

BEFORE THE INDEPENDENT COMMISSIONER

UNDER the Resource Management Act 1991

IN THE MATTER of an application for air discharge consent by Airport Farm Trustee Limited to operate a free range chicken farm at 58 Airport Drive, New Plymouth (5262-3.0)

**SUPPLEMENTARY STATEMENT OF EVIDENCE OF
DONOVAN VAN KEKEM
ON BEHALF OF VARIOUS SUBMITTERS (THE MCDONALDS, THE
HIBELLS, THE BROWNS & POPPAS PEPPERS 2009 LTD)**

4 March 2022

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1. Summary

- 1.1 My full name is Donovan van Kekem.
- 1.2 I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses in the Environment Court, as I outlined in my evidence in chief.
- 1.3 I have prepared this supplementary evidence after having reviewed the supplementary evidence of Mr Jason Pene¹ and Mr Ed Whiting². This review has been conducted in accordance with the directions of the Hearing Commissioners.
- 1.4 To be concise I only cover my key points of disagreement in this evidence.
- 1.5 Firstly, I will comment on the additional evidence provided by Mr Pene.
- 1.6 I have reviewed the updated air dispersion modelling and associated results provided by Mr Pene in his supplementary evidence. I confirm that the updated modelling approach and associated inputs are consistent with that which was agreed as being appropriate in the informal expert conferencing which occurred after the hearing (morning of 17th February 2022).
- 1.7 As I have already stated in my earlier evidence and at the hearing, I consider that air dispersion modelling is only one tool when assessing the potential for adverse odour effects from a poultry farm such as the AFT farm. I do not think that the modelling results should be used as a pass/fail when determining effects. That being said, these are my comments on the additional modelling presented by Mr Pene.
- 1.8 Mr Pene has used the definition of a dwelling house in the Regional Air Quality Plan for Taranaki (RAQPT) to define the area around a dwelling (or curtilage) within which the occupants of that dwelling could reasonably be adversely affected by odour discharged from the farm. Whilst I am not opposed to using this as the basis for defining the area within which we should consider the peak off-site effects, I consider that it may have been difficult for Mr Pene to accurately define the extent of this area from aerial imagery alone.
- 1.9 It appears that for the McDonald residence (62 Airport Drive), Mr Pene has used a location relatively close to the McDonald house as the location for the nearest extent of the curtilage associated with this dwelling. Having visited the McDonald house I consider that there are outdoor areas closer to the farm which could be considered a part of the McDonald's "*outdoor living area*". As such the modelling figures presented in Mr Pene's evidence for this receptor point may be incorrect and not accurately reflective of the McDonald's use of their property (as discussed further below).

¹ Supplementary Evidence of Jason Savelio Karena Pene dated 25 February 2022

² Supplementary Evidence of Edward John Whiting dated 25 February 2022

- 1.10 However, I do note that the 5 OU contour in Figure 3 (proposed free range farm operation) of Appendix A of his supplementary evidence does not cross into the expanded area within which I consider to be a part of the curtilage area directly adjacent to the house.
- 1.11 However, I am concerned that the 5 OU contour (in Figure 3) encompasses the building within which Mr McDonald runs his business. There is an outdoor table and associated outdoor seating beside the building. Based on my site visits, the large barn door of this building is also often left open. It is my understanding that Mr McDonald spends much of his time in this area and frequently walks between this area and the dwelling house. Therefore, it is debatable whether or not this area would/could be considered as part of the 'outdoor living' area as defined in the RAQPT.
- 1.12 In my opinion, for all intents and purposes, this area of the McDonald property should be considered as a location sensitive to adverse odour effects. It is an area frequently utilised/occupied by the owners of the property and it is an area of the property where they regularly have clients/visitors.
- 1.13 As such, the predicted peak 99.5%ile one hour odour concentrations that are above 5 OU at this sensitive location exceed the 5 OU criteria which, in my opinion, would be applicable at this location.
- 1.14 Furthermore, the Ministry for the Environment Good Practice Guide for Assessing and Managing Odour (MfE GPG Odour) recommended odour modelling guidelines (reproduced below), state that 5 OU is the appropriate guideline for a 'moderately' sensitive receiving environment. I consider that the Mr McDonald's workshop/business would fall within this moderate sensitivity category. As such the 5 OU criteria within the MfE GPG Odour would be applicable to this receptor location.

