Environment Agency permitting decisions

Variation

We have decided to issue the variation for Manor Farm operated by Mr HT Dent and Mrs SR Dent (trading as HT & SR Dent).

The variation number is EPR/JP3431ME/V006

The permit number is EPR/JP3431ME

This application was applied for and determined as a substantial variation.

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 – Ammonia emissions assessment; Biomass boilers; Industrial Emissions Directive (IED); Site boundary
- Annex 1 the decision checklist
- Annex 2 the consultation and web publicising responses

Key issues of the decision

Ammonia emissions assessment

This variation authorises the addition of 148,000 boilers, housed in three new poultry houses. An ammonia impact assessment has been undertaken to identify if the additional poultry places and emissions points will impact nearby habitat sites.

There is one Site of Special Scientific Interest (SSSI) located within 5 kilometres of the installation. There are also 6 Local Wildlife Sites (LWS) and 3 Ancient Woodlands (AW) within 2 kilometres of the installation.

Ammonia assessment – Neasham Fen SSSI

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) has indicated that the PC for Neasham Fen SSSI is predicted to be less than 20% CLe for ammonia, acid and nitrogen 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 (µg/m³)	PC (µg/m³)	PC as % of CLe
Neasham Fen	3*	0.22	7.5

* Natural England confirmed that a CLe of 3 for ammonia could be applied to Neasham Fen due to it predominantly being designated for its geological features. No critical load is assigned for acid and nitrogen deposition therefore they screen out from requiring further assessment.

Table 2 Nitrogen deposition

Name of SSSI	CLo kg N/ha/yr	PC kg N/ha/yr	PC as % of CLo
Neasham Fen	n/a*	1.17	n/a

* Critical load values taken from APIS website (www.apis.ac.uk) – 11/02/2014

Table 3 Acid deposition

Name of SSSI	CLo keq/ha/yr	PC keq/ha/yr	PC as % of CLo
Neasham Fen	n/a*	0.08	n/a

* Critical load values taken from APIS website (www.apis.ac.uk) – 11/02/2014

Ammonia assessment – LWS and AW

There are 6 Local Wildlife Sites (LWS) and 3 Ancient Woodlands (AW) within 2km of Manor 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, as set out above, using results of the AST v4.4. The PC on the LWSs and AWs for ammonia, acid and nitrogen deposition from the application site are under the 100% significance threshold and can be screened out as having no likely significant effect.

Table 4 Ammonia Emissions LWSs and AWs

Name of LWS/AW	Ammonia CLe (µg/m³)	PC (µg/m³)	PC as % of CLe
Black Wood LWS	3*	1.23	41.1
Boulton Park Wood LWS	1**	0.24	23.7
Dinsdale Wood LWS	3*	1.28	42.5
Neasham Brickworks LWS	1**	0.39	38.9
Unknown LWS	3*	1.73	57.8
Pettals Wood LWS	1**	0.78	77.7
Bolton Park Wood AW	1**	0.24	23.7
Unknown AW	3*	1.11	37.0
Dinsdale Wood AW	3*	1.28	42.5

***** CLe 3 applied as no protected lichen or bryophytes species were found when checking easimap layer.

** Precautionary CLe 1 has been used. Where the precautionary level of 1µg/m^3 is used, and the process contribution is assessed to be <100% the site screens out as insignificant, and no further assessment of CLo is necessary. In these cases the 1µg/m^3 CLe used has not been confirmed, but it is precautionary.

Table 5 Nitrogen deposition

Name of LWS/AW	CLo kg N/ha/yr	PC kg N/ha/yr	PC as % of CLo
Black Wood LWS	10*	6.40	64.0
Dinsdale Wood LWS	10*	6.62	66.2
Unknown LWS	10*	9.01	90.1
Unknown AW	10*	5.77	57.7
Dinsdale Wood AW	10*	6.62	66.2

***** Critical load values taken from APIS website (www.apis.ac.uk) – 11/02/2014

Table 6 Acid deposition

Name of LWS/AW	CLo keq/ha/yr	PC keq/ha/yr	PC as % of CLo
Black Wood LWS	2.75*	0.46	16.628
Dinsdale Wood LWS	1.54*	0.47	30.723
Unknown LWS	1.53*	0.64	42.061
Unknown AW	2.75*	0.41	14.987
Dinsdale Wood AW	1.54*	0.47	30.723

***** Critical load values taken from APIS website (www.apis.ac.uk) – 11/02/2014

No further assessment was required.

Biomass boilers

An assessment has been undertaken by the Environment Agency to screen the two biomass boilers (biomass boiler 1 is 950kW and biomass boiler 2 is 600kW) that will be used to heat the poultry houses.

