

Environment Agency permitting decisions

Variation

We have decided to issue the variation for Partnership Poultry Farm operated by Faccenda Farms (Partnership) Limited.

The variation number is EPR/MP3830RU/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

- Description of main features of the changes introduced by the variation
- Key issues
- Annex 1 the decision checklist
- Annex 2 the consultation, web publicising responses.

Description of the changes introduced by the Variation

This is a Substantial Variation. This permit variation is for the:

- addition of one 1.795MWth input poultry litter burner and associated poultry manure storage (580T) to provide heat and electricity to the installation poultry houses, Animal and Plant Health Agency (APHA) approved.

Key issues of the decision

1) Burning of Poultry Manure in a Combustion Plant

The European Union (EU) has amended the Animal By-Products Regulations (ABPR) effectively recognising that poultry manure can be defined as a by-product. From 15 July 2014, unprocessed poultry manure can be burnt in a burner meeting the requirements of the ABPR on the site where the poultry manure is produced. Where this is the case the Animal and Plant Health Agency (APHA) regulate the burner under the ABPR. Where the burner is installed on an installation under the Environmental Permitting Regulations (EPR) and the heat and electricity is utilised by the farm it is deemed to be a directly associated activity (DAA). The Environment Agency regulate the emissions from the burner within the Environmental Permit for the installation but approval from APHA is required in order to operate the burner at the installation.

The manufacturer of the burner unit has confirmed that it meets the provisions of The Animal By-Products (Enforcement) (England) Regulations 2013 as a combustion plant capable of raising the temperature of the resultant gas to at least 850°C for at least two seconds (or for at least 0.2 seconds at a temperature of 1,100°C). In order to gain APHA approval for operating the poultry litter burner and operational unit/area there must be:

- equipment to cleanse and disinfect the vehicles leaving the combustion plant area
- documented pest control programme where records must be kept for two years
- records kept by the operator of the regular inspection of the combustion plant and its environment
- the fuel storage area must be fully separated from the combustion plant and the fuel storage bunkers and associated hard standing are to be cleaned and disinfected on a rolling programme in line with the cropping on the farm
- the combustion plant must be equipped with an automatic fuel management system which place the fuel directly in the combustion chamber without further handling as well as an auxiliary burner to be used during start up and shut down to ensure that the temperature (850°C) is maintained
- the fuel must be combusted so that the total organic content of the slags and bottom ash is less than 3%, or their loss on ignition is less than 5% of the dry weight of the material.

The Environment Agency (EA) is satisfied that the poultry manure used in the proposed burner at Partnership Poultry Farm can be classed as an animal by-product.

2) Ammonia Impacts from the Additional Storage of Poultry Manure

Assessment is required for the additional potential ammonia emissions to air associated with the proposed poultry manure storage (580T). Whilst the store is to be kept under negative pressure, modelling has been done to assess a worst case scenario. The assessment also takes into consideration the ammonia contributions from the current poultry places as well.

There are two Sites of Special Scientific Interest (SSSI) within 4km, ten Local Wildlife Sites (LWS) within 1.7km and two Ancient Woodlands (AW) within 1.6km of the facility.

Assessment of emissions to air impact on SSSI

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. Initial screening using the Ammonia Screening Tool (AST) v4.5 spreadsheet has indicated that the PC for Syresham Marshy Meadows SSSI screens out at CLe 1 due to the distance from the site. Therefore, no further assessment is necessary for this SSSI.

Initial screening using the AST v4.5 spreadsheet has indicated that the PC for Helmdon Disused Railway SSSI is predicted to be between 20% and 50% CLe for ammonia and therefore may cause damage to features of the SSSI. The results of the AST v4.5 spreadsheet are given in Table 1 below.

Table 1: Assessment of ammonia emissions (SSSI)

Name	Ammonia CLe	PC ($\mu\text{g}/\text{m}^3$)	PC as % of CLe
Helmdon Disused Railway	1 $\mu\text{g}/\text{m}^3$ *	0.217	21.7

* APIS specifies that this habitat supports lichens and bryophyte populations. A CLe of 1 $\mu\text{g}/\text{m}^3$ is applied. Also previous consultation with Natural England backs this up "*The Helmdon Disused Railway SSSI is notified for, amongst other features, a form of calcareous grassland with a high species richness known as CG7a,b,d,e - Festuca ovina - Hieracium pilosella - Thymus praecox grassland. Both bryophytes and lichens are known to form an important part of this CG7 grassland and we would therefore advise that the lower critical level of 1 $\mu\text{g}/\text{m}^3$ is applied at this site*".
Ross Holdgate NE 27-5-14.

