

Before the Independent Hearing Commissioners
Appointed by the Taranaki Regional Council

Under the Resource Management Act 1991

In the matter of a resource consent for air discharge relating to the poultry farm
operation at 58 Airport Drive, New Plymouth (5262-3.0)

Supplementary Evidence of Edward John Whiting

25 February 2022

Applicant's solicitor:

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- 1 My name is Edward John Whiting. I prepared a statement of evidence dated 28 January 2022, and a summary and rebuttal statement dated 14 February 2022.
- 2 This statement provides additional information requested at the hearing relating to the bird stages in the poultry sheds at the time odour diary entries.
- 3 I have provided a Microsoft Excel sheet which includes bird age, cleanout times and whether birds or litter was present at the time of an odour diary entry. I have also included in the Excel sheet the dates since March 2020 for chick placement, last catch days, litter removal (rows highlighted green) and fresh clean shavings (rows highlighted yellow). This sheet is attached and named "A1: Odour Diaries".
- 4 I have also undertaken my own analysis of the odour diaries to assist the Commissioners. This is summarised below.

Odour diaries

- 5 To assist in connecting the odour experiences recorded across the odour diaries presented in evidence and at the hearing, I have undertaken an analysis of activities or events occurring on the site at the time of recordings. This was to ascertain whether conditions existed to support a conclusion that the odour was coming from the site, or produced elsewhere.

Methodology

- 6 Each odour diary entry provided by submitters was analysed against local wind data and site production information to ascertain whether the information/data indicated:
 - (a) the observed odour noted in the diary entry potentially originated from Airport Farm (this is referred to as an "aligned" entry in the results);
or
 - (b) the observed odour was unlikely to have originated from Airport Farm (this is referred to as an "unaligned" entry in the results).
- 7 The analysis of wind occurring during diary entries utilised data from the New Plymouth Airport AWS. A Microsoft Excel worksheet containing raw data from 25 August 2021 to 19 February 2022 is attached and named "A2: New Plymouth AWS-NOAA".

- 8 It is noted for completeness that Poppas Peppers provided wind measurements for its weather station. These measurements were validated against the New Plymouth Airport AWS data and demonstrated substantially similar results. The raw data containing these wind measurements is attached and titled "A3: Comparison of wind measurements from Poppas Peppers".
- 9 At any hour in the day of the entry, if wind was registered within a 45 degree angle either side of the relative bearing of the observation location from the Airport Farm sheds, the entry was considered as being 'downwind' and the opportunity for odour to be experienced at the respective address was considered possible (if there was a site production activity or condition that could have created it).
- 10 For analysis against production information, the following factors were considered for each entry:
 - (a) Was a mature batch of chickens present on-site (21 days or older) – odour generation from younger birds was assumed to be minimal;
 - (b) Was litter present following the removal of all chickens from the site; and
 - (c) Was there a litter cleanout activity at the farm on the day.
- 11 Where any of the production factors applied on the date of an entry and the entry was identified as being "downwind", the entry was considered to be "aligned" with conditions conducive to odour propagation from Airport Farm. Where entries did not coincide with any of the production factors or were not identified as being "downwind", the entry was considered to be "unaligned".
- 12 Wind speed was also considered. For any day where the wind speed registered as less than 1 m/s, it was considered "Low Windspeed" and this was recorded and compared with whether or not a diary entry existed on that day.

Conclusions on odour diary analysis

- 13 The analysis of this data is attached to my evidence, in the form of:
 - (a) A Microsoft Excel sheet showing the raw data behind the charts. It includes all odour entries, the batch bird age, whether the birds were too young or no birds, cleanout, wind checks, litter present, last catch, and low windspeeds. This table is attached and named "A4: Analysis Chart Data";

- (b) A graph showing the total of the odour diary entries titled "A5: Entries over time greater than 0 intensity";
 - (c) A graph showing reported intensities titled "A6: Intensity as reported";
 - (d) Graphs showing entries by recorded intensity (1-5), and whether they aligned to conditions conducive to create odour (titled "A6: Entries Aligned"), or were unaligned (titled "A7: Entries Unaligned"); and
 - (e) A graph showing daily windspeed compared with diary entries with an intensity rating of greater than 0 titled "A8: Windspeed and Odour Entries".
- 14 A substantial portion of entries recording odour (44%) were identified as not being aligned with conditions conducive to odour propagation from the site. Most often this was due to the entries being made while the observation address was upwind of the farm.
- 15 The majority of entries noting higher odour intensities (ratings of 4 and 5) were identified as being unaligned with conditions conducive to odour propagation from the site. In particular, 71% of entries noting odour of a "very strong" intensity (ratings of 5) were identified as being unaligned with conditions conducive to odour propagation from the site.
- 16 A substantial number of days where low windspeed occurred were not noted in the odour diary as having experienced odour of any intensity.

Dated this 25th day of February 2022

Edward John Whiting