

Environment Agency permitting decisions

Variation

We have decided to issue the variation for Springfield Farm operated by Mr Nigel George Stonehouse and Mrs Debra Carol Stonehouse.

The variation number is EPR/SP3634CP/V002

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

Key issues of the decision

Changes to the original permit as a result of consolidation

As part of this variation and consolidation, the following changes have been made:

- Conditions 2.3.1(b), 3.1.1, 3.2.2(a), 3.6 and 4.3.1 have been amended as a result of the consolidation
- Inclusion of conditions 3.1.2, 3.1.3 and 3.5
- Condition 3.6 was originally numbered as 3.5
- Inclusion of condition 3.1.3 and amendment of condition 4.3.1 as a result of the requirements of the Industrial Emissions Directive (IED)
- Livestock numbers have been amended in table S1.1 activities
- Site drainage was clarified and as a result table S3.2 was changed from emissions to land to emissions to water, and amended accordingly

Industrial Emissions Directive (IED)

The Environmental Permitting (England and Wales) (Amendment) Regulations 2013 were made on the 20 February and came into force on 27 February. These Regulations transpose the requirements of the Industrial Emissions Directive (IED).

Amendments have been made to the conditions of this variation and a consolidated permit has been issued, so that it now implements the requirements of the EU 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 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 Springfield Farm (received 05/10/12) 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 is likely to be required at this installation as a result.**

Site drainage

Surface water discharges into a drainage ditch system to the north of the site boundary. This ditch eventually connects into the River Hertford (a tributary of the River Derwent). The operator confirmed that the ditch system runs with some flow, even if very little, right through the year. Therefore Table S3.2 (point source emissions to land) in the existing permit required replacing with a table of point source emissions to water.

Ammonia Emissions

There are no Special Areas of Conservation (SAC), Special Protection Areas (SPA) or Ramsar sites located within 10km of the installation. There are four Sites of Special Scientific Interest (SSSI) located within 5 kilometres of the installation. There are also six Local Wildlife Sites (LWS) within 2km of the installation.

Ammonia Assessment – SSSIs

The following trigger thresholds have been applied for assessment of SSSIs. If the Process Contribution (PC) is below 20% of the relevant critical level (CLe) or critical load (CLo) then the farm can be permitted with no further assessment. Where this threshold is exceeded an in-combination assessment and/or detailed modelling may be required.

Screening using the Ammonia Screening Tool (v4.4) has indicated that the PCs for three of the four SSSIs within 5km of the installation are predicted to

be less than 20% 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 are given in the tables below.

Table 1 Ammonia Emissions

Name of SSSI	Ammonia Cle ($\mu\text{g}/\text{m}^3$)	PC ($\mu\text{g}/\text{m}^3$)	PC as % of Critical level
Fordon Chalk Grasslands SSSI	$1\mu\text{g}/\text{m}^3$ *	0.091	9.1%
Cayton, Cornelian and South Bays SSSI	$1\mu\text{g}/\text{m}^3$ *	0.067	6.7%
Gristhorpe Bay & Red Cliff SSSI	$1\mu\text{g}/\text{m}^3$ *	0.061	6.1%
Spell Howe Plantation SSSI	$3\mu\text{g}/\text{m}^3$ **	1.491	49.7%

* A precautionary level of $1\mu\text{g}/\text{m}^3$ has been used during the screen. 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 20% insignificance threshold in this circumstance it is not necessary to further consider Nitrogen Deposition or Acidification Critical Load values.

** Confirmed critical level of 3 with NE after the citation and level 1 features were analysed.

Table 2 – Nitrogen deposition

Site	Critical Load kg N/ha/yr	PC Kg N/ha/yr	PC % Critical Load
Spell Howe Plantation SSSI	7.745	10***	77.45%

***Critical load values taken from APIS website (www.apis.ac.uk) – 11/06/14

Table 3 – Acid deposition

Site	Critical Load keq/ha/yr	PC Kg N/ha/yr	PC % Critical Load
Spell Howe Plantation SSSI	0.553	11.02****	5.02%

****Critical load values taken from APIS website (www.apis.ac.uk) – 11/06/14

Initial screening using the Ammonia Screening Tool v4.4 has determined that the process contributions of N deposition from the application site are over the 50% threshold for Spell Howe Plantation SSSI, and therefore may cause damage to features of the SSSI. Therefore detailed modelling is required.

