a field heap and spread. Typically the manure goes to fields which are not in a NVZ however the tracking system the operator has developed for slurry and nitrogen management can track the nitrogen being applied in this way to ensure NVZ regulation compliance.</p> <p>The diesel and kerosene tanks will be regularly inspected, the levels are measures to prevent overfilling. The operator has confirmed that the bunding is at least 110% capacity of the tanks and will fully comply with the requirements of pollution prevention guidance note PPG2.</p> <p>All feed milling takes place in an enclosed shed with the doors always remaining closed when any activity is taking place. All minerals and other feedstuffs are stored in the same shed as the mill to prevent any outdoor spillages or dust from wind when transferring from one place to another. Most feeders are automatic and are transferred to the pigs from the mill through well maintained feeder pipes. Those that are not fed directly from the mill are fed from bulk bins which are either filled with a blow wagon or filled when the wind is very low to prevent dust and spillages.</p>	

Aspect considered	Justification / Detail	Criteria met
		Yes
	<p>The accident risk assessment and the accident management plan together adequately identify the main accident risks and appropriate measures to be taken to mitigate against the risks.</p> <p>Although the applicant has provided an odour management plan, it was not required as the installation is over 400m from the nearest sensitive receptor and they have stated that they have had no odour complaints. We have reviewed the plan and other information provided in the application and are satisfied that it covers relevant odour sources and proposes appropriate measures to prevent/minimise odour from the permitted activities. Some “actions to minimise odour” are currently under review in the plan, however as the odour management plan is not strictly required we have not asked for further information or set an improvement condition regarding this.</p> <p>Although the applicant has provided a noise management plan, it was not required as the installation is over 400m from the nearest sensitive receptor and they have stated that they have had no noise complaints. We have reviewed the plan and noise risk assessment provided in the application and are satisfied that it covers relevant noise sources and proposes appropriate measures to prevent/minimise noise from the permitted activities.</p> <p>Fly papers and pesticides will be used regularly to prevent the spreading and spread of flies.</p> <p>Pig mortalities are removed each day and numbers recorded and carcasses held in a covered vermin proof container prior to delivery to approved disposal centre.</p> <p>Diets are formulated according to the pig’s requirements and growth stage. Water is supplied through nipple drinkers and troughs to minimise water spillage and waste. Finisher pig’s water supply is monitored in the form of a dedicated water meter. The applicant has provided a raw material inventory in the accident management plan.</p> <p>The applicant has supplied an energy usage review which identifies the key measures of reducing energy usage,</p>	

Aspect considered	Justification / Detail	Criteria met Yes
	<p>including the use of low energy lighting and insulation.</p> <p>The applicant has not directly addressed waste minimisation but manure is used for land spreading and raw materials and feed usage has been reviewed. Permit condition 1.4.1 requires the Operator to follow the waste hierarchy, and 1.4.2 requires the operator to carry out a review every 4 years. As no review has been carried in the application, EPR 6.09 states that the operator will need to carry out the review within 2 years of the issue of the permit.</p> <p>The proposed techniques for priorities for control are in line with the benchmark levels contained in the sector guidance note EPR 6.09 “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 BREFs and BAT Conclusions.</p>	
The permit conditions		
Improvement conditions	<p>Based on the information on the application, we consider that we need to impose improvement condition IC1, to ensure that roof extraction is fitted to both finishing houses.</p> <p>The reason for this is discussed in the ammonia assessment section of the key issue section of this document. We have assessed the impact of not converting the second finishing shed to having roof fans and this could result in a PC of over 100% at a LWS, and so we have set an improvement condition to ensure that the conversion is completed.</p>	✓
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>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
Emission limits	<p>We have decided that no emission limits should be set for the parameters listed in the permit.</p> <p>Ammonia has been identified as being emitted in significant quantities and technical measures based on BAT have been set for this rather than emission limits. These measures are discussed in the operating techniques row above.</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	The National Enforcement Database has 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 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
Ryedale District Council & North York Moors National Park
Brief summary of issues raised
No issues raised. Ryedale District Council is not the planning authority for the area where this facility is located. They spoke with an Officer of the North York Moors National Park regarding the application and questionnaire and attached the responses which showed no issues. Ryedale District Council Environmental Health have had no issues with the application site.
Summary of actions taken or show how this has been covered
None required

Response received from
Public Health England (PHE) 27/2/14
Brief summary of issues raised
It is assumed by PHE that the installation will comply in all respects with the requirements of the permit, all relevant domestic and European legislation, and will use Best Available Techniques (BAT). This should ensure that emissions present a low risk to human health.
Summary of actions taken or show how this has been covered
As discussed in this document, we have assessed the application and consider that the operator will be able to comply with the permit, and that the all relevant legislation will be complied with and BAT will be applied.

Response received from
Health and Safety Executive (HSE)
Brief summary of issues raised
No comments to make
Summary of actions taken or show how this has been covered
No action required

Responses not received

This application was publicised on the Environment Agency website between 13 February 2014 and 13 March 2014. However, no responses were received from the public during this period.