

Environment Agency permitting decisions

Bespoke permit

We have decided to grant the permit for Dodleston Hall Farm Poultry Unit operated by Mr Giles Dodd.

The permit number is EPR/ZP3830WQ.

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 web publicising and responses

Key issues of the decision

Ammonia emissions

There are 8 Special Area(s) of Conservation (SAC)/Special Protection Area(s) (SPA)/Ramsar sites located within 10 kilometres of the installation. There are 2 Sites of Special Scientific Interest (SSSI) located within 5 km of the installation. There is also 1 Local Wildlife Site (LWS) and 1 Ancient Woodland (AW) within 2 km of the installation.

Ammonia assessment – SAC/SPA/Ramsar sites

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.

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 (version 4.4) has indicated that emissions from Dodleston Hall Farm Poultry Unit will only have a potential impact on sites with a critical level of 1 µg/m³ if they are within 2735 metres of the emission source. Screening indicates that beyond this distance, the PC at conservation sites is less than 0.04 µg/m³. 0.04 µg/m³ is 4% of the 1 µg/m³ CL_e and therefore beyond this distance the PC is insignificant. In this case all SAC/SPA/Ramsar sites are beyond this distance.

Table 1 – distance from source

Site	Distance (m)
River Dee and Bala Lake SAC - England	4739
River Dee and Bala Lake SAC - Wales	4199
Dee Estuary / Aber D SAC - Wales	8686
Deeside and Buckley SAC - Wales	6713
The Dee Estuary SPA - Wales	8684
Midland Mere & Mosses Phase 2 RAMSAR - England	7320
The Dee Estuary RAMSAR - Wales	8684
Midland Mere & Mosses Phase 2 RAMSAR - Wales	7320

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.

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.

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 (version 4.4) has indicated that emissions from Dodleston Hall Farm 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 987 metres of the emission source. Screening indicates that beyond this distance, the PC at conservation sites is less than $0.2 \mu\text{g}/\text{m}^3$. $0.2 \mu\text{g}/\text{m}^3$ is 20% of the $1 \mu\text{g}/\text{m}^3$ CLe and therefore beyond this distance the PC is insignificant. In this case all SSSIs are beyond this distance.

Table 2 – distance from source

Site	Distance (m)
River Dee (England)	4739
Afon Dyfrdwy (Wales)	4199

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.

Ammonia assessment - LWS/AW

There is 1 Local Wildlife Site (LWS) and 1 Ancient Woodland (AW) within 2 km of Dodleston Hall Farm Poultry Unit. 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 (version 4.4) has indicated that emissions from Dodleston Hall Farm 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 356 metres of the emission source. Screening indicates that beyond this distance, the PC at conservation sites is less than $1 \mu\text{g}/\text{m}^3$. $1 \mu\text{g}/\text{m}^3$ is 100% of the $1 \mu\text{g}/\text{m}^3$ CLe

and therefore beyond this distance the PC is insignificant. In this case both the LWS and AW are beyond this distance.

Table 3 – distance from source

Site	Distance (m)
Bretton Wood LWS	1140
Unnamed Woodland AW	1028

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.

Odour

The application included an Odour Management Plan due to sensitive receptors being located within 400m of the installation. The operator also submitted odour modelling with their application (Dodleston Poultry Farm, Cheshire, Odour Impact Assessment SLR Ref: 402-04918-00001 October 2014).

The Environment Agency's guidance on odour is set out in the document H4-Odour Management. This guidance includes benchmark levels. Modelled results that predict exposure above benchmark levels, after taking uncertainty into account, indicate the likelihood of unacceptable odour pollution.

Benchmark levels are assigned to a site based upon the type of odours that are expected. Intensive farming sites are defined in H4 as producing moderately offensive odours. Therefore, a benchmark level of 3 ou_E as a 98th percentile of hourly means is used (all results in this document are presented as 98th percentile of hourly means).

The highest predicted odour level in the operators odour modelling is 4.2 ou_E/m³ at receptor 3 when 2012 meteorological data is used. There are a number of other exceedences of the benchmark at other receptors.

