Moy Park Ltd

A Technical Summary for the use of Biomass Boilers on PPC sites.

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Annotated by RHI Inquiry

Biomass Boilers to be installed on IPPC permitted broiler sites.

Non-Technical Summary.

The purpose of this report is to supply documentary evidence of any potential biomass boiler/s and hot water heating system/s that maybe installed on an IPPC permitted poultry site. The use of biomass boiler/s and hot water heating system/s has become increasingly common with the potential of improved performance, welfare and management of the birds and houses plus the reduction in the carbon footprint in using a renewable fuel in woodpellets/chip and the introduction of government incentive of Renewable Heat Incentive payments (RHI's).

The biomass boiler heats a water supply which is then pumped to a hot water heating system which indirectly radiates heat into the house in which the birds are housed, replacing the direct fired LPG heaters previously being used which were inefficient and an expensive source of heat.

There are various make and sizes of biomass boilers on the market currently. The majority of poultry sites are installing boilers with an output of 99kwh (or 199kwh boiler depending on RHI scheme changes) which are eligible for the Government RHI scheme and meet the technical criteria. The technical criteria of the various biomass boilers will append this report.

The fuel used in these biomass boilers will be renewable and derived from virgin timber to meet the criteria of the RHI Scheme. This will be either in the form of a pellet or a chip. Pellets are likely to be stored in a silo, as chip is likely to be stored in a bulk shed/bin and both will be augered directly into the boiler to minimise any possible dust emissions.

There are various hot water heating systems accompanying the use of biomass boilers. These are water to air heat exchangers producing an indirect efficient 'dry heat' which ensures optimum litter and air quality throughout the crop cycle for improved bird welfare and performance, along with reduced input costs. There are currently 4 different systems being utilised on sites:

1. Cubo heaters from Chore-time's
2. Holland Heaters
3. Multi-heat heaters
4. Spiralflex piping from Skov

Systems 1 to 3 above, are heaters were the hot water supplied from the boiler is pumped through pipes to the heat exchanger. A fan built into the unit draws hot air from the ceiling of the houses through the heat exchanger and gently distributes it over the birds and back to the floor, constantly circulating air throughout the house. These are suspended from the ceiling and located up the centre of the house. **System 4** above is a finned tube for

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heating of the house where hot water from the boiler is pumped through a flow and return pipe. The finned tubes are made of steel (boiler tube quality) and are all-welded. The finned tubes are fixed to the side walls under the inlets and the heat is radiated with the incoming air from the inlets to heat the house.

The biomass boiler/s is usually housed separately from the poultry house/s in a purpose built shed/s. The chimney flue from the boiler/s will be at least 1m from the roof of the shed housing the boiler/s to comply with EA guidance on 'Biomass Boilers on EPR intensive farms, May2013'. Through the RHI scheme all biomass boilers have to comply with the air quality emissions and to provide further documentary evidence, an Air Quality Assessment (AQA) report has been appended to this report which demonstrates that there is no significant impact on any third party receptors (7% of Nitrogen Dioxide, <1% of Carbon Dioxide and <1% of dust against the Air Quality Standards) which complies with the appropriate limits within the set distances when installed on a site.

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