

# **Environment Agency permitting decisions**

## **Variation**

We have decided to issue the variation for Saltbox Farm Poultry Unit operated by Moy Park Limited.

The permit number is EPR/MP3134MA

The variation number is EPR/MP3134MA/V003.

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 – Biomass Boilers; Industrial Emissions Directive (IED); Groundwater and Soil Monitoring
- Annex 1 the decision checklist

## Key issues of the decision

### Biomass Boilers

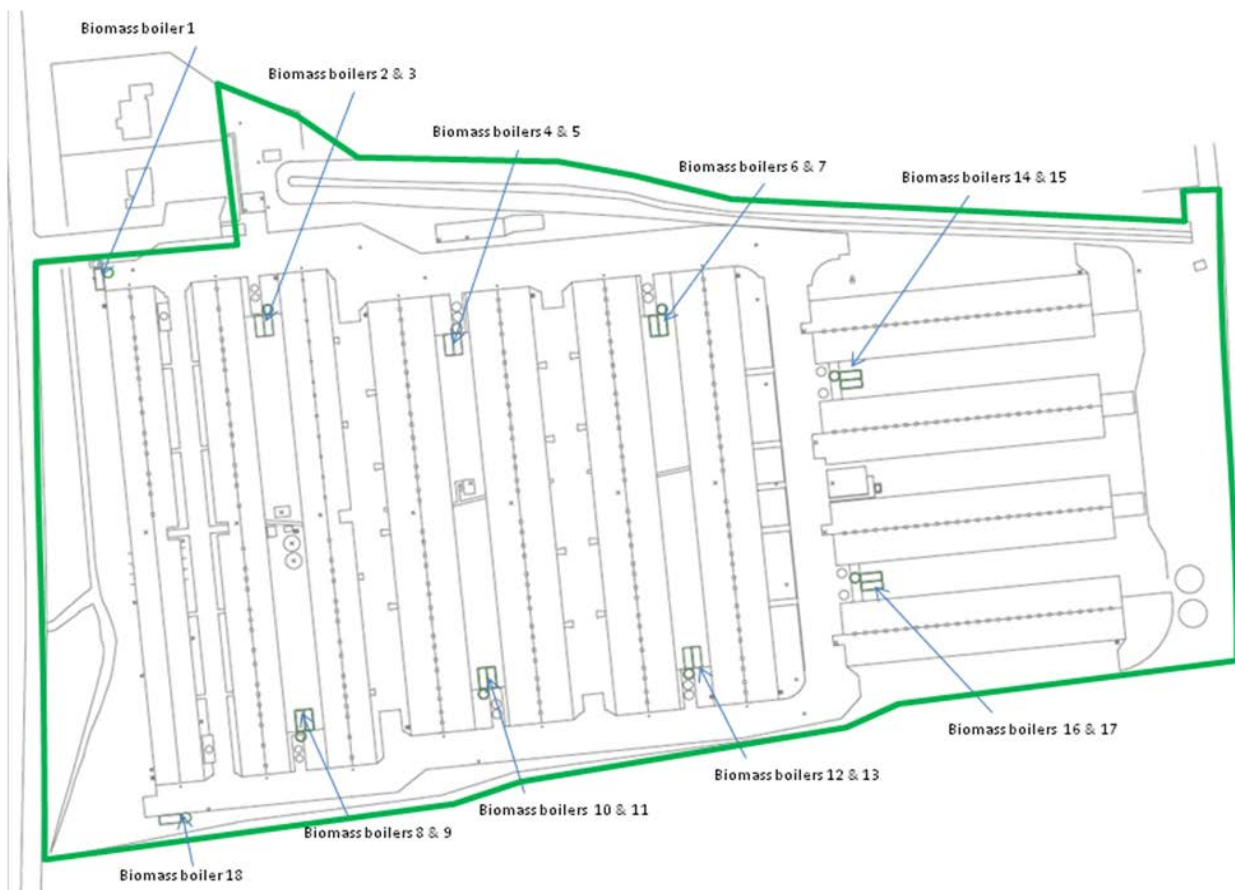
The Operator has applied to vary their permit to include eighteen 221kwth biomass boilers with an aggregated net thermal input of 3,978kwth.