APIS specifies that the CLo for nitrogen deposition is 15-25 kg N/ha/yr. Site is a calcareous grassland. APIS gives acidification CLo as 5.710 keq/ha/yr.

Where emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) are between Y% and Z% of the relevant CLe or CLo the proposal requires in-combination screening. This was undertaken for Helmdon Disused Railway SSSI and if the in-combination screening does not screen the site out then detailed modelling will be required. No sites combine with Partnership Poultry Farm's process contribution for ammonia concentration, therefore, the site screens out.

No further assessment is necessary.

Assessment of LWS and AW

The following trigger thresholds have been applied for the assessment of non-statutory LWS and AW:

- If PC is <100% of relevant CLe or CLo then the farm can be permitted (H1 or ammonia screening tool)
- If PEC < CLe or CLo then the farm can be permitted
- If further modelling shows PC <100%, then the farm can be permitted.

The CLe or CLo used in this assessment are given in Table 2. For the following sites this farm has been screened out as set out above using results of the AST v4.5 spreadsheet.

Table 2: Assessment of ammonia emissions (LWS and AW)

Name of site	Ammonia CLe	PC ($\mu\text{g}/\text{m}^3$)	PC as % of CLe
Unnamed LWS		Screens out due to distance	
Evershaw Copse LWS		Screens out due to distance	
Whitfield Border Spinney LWS		Screens out due to distance	
Turweston Manor Grassland LWS		Screens out due to distance	
Unnamed AW		Screens out due to distance	
Whitfield Wood LWS	$3\mu\text{g}/\text{m}^3$	0.379	34.1
Biddlesden Ponds West LWS	CLe $3\mu\text{g}/\text{m}^3$ used as there are no Lichens or Bryophytes at this LWS. However, the PC still exceeds Z%. The site screens out as the LWS is designated for its aquatic habitats, standing waters and ponds.		
Unnamed LWS	$3\mu\text{g}/\text{m}^3$	0.666	59.8

No further assessment is necessary.

For the following sites this farm does not screen out as described above using results from the AST v4.5 spreadsheet. The assessments are given in Tables 3a and 3b.

Table 3a: Assessment of ammonia emissions (LWS and AW)

Name of site	Ammonia CLe	PC ($\mu\text{g}/\text{m}^3$)	PC as % of CLe
Biddlesden Lakes LWS	$3\mu\text{g}/\text{m}^3$	2.669	89.0
Biddlesden Meadows LWS	$3\mu\text{g}/\text{m}^3$	2.697	89.9
Biddlesden Park LWS	$3\mu\text{g}/\text{m}^3$	6.979	232.6
Hogpit Spinney AW	$3\mu\text{g}/\text{m}^3$	2.886	96.2

Table 3b: Assessment of nitrogen deposition (LWS and AW)

Name of site	Nitrogen CLo	PC (kgN/ha/yr)	PC as % of CLo
Biddlesden Lakes LWS	10kgN/ha/yr	13.861	138.6
Biddlesden Meadows LWS	10kgN/ha/yr	14.010	140.1
Biddlesden Park LWS	10kgN/ha/yr	36.251	362.5
Hogpit Spinney AW	10kgN/ha/yr	14.989	149.9

Biddlesden Lakes LWS and Biddlesden Meadows LWS – these LWSs are not sensitive to acidification and do not screen out for nitrogen deposition.

Biddlesden Park LWS – this LWS does not screen out for ammonia emissions or nitrogen deposition.

Hogpit Spinney AW – this AW does not screen out for nitrogen deposition.

The proposed activity could result in damage to the conservation sites or species at all the sites in Tables 3a and 3b. Detailed modelling was required to be undertaken by the Applicant to further assess the affects of the ammonia emissions to air from the site.

