

Environment Agency permitting decisions

Variation

We have decided to issue the variation for Hose Lodge Poultry Farm operated by GG & P Parker & Sons Limited.

The variation number is EPR/NP3738CU/V004.

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

Ammonia Emissions

There are three Sites of Special Scientific Interest (SSSI) located within 5 km of the installation. There are also four Local Wildlife Sites (LWS) within 2km of the installation.

Ammonia Assessment – SSSI's

The following trigger thresholds have been applied for the 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) has indicated that the PC for SSSIs listed below is 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
Kinoulton Marsh & Canal	$1\mu\text{g}/\text{m}^3$ *	0.084	8.4%
Barnstone Railway Cutting	$1\mu\text{g}/\text{m}^3$ *	0.056	5.6%
Grantham Canal	$1\mu\text{g}/\text{m}^3$ *	0.137	13.7%

* 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. In these cases the $1\mu\text{g}/\text{m}^3$ level used has not been confirmed, but it is precautionary.

Ammonia assessment – LWS.

There are four Local Wildlife Sites (LWS) within 2 km of Hose Lodge Poultry 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 at Stage 1, as set out above, using results of the Ammonia Screening Tool version 4.4.

Screening using Ammonia Screening Tool 4.4 has indicated that emissions from Hose Lodge Poultry Unit will only have a potential impact on sites with a critical level of $1 \mu\text{g}/\text{m}^3$ if they are within 1009m of the emission source. Screening indicates that beyond this distance, the Process Contribution at conservation sites is less than $1\mu\text{g}/\text{m}^3$. $1\mu\text{g}/\text{m}^3$ is 100% of the $1\mu\text{g}/\text{m}^3$ critical level and therefore beyond this distance the PC is insignificant. In this case all local wildlife sites below are beyond this distance.

TABLE 2 – distance from source

Site	Distance (m)
Gratham Canal (Kinoulton to River Smite)	1801
Kaye Wood Pond	1924
Barlows Lodge Hedgerow and Ditch	1181

The PC at these sites has been screened as insignificant. It is possible to conclude no significant pollution will occur at these sites and no further assessment is required.

Hose Lane Verge LWS has not been considered in the above assessment. This is due to an agreement with the operator to provide an area of enhanced replica species and biodiversity (“the Wildflower Meadow”). This will supplement and enhance Hose Lane Road Verge. It will negate any damage caused as a result of emissions from the installation due to the equivalent biodiversity benefit afforded through the seeding of replica species. This decision was made during the variation application EPR/JP3236MY/V002 and is specified in Improvement Condition 4 in the permit.

Biomass boilers

The applicant is varying their permit to include 4 additional biomass boilers with a net rated thermal input of 862.4 kW. As a result there will be a total of seven biomass boilers on site in total with a net rated thermal input of 1.51 MW.

In line with the Environment Agency’s May 2013 document “Biomass boilers on EPR Intensive Farms”, an assessment has been undertaken to consider the proposed addition of the biomass boilers.

This guidance states that the Environment Agency has assessed the pollution risks and have concluded that air emissions from small biomass boilers are not likely to pose a significant risk to the environment or human health providing certain conditions are met. Therefore a quantitative assessment of air emissions will not be required where:

- the fuel will be derived from virgin timber, miscanthus or straw, and;
- the biomass boiler appliance and installation meets the technical criteria to be eligible for the Renewable Heat Incentive, and;
- the aggregate boiler net rated thermal input is:
 - A. less than 0.5MWth, or;
 - B. less than 1MWth where the stack height is greater than 1 metre above the roof level of adjacent buildings (where there are no adjacent buildings, the stack height must be a minimum of 3 metres above ground), and there are:
 - no Special Areas of Conservation, Special Protection Areas, Ramsar sites or Sites of Special Scientific Interest within 500 metres of the emission point(s);
 - no National Nature Reserves, Local Nature Reserves, ancient woodlands or local wildlife sites within 100 metres of the emission point(s), or;
 - C. less than 2MWth where, in addition to the above criteria for less than 1MWth boilers, there are:
 - no sensitive receptors within 150 metres of the emission points.

Our risk assessment has shown that biomass boilers will use virgin timber and straw and meet the criteria to be eligible for the RHI. However, the boilers do not meet the any of the above criteria as there are sensitive receptors within 150m of the emission points.

As the biomass boilers on the installation do not meet any of the above criteria further assessment is necessary. Further screening has been undertaken using the boiler specifications provided by the operator.

Parameters	
Flue diameter	0.25m
Stack height (from ground level)	6m
Thermal input in MW or kW per hour of each boiler	215.6kW
Adjacent Building heights	5m
Flue nominal load temperature in °C	190
Exit velocity in m/sec	2.37
NO _x concentration in mg/Nm ³	142
CO concentration in mg/Nm ³	301
PM ₁₀ (dust) concentration in mg/Nm ³	26
O ₂ concentration %	10

The Air Quality Monitoring and Assessment Unit (AQMAU) screening tool (version 4) has been run for Carbon Monoxide (CO), Nitrogen Dioxide (NO₂) and Particulates (PM₁₀), to assess the emissions' impacts on the receptors at:

- Receptor 1 - Stackyard House, Harby Lane, Colston Bassett, Nottingham, NG12 3FL, SK 71618 31197 and
- Receptor 2 - Hose Lodge Fam, Harby Lane, Colston Bassett, Nottingham, NG12 3FL, SK 71671 31077 .