The operator was asked to put forward appropriate measures in order to reduce the predicted odour levels to below the benchmark level. It was also requested that suitable contingency measures were proposed, which would be deployed in the event of odour pollution.

The operator submitted a revised modelling study. It included a revised variable odour emission rate based on the growth cycles of broiler chickens. This took into account how odour emissions would vary day by day and hour by hour over the crop cycle. In the original modelling study the emission rates were based upon a worst case scenario using a standard emission factor based upon published research.

We have audited the revised modelling and agree with the conclusions. Although we have been unable to replicate the results we can confirm as a

result of our own check modelling that predictions are unlikely to be higher than those presented.

There are predicted to be exceedences of the benchmark level of $30\text{ou}_E/\text{m}^3$ at three receptor locations (R3, R20 and R21, highlighted in blue). The operators results are as follows:

Receptor	Predicted odorous concentration (ou_E/m_3)						
	Year of Meteorological Data					Average	Previous Result *
	2009	2010	2011	2012	2013		
R3	2.0	2.5	3.2	2.8	2.1	2.5	3.5
R20	0.9	3.6	1.9	1.9	2.2	2.1	3.0
R21	0.8	3.1	1.6	1.6	2.0	1.8	2.5

*(Dodleston Poultry Farm, Cheshire, Odour Impact Assessment SLR Ref: 402-04918-00001, October 2014)

The predicted exceedences for receptors 20 and 21 were when 2010 meteorological data was used. The weather patterns seen during 2010 are 'atypical', due to global climatic influences and this has been acknowledged by the Met Office¹. This is evident in the results where predicted odour levels from the other meteorological years are considerably lower. Over the long term it is unlikely that there would be a significant exceedence of the odour benchmark unless an anomalous meteorological year were to occur again. Taking this into account it is considered that the potential for impact at receptors R20 and R21 is low.

A marginal exceedence of the benchmark was predicted at receptor 3 during one meteorological year. Considering that a single receptor is impacted, the exceedence is marginal ($3.2\text{ou}_E/\text{m}_3$) and it is predicted for only one of the five meteorological years assessed; we consider that impacts in this case to be reasonably unlikely.

To manage the potential for impact, we required the Operator to create and implement a robust Odour Management Plan (OMP) to ensure that the sites are managed in such a way that the risk of odour nuisance to the local amenity is minimised as far as practicable. It details operational and control measures appropriate for the management and control of odour on site. The OMP was reviewed as part of the application process for this variation, and the operator is required to periodically review the OMP to ensure their continued suitability for this installation. This is of particular relevance due to the 'borderline' predicted impact at receptor R3.

The Odour Management Plan (OMP) was assessed against the Poultry Industry Good Practice Checklist. This document has been jointly produced by the Environment Agency, British Egg Council, British Poultry Council and the National Farmers Union. Operators undertaking measures set out in this

¹ <http://www.rmets.org/sites/default/files/pdf/presentation/20110205-kendon.pdf>

document are considered to be operating in line with Best Available Techniques and are in compliance with the Environmental Permitting Regulations 2010 (England and Wales).

The operator submitted a revised OMP based upon the recommendations from the above assessment. All of the recommendations were incorporated into the document. It also details the contingency measures in the event that there is odour pollution. The OMP has been incorporated into the operating techniques for the installation. Therefore, the site must be in compliance with the requirements of this document.

Noise

The application included a Noise Management Plan due to sensitive receptors being located within 400m of the installation. The operator also submitted noise modelling with their application (Noise Assessment, Proposed Broiler Sheds, Dodleston Hall Farm SLR Ref: 402.04918.00001, September 2014). An addendum to this report was submitted on the 13/03/15. This addendum only considered HGV movements within the installation boundary, only noise generated within the installation boundary is regulated by the Environment Agency (Addendum Noise Assessment, Proposed Broiler Sheds Dodleston Hall Farm SLR Ref: 402.04918.00001.003, March 2015).