The biomass boilers were initially assessed in the following way:

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 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:

(i) the fuel will be derived from virgin timber, miscanthus or straw, and;

(ii) the biomass boiler appliance and installation meets the technical criteria to be eligible for the Renewable Heat Incentive, and;

(iii) 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:

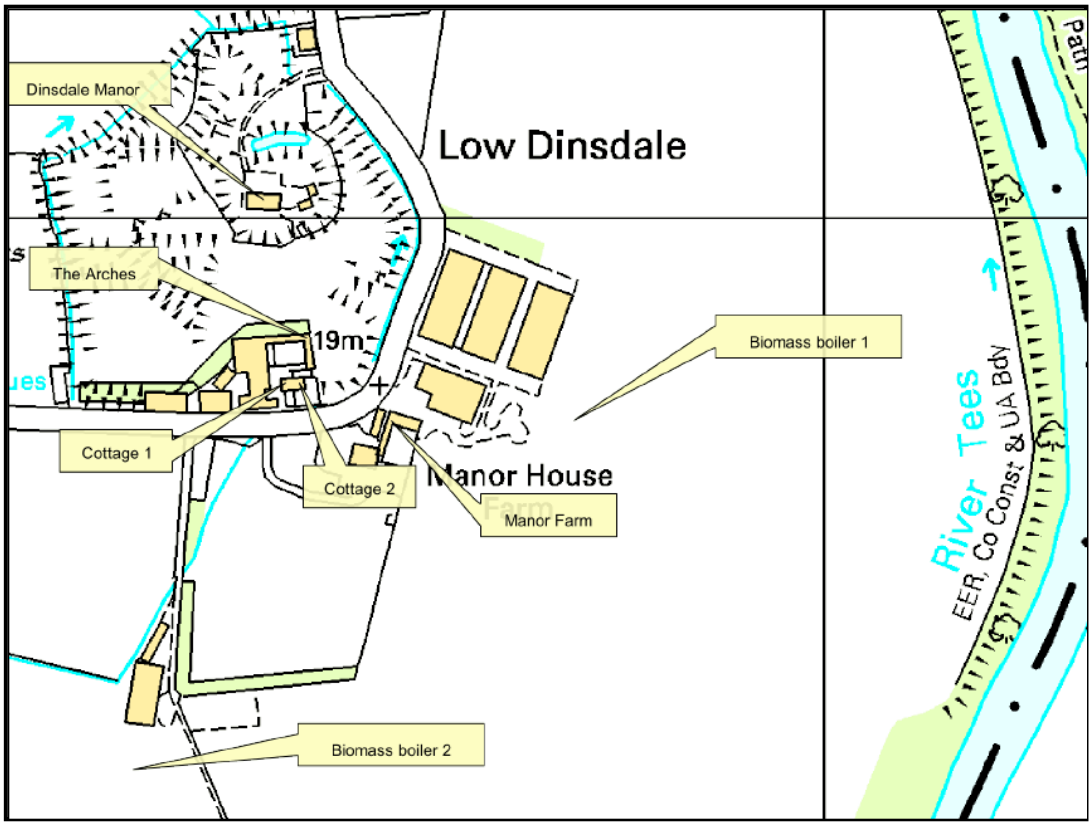
- no Special Areas of Conservation, Special Protection Areas, Ramsar sites or Sites of Special Scientific Interest within 500 metres of the emission point(s);
- no National Nature Reserves, Local Nature Reserves, ancient woodlands or local wildlife sites within 100 metres of the emission point(s), or;

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 point(s).

The biomass boilers **do not** meet the requirements of criteria A, B or C above, as the stack height of biomass boiler 2 is not greater than 1m above the roof level of the adjacent building; and there are sensitive receptors (residential

dwellings) present within 150 metres of the emission points. Therefore, further assessment was required.



The assessment of emissions from the biomass boilers has been carried out in accordance with Environment Agency guidance H1 Environmental Risk assessment Annex (f) Air Emissions, using the in-house Environment Agency Air Quality Monitoring Assessment Unit (AQMAU) screening tool.

