



*Brecon and Radnor Branch  
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## **Reference: APP/T6850/A/21/3266394**

### **Forest View Poultry Unit Planning Appeal:**

#### **Submission by Interested party:**

#### **Brecon and Radnor Branch of the Campaign for the Protection of Rural Wales**

#### **Additional submission**

In our previous submission, dated 4/3/21, we did not mention the scrubber system described in the Ammonia Report **18/0826/FUL-AMMONIA MODELLING REPORT APRIL 2020-269791.(20.4.20)** and we would like to add these comments.

The 20/4/20 Ammonia report says:

#### **3.5.2 Modelling of air scrubber emissions**

For the calculation of the emission rates from the air scrubber, the outlet ammonia concentration is assumed to be a constant 2 ppm (1,408.8 µg/m<sup>3</sup>). This figure is based upon the guaranteed maximum outlet concentration from the manufacturers of the ammonia scrubbing equipment. It should be noted that, typically, an agricultural wet chemical scrubber can achieve 1 to 1.5 ppm outlet ammonia concentration, therefore the 2 ppm assumed is precautionary.

The ventilation rates used in the calculations are based on industry standard practices. For the calculations, the minimum ventilation rate is set at 1.0 m<sup>3</sup>-air/bird/h and the maximum ventilation rate is 7.5 m<sup>3</sup>-air/bird/h. If the external temperature is 13 Celsius, or lower, minimum ventilation only is assumed for the calculation. If the external temperature is 23 Celsius, or more, then the maximum ventilation rate is assumed. A transitional ventilation rate is calculated between these extremes. Based upon these principles, an ammonia emission rate for each hour of the period modelled is calculated by multiplying the outlet concentration by the ventilation rate.

The capacity of each of the air scrubbers would be 100,000 m<sup>3</sup>/h (27.777 m<sup>3</sup>/s). If the modelled ventilation rate exceeds the scrubber capacity, additional ventilation would be provided by the ridge mounted fans. The ammonia concentration is assumed to be approximately 8.5 ppm for the existing and proposed housing; this figure is assumed because it approximates the regulatory ammonia emission factor. Similarly, to the scrubber emissions, an emission rate from the bypass ventilation system is calculated by multiplying the internal concentration by the ventilation rate.

Table 2b models scrubber emissions:

Table 2b. Point source parameters, modelled scrubber emissions

Source ID	Height (m)	Diameter (m)	Efflux velocity (m/s)	Emission temperature (°C)	Emission rate per source (g-NH <sub>3</sub> /s)
EX1_BY1, 2 & 3 (Proposed)	6.0	0.8	11.0	Variable <sup>1</sup>	Variable <sup>1</sup>
EX1_SCR 1, 2 & 3 (Proposed)	6.0	Variable <sup>1</sup>	7.0	Variable <sup>1</sup>	Variable <sup>1</sup>
PR1_BY1, 2 & 3 (Proposed)	6.0	0.8	11.0	Variable <sup>1</sup>	Variable <sup>1</sup>
PR1_SCR1, 2 & 3 (Proposed)	6.0	Variable <sup>1</sup>	7.0	Variable <sup>1</sup>	Variable <sup>1</sup>

1. Dependent on ambient temperature.

The conclusion says:

It should be noted that the modelling is for scrubbing equipment of design and specification as described in this report and is unlikely to be applicable to other scrubber designs and specifications.

The DAS does not mention scrubbers. It concludes:

### **32. BREEM**

This proposal is for the development of an extension to an existing egg production unit.

The design complies with BS5502, DEFRA Lion Code and RSPCA Freedom Foods, which are the governing standards for poultry buildings. The building does not require heating and operates with semi-natural ventilation to reduce the power usage to the absolute minimum.

The scrubber system is not described in the Design and Access Statement or the first ammonia report and is not mentioned until the 19/3/20 Ammonia report.

There is no description of the scrubber system other than the listed references under Source ID in Table 2b above. This does not seem sufficient to identify the designs and specifications to the statutory agencies. We have seen no references relating to scrubbers or their performance in the Ammonia Report bibliography or in any other document submitted with the application. The relevance of variable ambient temperature, which seems to prevent filling in most of Table 2b, is not explained.

There is no undertaking by the Appellant that the scrubbers of the correct type, or indeed any scrubbers, will actually be fitted. We understand it is possible to obtain scrubbers for free-range layer sheds although we have seen an example of an application for a Free Range Egg unit proposing to include a specified system designed for broiler units.

Ammonia scrubbers require careful and proper maintenance and operating procedures. No data are given about their useful life-span or how their efficiency declines over time.

The ammonia report appears to rely on perfect functioning and perfectly maintenance and operation of a complex technology which is not mentioned in the Appellant's submissions to protect a Special Area of Conservation.

Evidence about the various risks associated with ammonia and manure management should have been set out in the application and should be set out in any HRA procedure.