In line with 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 0.5 MWth, or;
  - B. less than 1 MWth 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 2 MWth where, in addition to the above criteria for less than 1 MWth 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 heights of the biomass boilers are not greater than 1 metre above the roof levels of the adjacent buildings, the aggregated net rated thermal input is greater than 2 MWth; 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 Modelling and Assessment Unit (AQMAU) screening tool.

The screening tool was run to calculate the Process Contribution (PC) from the boilers at the most sensitive local receptors illustrated above (Saltbox Farm). The biomass boilers were screened with the following input parameters:

|   |             |
|---|-------------|
| Flue diameter   | 0.2 m       |
| Stack height (from ground level)                            | 5.5 m       |
| Adjacent building heights                                   | 4.8 m       |
| Flue nominal load temperature                               | 180°C       |
| Flue minimum temperature                                    | 100°C       |
| Thermal input in MW or kW per hour                          | 221 kW each |
| Exit velocity in m/sec                                      | 1.9         |
| NO <sub>x</sub> concentration in mg/Nm <sup>3</sup>         | 146         |
| CO concentration in mg/Nm <sup>3</sup>                      | 20          |
| PM <sub>10</sub> (dust) concentration in mg/Nm <sup>3</sup> | 38          |

|  |                 |                |
|--|-----------------|----------------|
| The exact grid reference of the stacks:                          | Boiler 1        | TF 08439 42950 |
|  | Boiler 18       | TF 08458 42795 |
|  | Boilers 2 & 3   | TF 08482 42934 |
|  | Boilers 4 & 5   | TF 08536 42931 |
|  | Boilers 6 & 7   | TF 08594 42938 |
|  | Boilers 8 & 9   | TF 08495 42822 |
|  | Boilers 10 & 11 | TF08548 42838  |
|  | Boilers 12 & 13 | TF08605 42845  |
|  | Boilers 14 & 15 | TF 08648 42926 |
|  | Boilers 16 & 17 | TF 08656 42868 |
| The exact grid reference of the centre of the farm               |                 | TF 08554 42885 |
| Closest sensitive receptors (residential dwelling): Saltbox Farm |                 | TF 08446 42986 |

The AQMAU screening tool was used to assess the impact of carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>) and particulates (PM<sub>10</sub>) emissions from the proposed boiler units on the nearby sensitive receptors. Sulphur dioxide (SO<sub>2</sub>) 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 negligible values when compared with the relevant Environmental Quality Standard (EQS) / Environmental Assessment Level (EAL), and therefore no further assessment has been carried out on this pollutant.

In this assessment the individual PC impact values were combined together by use of the AQMAU screening tool (to give a total cumulative PC from the eighteen biomass boilers) and compared to the relevant EQS/EAL 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.

Maximum off-site ground level impacts and those at the most significantly impacted human receptor location (Saltbox Farm) are summarised in the tables below.

Table 1 – Predicted Short term Impacts

| Pollutant                | EQS / EAL<br>µg/m <sup>3</sup> | Back-ground Conc.<br>µg/m <sup>3</sup> [1] | Process Contribution (PC) µg/m <sup>3</sup> | PC as % of EQS / EAL | Predicted Environmental Concentration (PEC) µg/m <sup>3</sup> | PEC as % of EQS/EAL [2] |
|--------------------------|--------------------------------|--|---|----------------------|---|-------------------------|
| NO <sub>2</sub> (1 hr)   | 200                            | 18.6                                       | 38.4  | 19.2%                | 57  | 28.5%                   |
| PM <sub>10</sub> (24 hr) | 50                             | 18.4                                       | 2.5   | 5%                   | 20.9  | 41.8%                   |

Note [1] The background concentration is taken as twice the long term background level for Short Term EQS/EAL standards referenced to an hourly averaging value.

Note [2] Where the PC is demonstrated to be less than 10% of the short term EQS/EAL, a level below which we consider to indicate insignificant impact, further consideration of the PEC is not required.