Table 9: Recommended odour-modelling guideline values

Sensitivity of the receiving environment	Concentration	Percentile
High (worst-case impacts during unstable to semi-unstable conditions)	1 OU/m ³	0.1% and 0.5%
High (worst-case impacts during neutral to stable conditions)	2 OU/m ³	0.1% and 0.5%
Moderate (all conditions)	5 OU/m ³	0.1% and 0.5%
Low (all conditions)	5–10 OU/m ³	0.5%

- 1.15 I also wish to point out that the 2 OU contour in Figure 3 (proposed farm) extends well into the Area Q land on the other side of Airport Drive. It is my understanding that this land is currently zoned 'residential'. For residential zoned land the most applicable odour modelling criteria in the MfE GPG Odour is either 2 or 1 OU (depending on the stability conditions occurring during predicted peak concentrations).

- 1.16 This would also be applicable if Area R was to be considered as 'residential' for the purposes of this assessment. I note that there is much debate about this Area and that the Commissioners are yet to determine the appropriate zoning upon which the effects should be assessed against in this area. However, for the avoidance of doubt, if Area R was to be considered 'residential', now or beyond 2026 then my opinion is that the 1-2 OU criteria would be applicable in this area.
- 1.17 For these reasons, the modelling results for the proposed farm demonstrate an exceedance of the relevant criteria for odour discharges of this nature in a receiving environment of this sensitivity.
- 1.18 I also wish to highlight the fact that the McDonald residence has the master bedroom on the second storey. This master bedroom has French doors which open to a second storey balcony. This is approximately 6 m above ground level and located on the western side of their house.
- 1.19 Regardless of how you want to interpret the air dispersion modelling results and their inherent accuracy for nearfield receptors, if odour is going to be discharged at 7 m above ground level a little over 100 m from a balcony of this height, it is intuitive that odour will be smelt at this receptor location.
- 1.20 I am supportive of the proposed draft consent condition regarding restricting shed clean outs to prescribed wind conditions on the basis of the evidence provided by Mr Pene (if consent is granted).
- 1.21 I have briefly reviewed the odour diary and meteorology data analysis undertaken by Mr Whiting. I have a few areas of concern.
- 1.22 There appears to be some conflicting information in spreadsheet (A1). For example, on line 161 there is a comment that there are birds at 12 days old, but in column P of the same row it is indicated that there are no birds.
- 1.23 However, I do note that in the data presented in Mr Whiting's A1 dataset there are some odour complaints which have been received when the sheds are empty and have been cleaned out. This could indicate another source of odour in the vicinity of the farm or over sensitised neighbours. The majority of complaints have occurred whilst the sheds are stocked or there is spent litter still in the sheds. From a cursory review of the data, it appears complaints are occurring primarily towards the end of the batch/bird cycle. This is consistent with published/calculated odour emission rates from broiler operations which increase as the birds grow in age/mass.
- 1.24 In Mr Whiting's A3 spreadsheet he has compared the Poppas Peppers wind direction data with the New Plymouth Aero data. In Paragraph 8 of Mr Whiting's evidence, he states that the two datasets "*demonstrated substantially similar results*". I disagree with this. I have compared the wind direction data between the two datasets as presented in A3 and there is approximately 1/3 of the data which matches, the other 2/3s do not match.
- 1.25 It is my understanding that the experts agree that the localised wind conditions in and around the immediate area of the farm are likely to be

varied from that measured at the New Plymouth Aero weather station. This is indicated in the Poppas Peppers data, as compared with the New Plymouth Aero data.

- 1.26 The majority of the odour diary data is from the McDonald residence which is downwind during a wider range of wind directions and is subject to ventilation fans which blow odour at, or could funnel odour towards, their property. Therefore, reliance on the airport data for this upwind/downwind analysis has limited value/validity for this receptor in particular.
- 1.27 I have not had time to further scrutinise the analysis of the data which has been undertaken by Mr Whiting (as it is very complex with a large number of factors being assessed). However, as the upwind downwind validation is based on the airport data and the local measured data suggests that localised wind conditions around the farm vary from that measured at the airport, I consider that there may be flaws in the conclusions of the assessment.
- 1.28 In conclusion, I do not believe that there is sufficient evidence to be certain that the proposed farm will not result in chronic odour effects beyond the boundary of the site. I agree with the other experts and Council that off-site odour concentrations will decrease as compared with historic operations, due to the proposed farm upgrades and conversion to free range. This is supported by the air dispersion modelling studies.
- 1.29 However, the modelling results for the proposed operation exceed the relevant criteria in the MfE GPG Odour, therefore I consider that this modelling demonstrates that the proposed farm is likely to result in chronic offensive or objectionable odour effects beyond the boundary of the site. This, in conjunction with the elevated receptor location (i.e., the McDonald residence master bedroom on the second storey) close to the stack discharge points (of a similar elevation), leads me to conclude that there will likely be chronic adverse odour effects beyond the boundary of the site.
- 1.30 I consider that the proposed mitigation for the shed clean out activities is appropriate to limit/prevent acute off-site odour/dust effects from this activity.



Donovan Van Kekem

4 March 2022