Detailed modelling (reference GROW/028aV2 09/01/14) was submitted by the applicant and audited by the Environment Agency's Air Quality Modelling Assessment Unit (AQMAU). In their modelling the applicant used bespoke emission factors for the finisher pigs and incorrect emission factors for pigs they claimed as 'growers', We used amended emissions factors and this

resulted in the results of the modelling report being factored up by 6.1%. In addition, the modelling report did not include the PCs for acid deposition, which were calculated as 1/14th of the PC for nitrogen deposition when factored up. The results are given in the tables below:

Table 4 Ammonia Emissions

Name of SSSI	Ammonia Cle ($\mu\text{g}/\text{m}^3$)	PC ($\mu\text{g}/\text{m}^3$)	PC as % of Critical level
Spell Howe Plantation SSSI	3 $\mu\text{g}/\text{m}^3$	0.095	3.1%

Table 5 – Nitrogen deposition

Site	Critical Load kg N/ha/yr	PC Kg N/ha/yr	PC % Critical Load
Spell Howe Plantation SSSI	0.74	10 ^{***}	7.4%

***Critical load values taken from APIS website (www.apis.ac.uk) – 11/06/14

Table 6 – Acid deposition

Site	Critical Load keq/ha/yr	PC Kg N/ha/yr	PC % Critical Load
Spell Howe Plantation SSSI	0.053	11.02 ^{****}	0.4%

****Critical load values taken from APIS website (www.apis.ac.uk) – 11/06/14

The results predict that the process contributions of ammonia, acid and N deposition from the application site are below the 20% threshold, and therefore there is no likely significant effect on the SSSI. Because the results show the impact from the installation as below the 20% threshold, it was not necessary to complete an assessment for farms acting in-combination with this application.

No further assessment is required.

Ammonia assessment - LWS

There are six Local Wildlife Sites (LWS) within 2 km of Springfield 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.

The results of the Ammonia Screening Tool v4.4 are given below:

Table 7 - Ammonia Emissions LWSs

Site	Critical Level Ammonia $\mu\text{g}/\text{m}^3$	PC $\mu\text{g}/\text{m}^3$	PC % Critical Level
Flixton Brow LWS	1*	0.273	27.3%
Spelle Howe Plantation, Folkton LWS	3**	1.491	49.7%
Killerby Carr Ditch LWS	3**	1.576	52.5%
Folkton Carr LWS	3**	8.96	298.7%
Folkton Brow LWS	3**	2.705	90.2%
River Hertford LWS	3**	1.576	52.5%

* Precautionary CLe of $1\mu\text{g}/\text{m}^3$ has been used. Where the precautionary level of $1\mu\text{g}/\text{m}^3$ is used, and the process contribution is assessed to be < 100% the site automatically screens out as insignificant, and no further assessment of critical load is necessary.

** CLe of $3\mu\text{g}/\text{m}^3$ applied as no protected lichen or bryophytes species were found when checking easimap layer

Table 8 - Nutrient enrichment

Site	Critical Load nutrient enrichment $\text{kg N}/\text{ha}/\text{yr}$	PC $\text{Kg N}/\text{ha}/\text{yr}$	PC % Critical Load
Spelle Howe Plantation, Folkton LWS	10	7.745	77.5%
Killerby Carr Ditch LWS	10	8.186	81.9%
Folkton Carr LWS	10	46.539	465.4%
Folkton Brow LWS	10	14.051	140.5%
River Hertford LWS	10	8.186	81.9%

