

Mr Martyn Langford
Minafon
Llansantffraid
Powys
SY22 6TH

17th April 2024
Project Ref: 01.0302.001

Dear Mr Langford,

Odour and Ammonia Screening: Rhosddu Farm

I have presented below a basic odour screening assessment for the development proposals at Rhosddu Farm. The aim of this screening assessment is to consider whether full detailed odour and / or ammonia modelling is required in support of the Permit Application for the replacement poultry house.

Planning Background

Rhosddu Farm, Llansantffraid-Ym-Mechain, Welshpool, Powys, SY22 6TH is wanting to vary the permit for their poultry unit, a 56,000 bird free range egg laying unit. This currently comprises:

- 1 No. 16,000 bird flat deck house (Perchery);
- 1 No. 16,000 multi-tier (Aviary); and
- 1 No. 24,000 multi-tier (Aviary).

The current site was granted planning permission in October 2014:

'Full: Erection of building to provide extension to existing free range egg production unit, together with construction of hard standing, installation of 2.no silo's and soft landscaping scheme. Ref. No: P/2014/0742. Granted 31st October 2014.'

The remaining flat deck house is ventilated via end wall fans and pop holes on the sides of the house provide access to an outside ranging area. Manure collects within the house (a so-called "deep pit" system) and it is cleared at the end of each flock cycle, which is approximately once per year. In the newer multi-tier houses there is a belt system for collection of the droppings which are stored temporarily in a covered skip prior to removal from the site, usually twice a week.

The Powys County Council planning application for the 2014 permission was supported by air quality and odour reports, such as:

'ADAS. An Odour Dispersion Modelling Study of the Impact of the Proposed Expansion to the Free Range Egg Laying Units at Rhosddu Farm, Llansantffraid-ym-mechain in Powys. Date: 5th March 2015'

Development Proposals

Similar to the 2014 application, the farm operator now seeks to construct and operate a new single 24,000 multi-tier (Aviary) unit. For this application, the new house will replace the remaining old 16,000 bird flat deck (Perchery) house.

Odour Emissions Screening

Both Powys County Council and NRW accepted the odour emission rates used in the ADAS odour report. These were as follows:

- Flat deck system (ventilated deep pit): 0.94 ou_E/bird/sec; and
- Multi-tier system (manure removal twice a week by manure belt): 0.47 ou_E/bird/sec.

There may also be some odour from the ranging birds and this was also assessed in the ADAS report (at 0.25 ou_E/bird/sec) and accepted by Powys County Council and NRW.

The total emissions from the existing and proposed building layouts at Rhosddu Farm are therefore:

| Layout | Places (on range) | Housing (ou_E/bird/sec) | Range (ou_E/bird/sec) | Total (ou_E/sec) |
|---------------|--------------------------|--|--|---------------------------------------|
| Existing | 16000 (3200) | 0.94 | 0.25 | 15840 |
| Proposed | 24000 (4800) | 0.47 | 0.25 | 12480 |

The results therefore show the following Process Contribution:

- Existing: 15840 ou_E/sec;
- Proposed: 12480 ou_E/sec; and
- Difference: 79%

Based on the emission rates used in the ADAS report and accepted by Powys County Council and NRW, the odour from the new house (with manure removal twice a week by manure belt) will represent 79% of the existing odour emission from the old ventilated deep pit house.

There will be a betterment in terms of odour emissions. As such, no detailed odour assessment is required in this case.

Ammonia Emissions Screening

NRW ammonia emission rates for the two building types are as follows:

- Perchery (ventilated deep pit): 0.29 kg/bird/year; and
- Aviary (manure removal twice a week by manure belt): 0.08 kg/bird/year.

As with odour, there may also be some ammonia from the ranging birds and NRW requires a factor of 0.045 kg/bird/year for 20% of bird numbers is applied.

The total ammonia emissions from the existing and proposed building layouts at Rhosddu Farm are therefore:

| Layout | Places (on range) | Housing (kg/bird/year) | Range (kg/bird/year) | Total (kg/year) |
|----------|-------------------|------------------------|----------------------|-----------------|
| Existing | 16000 (3200) | 0.94 | 0.045 | 4784 |
| Proposed | 24000 (4800) | 0.47 | 0.045 | 2136 |

Based on NRW emission rates, the ammonia from the new house (aviary with manure removal twice a week by manure belt) will represent 45% of the existing ammonia emission from the old ventilated deep pit perchery house.

There will be a betterment in terms of odour emissions. As such, no detailed odour assessment is required in this case.

Summary

There will be a betterment in terms of odour and ammonia emissions. As such, no detailed assessment is required in this case.

Closure

I trust the emissions screening assessment above addresses your requirements as discussed. Should you wish to discuss the scope further or require clarification of any matter please do not hesitate to contact me using the contact details below.

Yours Sincerely



Matt Stoling
Director
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