Detailed Modelling

A detailed air modelling report of the dispersion and deposition of ammonia was provided within the application supporting document (AS Modelling & Data Ltd) dated 21 July 2016. The Environment Agency Guidance on modelling the concentration and deposition of ammonia emitted from intensive farming - Air Quality Modelling and Assessment Unit, 22 November 2010, v3 was used to cross check the model version, input parameters,

meteorological dataset, emission rate calculation, emission rate used in the modelling, data sets and data source types. On this basis we accept that the results and conclusions presented in the modelling report are correct.

The background ammonia concentration (annual mean) in the area around Partnership Poultry Unit and the LWS/AW is $2.11\mu\text{gNH}_3/\text{m}^3$. The background nitrogen deposition rate to woodland is $36.96\text{kgN}/\text{ha}/\text{yr}$ and to short vegetation is $21.42\text{kgN}/\text{ha}/\text{yr}$. The background acid deposition rate to woodland is $2.70\text{keq}/\text{ha}/\text{yr}$ and to short vegetation is $1.61\text{keq}/\text{ha}/\text{yr}$. The source of these background figures is the Air Pollution Information System (APIS) website.

Existing Scenario at Partnership Poultry Farm:

The modelling predicts that the PC to the maximum annual mean ammonia concentration is in excess of 50% of the CLe and the annual nitrogen deposition rate is in excess of 50% of the CLo over parts of Biddlesden Park LWS. These exceedances cover approximately 2.2ha and 16.0ha of the LWS respectively. There is also a predicted exceedance of 100% of the CLo over approximately 2.7ha of Biddlesden Park LWS and a small exceedance of 50% of the CLo at Hogpit Spinney AW.

Proposed Scenario at Partnership Poultry Farm:

The modelling predicts that the PC to the maximum annual mean ammonia concentration and the annual nitrogen deposition rate at nearby AWs and LWSs would be lower than under the existing site scenario. The area of the exceedances of 50% of the CLe for ammonia deposition and 50% of the CLo predicted over Biddlesden Park LWS are reduced to approximately 0.15ha and 6.0ha respectively. The area of the exceedance of 100% of the CLo predicted at Biddlesden Park LWS is reduced to below 0.5ha and at Hogpit Spinney AW the predicted nitrogen deposition rate is below 50% of the CLo.

The Ecological Records Team at Aylesbury Vale District Council were consulted regarding any potential effects from the application proposals on Biddlesden Park LWS and provided with the detailed modelling report isopleth maps for ammonia and nitrogen deposition – existing and proposed site scenarios. No acknowledgement, reply or response was received during or after the consultation period.

Whilst the model indicates that there is some exceedance in the south-western corner of Biddlesden Park LWS and that there is a perceived affect from ammonia emissions (including nitrogen and acid deposition) from the installation, the detailed modelling indicates an environmental improvement. This is based on the comparison between the existing and proposed operating regimes at the installation taking into account the proposed changes to the operation of the site.

Therefore, in general there is a potential overall reduction of the affect the installation has on the nearby LWS and AW, and to the general surrounding environment, from the ammonia emissions to air. Also, it should be noted that the detailed ammonia modelling was based on 900 tonnes of poultry manure stored on site whereas the Applicant has confirmed that this will be decreased to 580 tonnes and thus the assessment was fairly conservative.

No further assessment or action is required.

3) Poultry Manure Biomass Boiler

The applicant is including one poultry manure biomass boiler with a net rated thermal input of 1.795MWth at their installation. This will be used to provide heat and electricity to the poultry houses and is therefore a directly associated activity which needs to be included in Table S1.1 of the environmental permit EPR/MP3830RU.

The Environment Agency assesses the pollution risks to concluded if the air emissions are likely to pose a significant risk to the environment or human health. This includes assessing the burner to check it has met certain screening and assessment conditions. Therefore, a quantitative assessment of air emissions will not be required where:

- the boiler has ABPR certification issued by the APHA
- the stack emission velocity is 20m/s or greater
- the stack height at least 11m above ground and 1.5m above the roof level of the boiler house and nearby buildings
- the aggregated thermal input capacity of all boiler units is less than 5MW net thermal input
- there are no sensitive receptors within 50m of the emission point where the net rated thermal input is greater than 2MWth.