As there is approximately 400 metres between biomass boiler 1 and biomass boiler 2, the screening tool was run twice to calculate a Process Contribution (PC) from each of the boilers (at the five nearby sensitive receptors illustrated above.) The biomass boilers were screened with the following input parameters:

Flue diameter	0.5m
Stack height (from ground level)	Biomass boiler 1 – 6.79m Biomass boiler 2 – 9.03m
Adjacent Building heights	Biomass boiler 1 – 5.2m Biomass boiler 2 – 9.2m
Flue nominal load temperature	150
Flue minimum temperature	85

Thermal input in MW or kW per hour	Biomass boiler 1 – 600kW Biomass boiler 2 – 995kW
Exit velocity in m/sec	5
NO_x concentration in mg/Nm^3	106
CO concentration in mg/Nm^3	52
PM_{10} (dust) concentration in mg/Nm^3	39
The exact grid reference of the stacks:	Biomass boiler 1 – NZ 34545 10672 Biomass boiler 2 – NZ 34815 10868
The exact grid reference of the centre of the farm	NZ 34680 10720
Closest sensitive receptors (residential dwellings): Manor Farm Cottage 2 Cottage 1 The Arches Dinsdale Manor	 NZ 34711 10864 NZ 34652 10888 NZ 34640 10887 NZ 34654 10920 NZ 34625 11010

The AQMAU screening tool was used to assess the impact of carbon monoxide (CO), nitrogen dioxide (NO_2) and particulates (PM_{10}) emissions from the proposed boiler units on the nearby sensitive receptors. Sulphur dioxide (SO_2) has not been assessed due to the boiler fuel being Clean woodchip which is likely to contain very little or no sulphur. CO results have produced zero values when compared with the relevant Environmental Standard, and therefore no further assessment has been carried out.

The two PC values were added together (to give a cumulative PC from the two boilers) and compared to the relevant environmental standards in the following way.

In line with Environment Agency guidance H1 Annex F, Process Contributions can be considered insignificant if:

- The long term process contribution is <1% of the long term environmental standard; and
- The short term process contribution is <10% of the short term environmental standard.

The results highlighted in red in the following table are PCs that as a percentage of the relevant Air Quality Standard (AQS) **cannot** be considered insignificant.

Receptor Name	Pollutant	Percentile	Cumulative Model PC Conc ug / m3	AQS	PC as % of AQS	Screens out ST < 10% LT < 1%
Cottage 1	NO2	99.79	11.7	200.0	5.9	Yes
Cottage 1	NO2	Annual Mean	0.9	40.0	2.3	No
Cottage 1	PM10	90.41	1.0	50.0	2.0	Yes
Cottage 1	PM10	Annual Mean	0.3	40.0	0.8	Yes
Cottage 2	NO2	99.79	12.3	200.0	6.1	Yes
Cottage 2	NO2	Annual Mean	1.0	40.0	2.4	No
Cottage 2	PM10	90.41	1.1	50.0	2.1	Yes
Cottage 2	PM10	Annual Mean	0.3	40.0	0.9	Yes
Dinsdale Manor	NO2	99.79	8.9	200.0	4.5	Yes
Dinsdale Manor	NO2	Annual Mean	0.5	40.0	1.3	No
Dinsdale Manor	PM10	90.41	0.5	50.0	1.0	Yes
Dinsdale Manor	PM10	Annual Mean	0.2	40.0	0.5	Yes
Manor Farm	NO2	99.79	16.5	200.0	8.3	Yes
Manor Farm	NO2	Annual Mean	1.6	40.0	3.9	No
Manor Farm	PM10	90.41	1.7	50.0	3.4	Yes
Manor Farm	PM10	Annual Mean	0.6	40.0	1.4	No
The Arches	NO2	99.79	12.2	200.0	6.1	Yes
The Arches	NO2	Annual Mean	0.9	40.0	2.3	No
The Arches	PM10	90.41	0.9	50.0	1.8	Yes
The Arches	PM10	Annual Mean	0.3	40.0	0.8	Yes

The following PCs are **not insignificant**:

- NO_2 (long term) at Cottage 1, Cottage 2, Dinsdale Manor, Manor Farm and The Arches; and

- PM_{10} (long term) at Manor Farm

Therefore, we must take background concentrations into consideration to examine whether a PC is going to contribute significantly to a possible exceedance of its AQS in this circumstance. PC plus background is described as the Predicted Environmental Concentration (PEC).

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

$PC_{long\ term}$ + background concentration < 70% of theAQS.

All PEC values in the table below are less than 70% of the AQS and therefore screen out from requiring further assessment.

Receptor Name	Pollutant	Percentile	Model PC Conc ug / m3	AQS	Back-ground	PEC (PC + Back-ground)	PEC as % of AQS	Screens out as <70%
Cottage 1	NO2	Annual Mean	0.9	40.0	8.1	9.0	22.6	Yes
Cottage 2	NO2	Annual Mean	1.0	40.0	8.1	9.1	22.8	Yes
Dinsdale Manor	NO2	Annual Mean	0.5	40.0	8.1	8.6	21.6	Yes
Manor Farm	NO2	Annual Mean	1.6	40.0	8.1	9.7	24.3	Yes
Manor Farm	PM10	Annual Mean	0.6	40.0	15.3	15.9	39.9	Yes
The Arches	NO2	Annual Mean	0.9	40.0	8.1	9.0	22.6	Yes

Therefore, all cumulative emissions from the boilers screen out from needing further detailed assessment, and as such can be permitted with no further assessment.

