Environment Agency permitting decisions

Variation

We have decided to issue the variation for Cowbit Farm Poultry Unit operated by Bernard Matthews Foods Limited

The variation number is EPR/BT4745IL/V004

This was applied for and determined as a normal 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
- 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:

- The biomass boilers are added as a DAA in Table S1.1 and as emission points in table S3.1
- Table S2.1 now refers to biomass boiler fuel;
- Inclusion of conditions 3.1.3 and 3.5.1 and amendment of conditions 3.6 and 4.3.1 as a result of the requirements of the Industrial Emissions Directive (IED).
-Some conditions have been renumbered, reworded or deleted as a result of the change to modern permit conditions
- Site drainage has been clarified and table S3.2 emissions to water (formerly S4.2) has been amended, and S3.3 emissions to land introduced.

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.

Site Drainage

The original application did not include an emissions to land table. The emissions to water table S4.2 (now S3.2) implied that no interception of potentially lightly contaminated yard surface water was present prior to discharge to the surface water. Following a discussion on the phone on 19/05/14 with the application contact, it was confirmed that the areas immediately surrounding the poultry housing (where there was potential for dust to collect from the side outlet fans on the poultry housing), were stoned areas acting as soakaways. This is considered adequate mitigation for this area. Table S3.3 emissions to land has been added to the permit to include the areas acting as soakaways.

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:

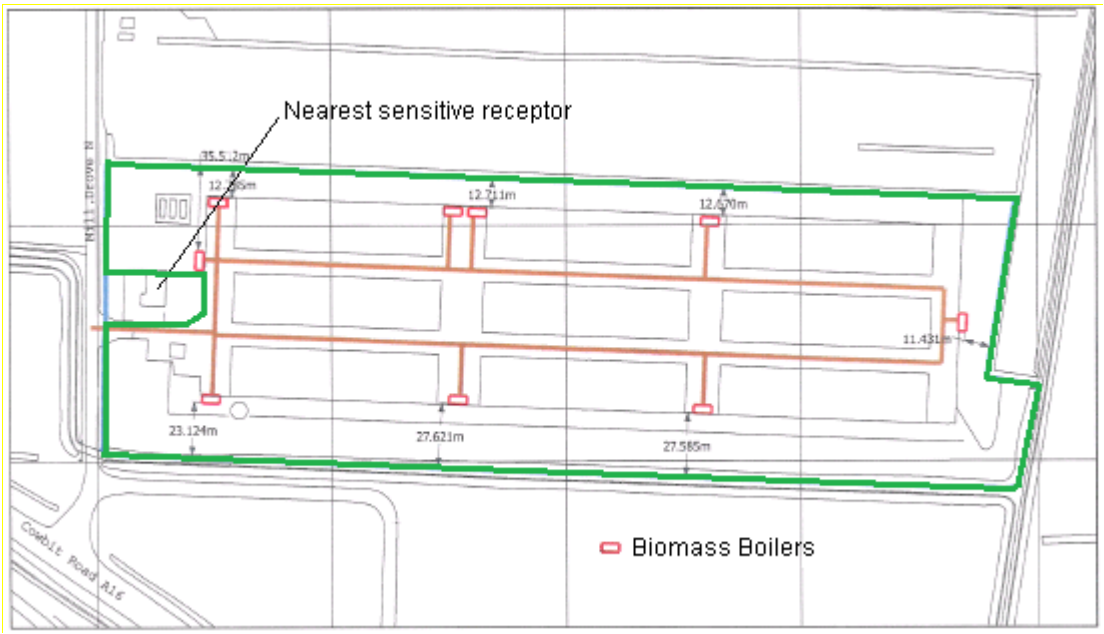
- The environmental risk assessment identifies no hazards to land or groundwater; or
- Where the environmental risk assessment identifies only limited hazards to land and groundwater and there is no reason to believe that there could be historic contamination by those substances that present the hazard; 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 Cowbit Farm Poultry Unit (received 04/01/07) 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 will be required at this installation as a result.**

Biomass Boilers

An assessment of emissions from the nine 151kW biomass boilers that will be used to heat the poultry houses 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 and Assessment Unit (AQMAU) screening tool.