The biomass boiler meets the requirements above. The litter has been confirmed as a by-product and all heat from the burner is utilised by the poultry sheds. Therefore, it is considered that there is unlikely to be a potential for an adverse effect on the environment or on human health from the poultry manure biomass boiler at this installation.

Annex 1: decision checklist

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

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 any 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: <ul style="list-style-type: none"> ➤ Local Authority (Environmental Health and Planning) ➤ Animal and Plant Health Agency ➤ Health and Safety Executive. 	✓
Responses to consultation, web publicising	The web publicising, consultation responses (Annex 2) were taken into account in the decision. The decision was taken in accordance with our guidance.	✓
European Directives		
Applicable directives	All applicable European Directives have been considered in the determination of the application. This permit has implemented the requirements of the Industrial Emissions Directive (IED) as well as taking account of the amendments made to the Animal By-Products Regulations (ABPR).	✓
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.	✓
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.	✓

Aspect considered	Justification / Detail	Criteria met Yes
	<p>The site condition report (SCR) for Partnership Poultry Farm (dated May 2016) demonstrates that there are no significant hazards or likely pathways to land or groundwater and no historic contamination sources on site that may present a significant risk.</p> <p>Therefore, on the basis of the assessment presented in the SCR the Environment Agency accepts that no baseline reference data needs to be provided for the site soil and groundwater conditions as part of application EPR/MP3830RU/V002.</p>	
<p>Biodiversity, Heritage, Landscape and Nature Conservation</p>	<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 for the reasons outlined in the Key Issues section.</p> <p>In accordance with our guidance, as there are statutory sites within 10km of the installation, we are required to complete an Appendix 4 CRoW Act Assessment for the Sites of Special Scientific Interest for auditing purposes only. This was done on 25 November 2016 and is recorded for information only on the public register.</p> <p>In accordance with the Environment Agency's Air Quality Technical Advisory Guidance 14: "for combustion plants under 5MW, no habitats assessment is required due to the size of combustion plant". Therefore this proposal is considered acceptable and no further assessment is required.</p>	<p>✓</p>
<p>Environmental Risk Assessment and operating techniques</p>		
<p>Environmental risk</p>	<p>We have reviewed the operator's air quality assessment of the environmental risk from the facility with specific reference to the poultry manure fuelled burner. The operator's risk assessment is satisfactory.</p> <p>The assessment shows that, applying the conservative criteria in our guidance on Environmental Risk Assessment (or similar methodology supplied by the operator and reviewed by ourselves), all emissions may be categorised as environmentally insignificant. Please refer to the key issues section.</p>	<p>✓</p>

Aspect considered	Justification / Detail	Criteria met
		Yes
Operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes. The proposed techniques for priorities for control are in line with the benchmark levels contained in SGN EPR6.09 and we consider them to represent appropriate techniques for the facility. Please refer to the key issues section.</p> <p>The Environment Agency have reviewed and approved the Odour Management Plan and consider it complies with the requirements of our 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.</p>	✓
The permit conditions		
Raw materials	We have specified limits and controls on the use of raw materials and fuels. We have specified that only unprocessed poultry manure meeting the criteria as an animal by-product can be used as a fuel in a poultry manure burner. The poultry manure is never to be mixed with, or replaced by, waste, or processed or to be imported from another site. Please refer to the key issues section for more details relating to the combustion of animal by-product.	✓
Pre-operational conditions	<p>Based on the information in the application we consider that we need to impose a pre-operational condition. We have imposed the following condition to ensure compliance:</p> <ul style="list-style-type: none"> ➤ APHA approval required to be in place before the operation of the poultry manure burner at the installation. 	
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 and include techniques from the previous applications.	✓
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.	✓

Annex 2: Consultation, web publicising responses

The Local Authority Planning Department and Environmental Health as well as the Health and Safety Executive and the Animal and Plant Health Authority were all consulted on this application. However, no consultation responses from these parties were received.

The application was advertised externally on the GOV.UK website between 28 November 2016 and 28 December 2016 to invite any responses and comments from the general public. No responses were received.