The assessment was carried out using the out of date BS4142:1997 (which is now superseded by BS4142:2014) to assess impacts at receptors. At the time of their original submission this was appropriate. As part of this audit, impacts have been considered in the context of BS4142:2014.

The aim of their noise impact assessment is to identify the noise sources present onsite and determine whether the impact on local residents would be a cause of nuisance.

The predictions are based on the sheds operating for 24 hours a day on a 35 day production cycle with a 2 week clean out period. As a result there will be a total of 8 cycles per year.

The following noise sources were considered in the noise modelling:

- 2 broiler sheds
- 19 roof fans per shed
- 6 gable end fans per shed
- Noise from 50000 chickens (sound power (LW) of 102.9 dB) per shed
- 3 feed bins
- 4 biomass boilers and 4 boiler flues
- 2 HGVs

There will only be one 666kW boiler at the installation and not four boilers. The noise level from this source has thus been over estimated in the modelling.

The consultant modelled 6 scenarios at a number of intervals during the cycle during the day and night. These were as follows:

1. Day 21 – Minimum Ventilation –Night
2. Day 21 – Transitional Ventilation (gable end and roof fans) Day
3. Day 28 – Minimum Ventilation - Night
4. Day 28 - Transitional Ventilation (gable end and roof fans) - Day
5. Day 35 – Minimum Ventilation - Night
6. Day 35 - Transitional Ventilation (gable end and roof fans) - Day

Transitional ventilation is temperature dependant. This assumes all fans (roof fans and gable end fans) are operating at maximum capacity when external temperatures are above 30°C.

Minimum ventilation is appropriate for young chicks, at night time and during winter months. This is the expected normal operation during the majority of the cycle.

There will be 2 HGV movements during the daytime throughout the cycle for bedding delivery, feed delivery etc and 4 HGV movements per cycle during the night for population and depopulation.

The only receptor point where it is predicted that there is the likelihood of complaints is at Tudor Farm. The consultant predicts that for Tudor Farm the impacts are less than marginal significance (<5 dB over background) for all times except at night on day 35 when HGV movements are expected. The maximum impact is expected to be +13dB above background levels indicating that complaints are likely. This is equivalent to greater than significant adverse impact in accordance with BS4142:2014.

The consultant concludes: *“the number of HGV movements will be minimal and will only occur at night during bird population and depopulation. As bird population and depopulation will consist of two night-time ‘events’ during the 35 day production cycle, whilst the BS4142 assessment has indicated that complaints may be likely, as HGV movements at night will be infrequent it is anticipated by the operator that night-time HGV movements will not have a significant impact upon nearby residents.”*

We have conducted our own indicative check modelling and sensitivity analysis using noise modelling software CANDIA-A (version 4.5).

We have ran the following worst case scenario:

- Day 35 – Transitional Ventilation (gable end and roof fans) Day and Night

Only minimum ventilation is appropriate when HGV movements are expected at day 35. Therefore, using transitional ventilation is highly conservative. Our checks based on this scenario show impacts of > +10dB rating level above background indicating greater than significant adverse impact but below the

consultant's predicted worst case at Tudor Farm. Impacts during minimum ventilation where gable end fans are not operational [a typical normal operation] are likely to be below these levels. Note, during the transitional ventilation phases, gable end fans will be a significant contributor to noise level but the main contributing noise sources are still the fans.

We also checked a scenario where fans are operating under transitional ventilation with all gable end fans activated but no HGV movements at night time assuming external temperatures are above 30°C. The predictions indicated an impact above +5 dB but below +10 dB above background, indicating a likelihood of greater than adverse impact. However, the likelihood of the circumstances for this scenario to happen at Dodleston Hall Farm at night time are low. This shows the co-occurrence of HGV movements are most important to whether a significant adverse impact is possible.

Although we do not agree with the consultant's absolute numerical predictions, we can agree with their conclusions that, within context, a BS4142 assessment of >+10dB above background may not have a significant adverse impact at the receptor Tudor Farm.

