

Critique of the Chicken Meat Industry Science: Dust and Odour in relation to proposed broiler farm at Ridgewood. MCU 12/0184

136 Top Forestry Road, Ridgewood QLD 4563

Includes comments based on advice received from environmental consultants:

Ian Eskdale
Environmental Advisor

Simon Welchman
Katestone Environmental

Submitted by: No Broiler Farm Cooroy
PO Box 450 Cooroy, QLD 4563

Date: 4 March 2015

Contact:
Rod Ritchie
Old Ceylon Rd Cooroy,
QLD 4563

07 5442 6776

Introduction

Two months ago, we received several documents from the Sustainable Poultry Alliance (SPA), which is a network of communities in southeast Queensland affected by the impacts of meat poultry farming. The SPA has represented community interest at various forums since 2000, and particularly in the Poultry Industry Roundtable process conducted from December 2009 to March 2011.

These documents raise legitimate concerns about the reliability of odour modelling, the reluctance to consider the bioaerosol component of poultry shed dust, the omission of key research into SEQ poultry shed emissions, and the lack of support for the draft meat chicken guidelines by the then Department of Environment and Resource Management (DERM) and the majority of local councils.

These documents led us to contact Mr Ian Eskdale, a very experienced pollution scientist who was the DERM representative on the Poultry Industry Roundtable Guidelines Working Group.

SPA and Mr Eskdale have assisted us to compile this submission. See the accompanying letter to Noosa Council from Mr Eskdale.

We have provided Council with a hard copy of the booklet we received from SPA as a general reference.

In the Key Issues below, we refer to specific examples by way of separate attachments.

Key Issues

In summary:

1. **We accept the odour impact modelling has been done generally in accordance with current industry practice, with some limiting variations (for example, issues related to the use of representative or on-site meteorological data)**

Basis for opinion

The peer reviews commissioned by separate parties have sufficiently common comments. Please find attached a copy of the review of the odour assessment we commissioned from Katestone Environmental ([Attachment 1](#)).

2. **We do not accept that the odour modelling is a reliable prediction of likely odour impact.**

Basis for opinion

The *Guideline: Odour Impact Assessment From Developments* has not been applied appropriately. Taking the Guideline's objects, procedures and guidance into account, it is reasonable to expect that use of the 2.5 OU criterion will result in an underestimation of odour ([Attachment 2](#)).

A submission to the Poultry Roundtable Guidelines Working Group by the Scenic Rim Regional Council representative refers to numerous examples where odour modelling had poorly quantified actual on-ground odour emissions and dispersion patterns ([Attachment 3](#)).

The Working Group correspondence raises numerous issues with the modelling approach; particularly lack of validation of odour modelling results with actual performance in the field, use of the so-called “K factor” (see [Attachment 3A](#) which discusses the lack of scientific rigour in the K Factor), and appropriate odour assessment criterion ([Attachment 4](#)).

- 3. We contend that large volumes of untreated odour will be emitted, given the proposal does not include any extraordinary emission control measures, and there are, in practice, no cost-effective measures to mitigate impacts to an acceptable level.**

Basis for opinion

DAFF scientists have published in a peer review science journal stating that SEQ poultry farm emissions are the highest recorded emissions in the literature ([Attachment 5](#), see page 550, Discussion).

The requirement to ventilate the sheds to ensure bird safety results in huge emission rates – “*A typical broiler shed may have a maximum ventilation rate of 130 m³/s (which would remove the air from a container the size of an Olympic-sized swimming pool in about eight seconds!)*”. These huge emission rates inhibit the ability to control odour emissions (see [Attachment 6](#), page 24).

The lack of practical cost-effective measures for controlling odour (and dust) is detailed further in [Attachment 7](#) (DAFF presentation to growers) and [Attachment 8](#) (RDRDC report on control technologies).

There are a number of operational poultry farms with unresolved odour and dust problems in SEQ – for example, Scenic Rim Regional Council, Logan City Council, Moreton Bay Regional Council, Somerset Regional Council.

- 4. We contend that dust emissions are seriously misunderstood and underestimated**

Basis of opinion

The harmful nature of poultry shed dust is well documented in the scientific literature. A good publication to explain poultry dust is the *Statement of evidence – Respiratory hazards of poultry dust* ([Attachment 9](#)).

DAFF scientists in a peer reviewed journal article discuss the health implications of fine particulate dust and state that the dust emissions from

poultry sheds can remain suspended in the atmosphere for periods of time and travel large distances from their sources ([Attachment 10](#), page 552).

The DERM representative on the Working Group raised the importance of the dust emissions and prepared a comparative risk assessment that concluded dust emissions were potentially a greater impact than odour emissions. ([Attachments 11](#) and [12](#)).

The actual impact of dust emissions from SEQ poultry farms is evidenced by three separate professional opinions for three different situations ([Attachments 14](#), [15](#)).

- 5. We contend that despite being described as industry best practice, the proposed development does not include any extraordinary emission control measures, and is likely to emit large volumes of untreated emissions that cannot be managed to an acceptable level once the facility is operational**

Basis of opinion

The net outcome of the fore-mentioned items is that there is little that can be done once a facility is operational.

This reality is reflected by the overwhelming consensus from local government representatives on the Working Group that the current practice for determining separation distances was inadequate. The local government representatives recommended that separation distances should be measured from property boundary of the development. This is evidenced by local government submissions and the Local Government Association of Queensland motion at its annual conference ([Attachment 16](#)).