* Critical load values taken from APIS website (www.apis.ac.uk) – 11/06/14

Table 9 - Acidification

Site	Critical Load acidification keq/ha/yr	PC keq/ha/yr	PC % Critical Load
Spelle Howe Plantation, Folkton LWS	11.06	0.553	5%
Killerby Carr Ditch LWS	4.46	0.585	13.11%
Folkton Carr LWS	4.46	3.324	74.53%
Folkton Brow LWS	1.3	1.004	77.2%
River Hertford LWS	4.74	0.585	12.34%

* Critical load values taken from APIS website (www.apis.ac.uk) – 11/06/14

No further assessment is required for all sites except Folkton Carr LWS and Folkton Brow LWS, which required detailed modelling.

Detailed modelling was supplied by the applicant as part of the application (reference GROW/028aV2 09/01/14). In their modelling the applicant used bespoke emission factors for the finisher pigs and incorrect emission factors for pig they claimed as 'growers'. We used amended emissions factors and this resulted in the results of the modelling report being factored up by 6.1%. In addition, the modelling report did not include the PCs for acid deposition, which were calculated as 1/14th of the PC for nitrogen deposition when factored up. The results are given in the tables below:

Table 10 - Ammonia Emissions

Site	Critical Level Ammonia $\mu\text{g}/\text{m}^3$	PC $\mu\text{g}/\text{m}^3$	PC % Critical Level
Folkton Carr LWS	3	1.029	34.3%
Folkton Brow LWS	3	0.161	5.4%

* Cle of $3\mu\text{g}/\text{m}^3$ applied as no protected lichen or bryophytes species were found when checking easimap layer

Table 11 - Nutrient enrichment - nitrogen

Site	Critical Load nutrient enrichment kg N/ha/yr	PC Kg N/ha/yr	PC % Critical Load
Folkton Carr LWS	10	8.02	80.2%
Folkton Brow LWS	10	1.26	12.6%

* Critical load values taken from APIS website (www.apis.ac.uk) –11/06/14

Table 12 - Acidification

Site	Critical Load acidification keq/ha/yr	PC Keq/ha/yr	Kg	PC % Critical Load
Folkton Carr LWS	4.46	0.57		12.8%
Folkton Brow LWS	1.3	0.09		6.9%

* Critical load values taken from APIS website (www.apis.ac.uk) – 11/06/14

No further assessment for these sites is required.

Annex 1: decision checklist

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

Aspect considered	Justification / Detail	Criteria met
		Yes
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.	✓
European Directives		
Applicable directives	All applicable European directives have been considered in the determination of the application. This permit implements the requirements of the EU Directive on Industrial Emissions. See key issues section above for further information.	✓
The site		
Extent of the site of the facility	The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility. A plan is included in the permit and the operator is required to carry on the permitted activities within the site boundary.	✓
Biodiversity, Heritage, Landscape and Nature Conservation	The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat . A full assessment of the application and its potential to affect the sites has been carried out as part of the permitting process. We consider that the application will not affect the features of the site. Please refer to section 'Ammonia Assessment' in Key Issues above. Natural England did not need to be consulted as this meets scenario 5 of guidance 84_07 which is for an	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<p>'existing farm, no impact caused by variation'. The decision was taken in accordance with our guidance 84_07.</p> <p>An Appendix 4 has been completed for audit purposes only (dated 14/07/14).</p> <p>An Other Nature Conservation Sites Assessment has been completed for audit purposes only (dated 14/07/14).</p> <p>All documents have been saved on EDRM.</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 operating techniques are as follows:</p> <p>The new pig house (number 7) will be built to BAT standards</p> <ul style="list-style-type: none"> • with fully slatted floors , • frequent slurry removal and • high velocity roof fans <p>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, and ELVs deliver compliance with BAT-AELs.</p>	✓
The permit conditions		
Updating permit conditions during consolidation.	<p>We have updated previous permit conditions to those in the new generic permit template as part of permit consolidation. The new conditions have the same meaning as those in the previous permits.</p> <p>The operator has agreed that the new conditions are acceptable.</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
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	<p>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.</p>	✓