Although HGVs are a significant noise source, night time HGV movements will only occur twice per cycle, totalling 32 movements (16 days) per year, this operation may not occur frequently enough or for long enough duration of time (20 mins on site movements) to coincide with the assumed worst case scenario where temperatures are above 30°C. Note that this prediction is based on a maximum of 2 HGVs operating at any one time, any additional HGV movements will further increase impacts at 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 IED.

This permit implements the requirements of the European Union 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 Dodleston Hall Farm Poultry Unit (dated 21/11/14) 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.**

Biomass boiler

The applicant is varying their permit to include 1 biomass boilers with a net rated thermal input of 0.666 MW.

The Environment Agency has assessed the pollution risks and has 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 for poultry sites 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;
- A. the aggregate net rated thermal input is less than 0.5MW_{th}, or:
- B. the aggregate boiler net rated thermal input is less than or equal to 4 MW_{th}, and no individual boiler has a thermal input greater than 1 MW_{th}, and;
- the stack height must be a minimum of 5 meters above the ground (where there are buildings within 25 meters the stack height must be greater than 1 meter above the roof level of buildings within 25 meters) and:
 - there are no sensitive receptors within 50 meters of the emission points

This is in line with the Environment Agency's document "Air Quality and Modelling Unit C1127a Biomass firing boilers for intensive poultry rearing". An assessment has been undertaken to consider the proposed addition of the biomass boilers.

The Environment Agency's risk assessment has shown that the biomass boiler meets the requirements of criteria B above, and are therefore considered not likely to pose a significant risk to the environment or human health and no further assessment 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
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 consultation and web publicising 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 permit implements the requirements of the Industrial Emissions Directive.	✓
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	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	condition reports and baseline reporting under IED–guidance and templates (H5).	
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>We have not formally consulted on the application. The decision was taken in accordance with our guidance.</p> <p>The assessments that were undertaken regarding ammonia emissions from the installation are: -Appendix 11 has been sent to Natural England for information only on 05/02/15.</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>	✓
Environmental Risk Assessment and operating techniques		
EIA	In determining the application we have considered the Environmental Statement.	✓
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>	✓
Operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes. The relevant guidance note for this installation is Sector Guidance Note EPR6.09.</p> <p>The operating techniques include:</p>	✓

Aspect considered	Justification / Detail	Criteria met Yes
	<ul style="list-style-type: none"> • The sheds are fan ventilated with a fully littered floor and are equipped with a non-leaking drinking system. • Litter is to be kept dry and friable. • Wash water generated during the clean out of the sheds is to be collected and disposed of separately. <p>In relation to the biomass boilers, the operating techniques are as follows:</p> <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. <p>The proposed techniques for priorities for control are in line with the benchmark levels contained in the TGN 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		
Raw materials	<p>We have specified limits and controls on the use of raw materials and fuels.</p> <p>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.</p>	✓
Pre-operational conditions	<p>Based on the information in the application, we consider that we need to impose pre-operational conditions.</p> <p>1 – The operator has proposed a series of odour contingency measures in their Odour Management Plan (OMP). The operator is unable to provide full details of these until the sheds have been constructed and contractual agreements are in place with the supplier. Before operations commence full details of these measures will need to be incorporated into the OMP. This is to ensure that the OMP can suitably manage the risk of</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<p>odour pollution from the installation.</p> <p>2 – The results and conclusions in the noise modelling are based upon the construction of a 1.5m bund to the south and south west of the site. Before operations commence the operator is required to confirm that the bund has been constructed and update the site layout plan to show its location. The reasoning in this Decision Document regarding noise from the installation is based upon the results from the noise modelling report, which is are valid based upon the construction of the bund.</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>	✓
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>	✓
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.</p>	✓
Financial provision	<p>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.</p>	✓

Annex 2: Consultation and web publicising

Summary of responses to consultation and web publication and the way in which we have taken these into account in the determination process (newspaper advertising is only carried out for certain application types, in line with our guidance).

The Local Planning Authority- Cheshire West and Chester Council, Environmental Health- Cheshire West and Chester Council and the Health and Safety Executive were consulted, however, no responses were received.

This proposal was also publicised on our website between 25/02/15 and 26/03/15 and no representations were received.