- 6. We contend that the DAFF meat chicken guideline does not reflect the scientific knowledge, the experience and exercise of local government regulation of poultry farms. The guideline reinforces the misinformation and perpetuates the impacts on the community. This has given rise to four Ministerial Forums since 2000.**

Basis of opinion

DERM and several councils did not support the draft meat chicken guidelines ([Attachment 16A](#)).

A summary of concerns about the Conduct of the guidelines working group is provided at [Attachment 17](#).

Conclusion

The proposed development, even if operating at 'industry best practice':

1. Is likely to emit large amounts of odour and dust (including bioaerosols) that is likely to cause environmental nuisance and related health impacts.
2. Has little prospect of effective emission control measures to operate successfully.
3. According to the Environmental Protection Policy for Air, the reality is that the proposed development will be managed in the least preferred way.
4. The experience in SEQ is that where operational poultry farms have problems with their shed emissions and neighbours, the problems remain unresolved for years.

While some Noosa Councillors have visited a model chicken meat farm at Beaudesert, there has been little examination of the scientific literature pertaining to problems arising from the modern shed-ventilation systems which use the air and general amenity of neighbouring properties when disposing of wastes.

Since broiler farms are such long lasting entities, people are impacted for very many years and their properties are nearly impossible to sell.

Checking the attached example complaints log of a SE Queensland shed-ventilated broiler farm ([Attachment 18](#)) proves odour predictions to be regularly incorrect. And a simple phone call to people living within impact distances ([see testimonials page](#)) should be sufficient to prove that MCU 12/0184 be again recommended for refusal.

10 Trafalgar Vale Avenue
Wellington Point QLD 4160
3 March 2015

Ms Kerri Coyle
Noosa Council Planning & Environment Manager

Dear Ms Coyle,

I write to introduce myself and confirm my involvement with *No Broiler Farm Cooroy* (The Group).

I was put in touch with The Group by the Sustainable Poultry Alliance (SPA). I had regular interactions with SPA on a variety of chicken meat industry issues from 2006 to 2012 during my time with the Queensland Government Environment Department, particularly as a member of the Poultry Roundtable Guidelines Working Group. I am currently employed by the Queensland Government in a temporary role with Workplace Health and Safety Queensland. I have no dealings with poultry farm development in this role.

I am an environmental scientist (Masters of Applied Science in Environmental Toxicology) with extensive experience in state government roles dealing with the planning and operation of intensive animal industries (including beef cattle feedlots, piggeries, aquaculture). I was on the steering committee for the development of the inaugural national guidelines for beef cattle feedlots and was also the editing author of the guidelines.

I am assisting The Group in a voluntary capacity. The assistance I provide is to help The Group understand better the science, policy and legislation in relation to poultry developments, and environment protection matters more generally.

I have:

- Provided to the The Group a critique of the *Guideline: Odour Impact Assessment From Developments* and its use in reports supporting the development proposal;
- reviewed, on 2 March 2015, a draft submission by The Group titled *Critique of the Chicken Meat Industry Science: Dust and Odour* – I consider it a fair and reasonable account of the matters it addresses;
- sighted the material The Group has received from the Sustainable Poultry Alliance and I can verify that the material is genuinely from the Roundtable process and has been presented in context; and
- noted that The Group has used two unreferenced documents (“K factor” and “odour log”). I supplied these documents to SPA for the purposes of education and training. They are extracts from actual documents, but SPA was not provided with the full document nor was the source identified fully. I consider the way The Group have used these documents is not inappropriate.

Should you wish to contact me directly, my email address is ian.eskdale@gmail.com and my phone number is 0402 556 292.

Yours sincerely



Ian Eskdale

Index of Attachments

1. Katestone Environmental Review - Odour Assessment of Proposed Poultry Farm
2. Critique of *Guideline: Odour Impact Assessment from Developments*
- 2A. *Guideline: Odour Impact Assessment from Developments*
3. Scenic Rim Regional Council - Submission on draft Meat Chicken Guidelines
- 3A. Information on the K factor development
4. Guidelines Working Group correspondence re K Factor performance
5. *Odour emissions from tunnel-ventilated broiler sheds: Case study of nine Queensland farms*
6. *Environmental Science and the Queensland Chicken Meat Industry* April 2010
7. Department of Agriculture Fisheries and Forestry (DAFF) presentation to growers
8. Control of Odour and Dust from Chicken Sheds - Review of “add-on” technologies
9. HSE Statement of evidence: Respiratory hazards of poultry dust
10. Dust emissions from a tunnel-ventilated broiler poultry shed with fresh and partially reused litter, written by DAFF scientists
11. Correspondence from DERM representative re importance of dust emissions
12. Illustration: Comparative Risk Assessment of Dust and Odour Emissions from Poultry Sheds
14. *Envirotest: Assessment of Human Health Risks of Proposed Poultry Farm at Josephville near Beaudesert*
15. Workplace Health and Safety: Health concerns relating to the Poultry Industry
16. Local Government Association of Queensland motion at annual conference
- 16A. Submissions from: Redland City Council, Scenic Rim Regional Council, Morton Bay Regional Council and Ipswich City Council
17. Summary of Concerns about the Conduct of the Poultry Industry Roundtable
18. Example complaints log