The poultry houses were grouped together as one large building for the purpose of screening (see plan below).



The biomass boilers were assessed with the following input parameters:

Flue diameter	200mm
Stack height (from ground level)	6m
Adjacent building height	4.5m
Flue nominal load temperature	160^0C
Total thermal input capacity in MW	9 x 151kW = 1359W
Exit velocity in m/sec	2.89
NO_x concentration in mg/Nm^3	94
CO concentration in mg/Nm^3	5
PM_{10} (dust) concentration in mg/Nm^3	14
O2 concentration	13% excess air
The exact grid references of the stacks	526652, 318709 526752, 318705 526762, 318705 526861, 318701 526968, 318659 526858, 318623 526754, 318627 526649, 318625 526644, 318686
The exact grid reference of the centre of the farm	526800, 318650

The Air Quality Monitoring and Assessment Unit (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 closest residential receptor (farm house, national grid reference 526630, 318673). 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 Assessment Limit (EAL), and therefore no further assessment has been carried out.

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.

Nitrogen oxide (NO) and nitrogen dioxide (NO_2) are commonly measured as "NO_x". However, standards for human health are expressed as the individual constituents.
Emissions of NO will oxidise to NO_2 over time, and so the following guidelines from H1 Annex F were used for the conversion:

- short term emissions: convert all measured or estimated nitrogen oxide emissions to NO_2 and assume 50% of this value as the short term NO_2 emission.
- long term emissions: convert all measured or estimated nitrogen oxide emissions to NO_2 and use this value as the long term emission.

Process Contributions

For NO_2 and PM_{10}, the short term Air Quality Standard (AQS) is 200 µg/m^3 and 50 µg/m^3 respectively, and for long term, 40 µg/m^3 for both NO_2 and PM_{10}.

The results for PM_{10} have produced insignificant PCs when compared with the relevant EAL, and therefore no further assessment has been carried out.

The results below show process contributions (PCs) of NO_2 as a percentage of the relevant AQS.

Pollutant	Term	PC µg/m^3	AQS µg/m^3	PC %age of AQS
NO_2	Short	**13.9**	**200**	**7**
NO_2	Long	**1.67**	**40**	**4.2**

The following Process Contribution (PC) is not insignificant:

- NO_2 (long term)

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 AQS where:

PC $_{\text{long term}}$ + background concentration < 70% of the AQS.

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

Pollutant	Term	PC µg/m^3	Background µg/m^3	PEC µg/m^3	AQS µg/m^3	PEC as % of AQS
NO_2	Long	**1.67**	**10**	**11.67**	**40**	**29.2%**

Therefore, all emissions from Cowbit Farm Poultry Unit screen out from needing further detailed assessment, and as such can be permitted with no further assessment.

In addition to the above assessment, the applicant provided the confirmation of the following:

- the boiler and its installation meet the technical criteria to be eligible for the Renewable Heat Incentive (the boiler manufacturer certification),
- the total fuel stored on site is approximately 100 tonnes with each boiler module including a fuel storage of approximately 9-10 tonnes,
- accident prevention measures for the biomass boiler and storage of the biomass fuel which will form part of the Accident Management Plan and includes measures to prevent accidents including minimising the risk of fires due to wood pellet storage and the actions in the event of fire, and
- confirmation that the ash will be disposed of to landfill via the general waste skip on farm.

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	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.	✓
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. The assessment shows that, applying the conservative	✓

Aspect considered	Justification / Detail	Criteria met Yes
	criteria in our guidance on Environmental Risk Assessment, all emissions may be categorised as environmentally insignificant.	
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, Biomass Boilers 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: • the fuel is derived from virgin timber; and • the biomass boiler appliance and it's installation meets the technical criteria to be eligible for the Renewable Heat Incentive 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	We have specified that the applicant must operate the	✓

Aspect considered	Justification / Detail	Criteria met Yes
the application	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.	✓