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 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 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 reports for Manor Poultry Farm (original dated August 2008, and the revision for the additional area of the site dated February 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, although this condition is included in the permit, no groundwater or soil monitoring is required at this installation as a result of this condition at this time.**

Site boundary

The site boundary has been extended to incorporate the three new poultry houses and one of the biomass boilers. The applicant amended the site condition report to reflect the new permitted area which we have assessed. The updated site condition report (dated February 2014) demonstrated that there has been no evidence of pollution associated with the new land and therefore the original assessment (dated August 2008) would be valid for the extended area.

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 operator is the person who will have control over the operation of the facility after the grant of the variation. 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 variation now meets the requirements of the Industrial Emissions Directive (IED) – see Key Issues for details.	✓
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. As a result of this variation the site boundary is extended slightly to accommodate the three new poultry houses and one of the biomass boilers.	✓

Aspect considered	Justification / Detail	Criteria met Yes
Site condition report	The operator has provided a description of the condition of the additional area of the site which is being brought into the permit as part of this variation (the area of the site which contains the three additional poultry houses referenced 5 to 7. 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 site. **See key issues ammonia emissions assessment above for further information.** We have not formally consulted on the application. The decision was taken in accordance with our guidance document 84_07 – see Key Issues section for details. An Appendix 4 was saved to file for audit only on 16/04/14.	✓
Environmental Risk Assessment and operating techniques		
Environmental risk	We have reviewed the operator's assessment of the environmental risk from the facility. The operator's risk assessment is satisfactory. **See key issues biomass boilers section above for further information.** The assessment shows that, applying the conservative criteria in our guidance on Environmental Risk	✓

Aspect considered	Justification / Detail	Criteria met Yes
	Assessment, all emissions may be categorised as environmentally insignificant.	
Operating techniques	We have reviewed the techniques used by the operator and compared these with the relevant guidance notes. The operator has proposed the following operating techniques: • The additional sheds are ventilated using high velocity fans. • Litter will be kept loose and friable. • Biomass boilers are being installed to ensure temperature will meet the health and welfare needs for the age and number of birds. • Only virgin biomass material will be used as fuel for the boilers. • The boilers and their installation will meet the requirements of Renewable Heat Incentive. The proposed techniques 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.	✓
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 permits. 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.	✓

Aspect considered	Justification / Detail	Criteria met Yes
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.	✓
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. The operator satisfies the criteria in 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
Darlington Local Authority Planning and Environmental Health Team – 19/05/14
Brief summary of issues raised
1. In response to objections made to the Planning application, the Council requires that the Operator has a Noise Management Plan which concentrates on noise associated with unloading of feed, cleaning out of the sheds after each crop, waste disposal collections, maintenance of the fans and destocking of birds. 2. Condition 4 of planning permission 12/00619/FULE requires all working activities (apart from the collection of birds and emergencies) to be restricted to between 07.00 and 19.00 hours Monday to Friday and 07.00 and 13.00 hours on a Saturday, with no such activities taking place on Sundays or Bank/Public Holidays.
Summary of actions taken or show how this has been covered
1. The applicant provided a Noise Management Plan with the original application. Within this plan they have addressed the issues about which the Council raised concerns. This is a 'live document' and in accordance with our guidance document H3 Noise Assessment and Control, the operator is required to update this plan periodically or in the event of receiving complaints. It is noted that neither the Environment Agency or the Council have received any complaints about noise pollution from this site. Therefore this proposal does not raise any further concerns as the operator has committed to operating within the confines of the noise management plan. 2. The applicant resubmitted their noise management plan on 21/05/14, to state that all working activities (apart from the collection of birds and emergencies) to be restricted to between 07.00 and 19.00 hours Monday to Friday and 07.00 and 13.00 hours on a Saturday, with no such activities taking place on Sundays or Bank/Public Holidays. As such the noise management plan now reflects the requirements of condition 4 of the planning permission, and is therefore acceptable to the Local Authority Planning and Environmental Health Department.

The Health and Safety Executive (HSE) were all consulted on this proposal, but no response was received.

This proposal was publicised on the Environment Agency website between 11/04/14 and 15/05/14, but no representations were received during this period.