Table 2 - Predicted Long Term Impacts

| Pollutant        | EQS / EAL<br>µg/m <sup>3</sup> | Background Conc.<br>µg/m <sup>3</sup> | Process Contribution (PC) µg/m <sup>3</sup> | PC as % of EQS / EAL | Predicted Environmental Concentration (PEC) µg/m <sup>3</sup> | PEC as % EQS / EAL [1] [2] |
|------------------|--------------------------------|---------------------------------------|---|----------------------|---|----------------------------|
| NO <sub>2</sub>  | 40                             | 9.2                                   | 3.3   | 8.3 %                | 12.5  | 31.3 %                     |
| PM <sub>10</sub> | 40                             | 18.3                                  | 0.8   | 2 %                  | 19.1  | 47.8 %                     |

Note [1] Where the PC is demonstrated to be less than 1% of the long term EAL, a level below which we consider to indicate insignificant impact, further consideration of the PEC is not required.

Note [2] Where the PEC is demonstrated to be greater than 70% of the long term EAL, a level below which we consider to indicate as not being a significant impact, more detailed assessment is required.

### Screening out emissions which are insignificant

In accordance with our guidance H1 Annex F

PM<sub>10</sub> is considered insignificant as its short term PC impact is < 10% of the short term EQS/EAL.

NO<sub>2</sub> is considered insignificant as its long term PEC impact is < 70% of the long term EQS/EAL.

PM<sub>10</sub> is considered insignificant as its long term PEC impact is < 70% of the long term EQS/EAL.

### Emissions unlikely to give rise to significant pollution

Also from the tables above the following emissions (which were not screened out as insignificant) have been assessed as being unlikely to give rise to significant pollution in that the Predicted Environmental Concentration (PEC) is less than 100% (taking expected modelling uncertainties into account) of the short term EQS/EAL. Which are:

- NO<sub>2</sub> short term;

For these emissions we have considered the headroom between their PECs and the relevant EQS/EAL standards relative to the predicted PC value for the emission. From this analysis we consider that there will not be any exceedance of an EQS/EAL or any significant pollution caused by the operation of the installation.

### Conclusion

All emissions either screen out as being considered insignificant, or where they do not screen out as insignificant are considered unlikely to give rise to an exceedance of any environmental standard or cause significant pollution.

## **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 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 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 Report for Saltbox Farm Poultry Unit submitted with the original permit application received 28/12/06 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.**

## 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<br>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 Regulatory Guidance Notes 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 EU Directive on Industrial Emissions. <b>See key issues ‘Industrial Emissions Directive (IED)’ section above for further information.</b>   | ✓                   |
| The site  |  |                     |
| Biodiversity, Heritage, Landscape and Nature Conservation | For the purpose of this application the biomass boilers are <b>not</b> within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.   | ✓                   |
| 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. The assessment shows that, applying the conservative criteria in our guidance on Environmental Risk Assessment, all emissions may be categorised as unlikely to be environmentally significant. <b>See key issues ‘Biomass Boilers’ section above for further information.</b>   | ✓                   |
| Operating techniques                                      | We have reviewed the techniques used by the Operator and compared these with the relevant guidance notes.<br>The operating techniques are as follows: <ul style="list-style-type: none"><li>the fuel is derived from virgin timber (biomass pellets); and</li><li>the biomass boilers and their installation meets the technical criteria to be eligible for the Renewable Heat Incentive.</li></ul> The proposed techniques for control are in line with the benchmark levels contained in the Sector Guidance Note | ✓                   |



| Aspect considered                               | Justification / Detail  | Criteria met |
|---|---|--------------|
|   |   | Yes          |
|   | EPR6.09 and we consider them to represent appropriate techniques for the facility. The permit conditions ensure compliance with relevant BREFs and Best Available Technique conclusions.  |              |
| <b>The permit conditions</b>                    |   |              |
| 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), miscanthus or straw shall be used as a fuel for the biomass boiler. 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.  | ✓            |
| <b>Operator Competence</b>                      |   |              |
| 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. Relevant convictions were found and declared in the application. We considered relevant convictions as part of the determination process. We concluded that the Operator satisfies the criteria in 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.   | ✓            |