Sulphur Dioxide (SO₂) has not been assessed due to the boiler fuel being clean woodchip which would contain very little or no sulphur.

Process Contributions (PC)

For NO₂, the short term Air Quality Standard (AQS) is 200 µg/m³ and for long term, 40 µg/m³. Process contribution significance thresholds are 10% of the AQS for short term and 1% for long term.

For PM₁₀, the short term AQS is 50 µg/m³ and for long term, 40 µg/m³.

Process contribution significance thresholds are 10% of the AQS for short term and 1% for long term.

For CO the short term AQS is 10mg/m³, there is no long term AQS. Process contribution significance threshold is 10% of the AQS for the short term.

The results highlighted in blue are process contributions (PCs) that are not insignificant as a percentage of the relevant AQS.

Pollutant	Term	PC µg/m ³	AQS µg/m ³	PC %age of AQS
Receptor 1				
NO ₂	Short	12.6	200	6
NO ₂	Long	1.2	40	3
PM ₁₀	Short	0.72	50	1
PM ₁₀	Long	0.21	40	1
CO	Short	81.3	10000	1
Receptor 2				
NO ₂	Short	14.8	200	7
NO ₂	Long	1.9	40	5
PM ₁₀	Short	1.4	50	3
PM ₁₀	Long	0.35	40	1
CO	Short	81.9	10000	1

Predicted Environmental Contributions (PEC)

Because annual mean of NO₂ for both sensitive receptors is not insignificant, we must take background concentrations into consideration to examine whether a PC is going to contribute significantly to a possible exceedance of its AQS. PC plus background is known as predicted environmental concentration (PEC).

The background maps held on the DEFRA website were used to obtain relevant background concentrations.

Long term emissions are considered unlikely to give rise to an exceedance of an AQS where:

PC long term + background concentration < 70% of the AQS.

Pollutant	Term	PC µg/m ³	AQS µg/m ³	Background µg/m ³	PEC %age of AQS
Receptor 1					
NO ₂	Long	1.2	40	9.8464	28
Receptor 2					
NO ₂	Long	1.2	40	9.8464	29

The PEC value for long term emissions of NO₂ in the table above is less than 70% of the AQS and therefore screens out from requiring further assessment.

We are satisfied that the emissions from biomass boilers do not pose a significant risk to the sensitive receptors.

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).

This permit 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 a condition relating to protection of soil, groundwater and 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 there is 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 the 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 (SCR) for Hose Lodge Farm Poultry Unit (dated June 2014) demonstrates that there are no hazards or likely pathway to land or groundwater and no historic contamination on site that may present a hazard from the same contaminants. Therefore, on the basis of the risk assessment presented in the SCR, we accept that they have not provided base line reference data for the soil and groundwater at the site at this stage.

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 consultation and web publicising	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.	✓
European Directives		
Applicable directives	All applicable European directives have been considered in the determination of the application.	✓
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 (H5).	✓
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 sites. We have not formally consulted on the application. The	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	decision was taken in accordance with our guidance. See Key Issues above for more details.	
Environmental Risk Assessment and operating techniques		
Environmental risk	We have carried out a risk assessment on behalf of the operator. The operator considers this risk assessment is satisfactory – see Key Issues section for further explanation.	✓
Operating techniques	We have reviewed the techniques used by the operator and compared these with the relevant guidance notes. The operating techniques are as follows: <ul style="list-style-type: none"> • the fuel is derived from virgin timber, • the biomass boiler appliance and it's installation meets the technical criteria to be eligible for the Renewable Heat Incentive; and • the stacks are 1m or more higher than the apex of the adjacent buildings. 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.	✓
The permit conditions		
Updating permit conditions during consolidation.	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 permit(s). The operator has agreed that the new conditions are acceptable.	✓
Raw materials	We have specified limits and controls on the use of raw materials and fuels. We have specified that only virgin timber (including wood chips and pellets), straw, miscanthus or a combination of these. These materials are never to be mixed with, or replaced by, waste.	✓
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.	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
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.	✓
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
Health and Safety Executive
Brief summary of issues raised
No comments to make
Summary of actions taken or show how this has been covered
n/a

Response received from
Rushcliffe Borough Council
Brief summary of issues raised
Response to the statutory nuisance questions – no issues raised
Summary of actions taken or show how this has been covered
n/a

Environmental Health and Planning Department of Melton Borough Council were also consulted. There were no responses received.

This proposal was also publicised on our website between 22/07/14 and 18/08/14 and no representations were received.