

Before an Independent Commissioner
appointed by the Selwyn District Council

Under	the Resource Management Act 1991
In the Matter of	of Proposed Private Plan Change 50 to the Selwyn District Plan

Addendum to Evidence of Donovan Van Kekem on behalf of Charlie and Sue Buttle

24 March 2017

- 1 My name is Donovan van Kekem. I am the managing director of NZ Air Limited an independent air quality consultancy. I have over 13 years' specialist air quality experience.
- 2 I was engaged in December 2016 by submitter Charlie Buttle to prepare air quality evidence to support his submission in opposition to the proposed private plan change application (PC50) made by Fonterra Limited (the applicant) for the proposed variation of rural zone rules specific to 131 hectares of rural land through the introduction of a dairy processing management area (DPMA).
- 3 My qualifications and relevant experience is stated in my evidence in chief. This addendum provides a written record of comments made in the Hearing on 23 March 2017.
- 4 While this is not a hearing before the Environment Court, I confirm that I have read the code of conduct for expert witnesses contained in the Environment Court Consolidated Practice Note (2014).
- 5 In my evidence in chief I discuss the potential scope for expansion. I note that the applicant has accepted that a potential doubling of the plant is a likely maximum extent of development and has based several of their assessments on this premise. Mr Williams proposes that the NCB would constitute a limit to the potential expansion of the plant. However, I consider that this is not the limiting factor for potential odour emissions. For instance, three new 30 t/hr dryers could be installed within the building height restrictions which are 'quieter' than current versions, but have the same odour emission properties of the current dryers.
- 6 Therefore, I stand by my assertion that it would be possible under PC50 to expand the plant drying capacity by up to 295%.
- 7 In my evidence in chief I also discuss the existing environment. I present the complaint history and associated enforcement officers observations, Mr Buttle's odour diary and my own assessment of off-site odours during my site visit. Based on this available evidence it is my opinion that existing odour effects beyond the boundary of the existing plant are at or about the offensive and objectionable threshold at times.
- 8 I note that Mr Chilton has described the milk powder odour as "neutral to slightly unpleasant". I agree with Mr Chilton that this is the character or hedonic tone of the odour at low intensities, however when experienced in higher intensities the character or hedonic tone intensifies and becomes very unpleasant. This effect is common with a number of odours, which at low concentration are not considered offensive, but at higher concentration can have a very pungent smell which is considered offensive.

- 9 I discuss the current sources of potential odour discharge from the current operation in my evidence in chief. These are the dryer exhausts, the waste water treatment plant, the coal boiler emissions, and the waste water irrigation.
- 10 The applicant has confirmed that it has had historic issues with odour discharges from their waste water irrigation. However it has actively addressed these and have additional mitigation measures in place to prevent re-occurrence of this in the future.
- 11 However, with regards to the dryer emissions, that applicant does not consider that these are a generating off-site nuisance. Mr Chilton relies on his experience at other dairy factories. However, these other dairy factories are unlikely to have the same discharge parameters, meteorological conditions, and surrounding environments to that of the Darfield plant. All of these factors contribute to the potential for odour effects beyond the boundary.
- 12 In my evidence in chief I discuss local meteorological conditions and how aspects of Mr Buttles' property are down wind of the plant under a large percentage of wind directions. I also outline how given the height and discharge parameters of the emissions from the dryers that it is unlikely that peak odour ground level concentrations from the dryers would be experienced close to the dryer stacks, but more likely at distance from the stacks. This was certainly my observation on site. These odour dispersion characteristics explain Mr Chilton's observations of low odour intensity, and hence neutral or mildly unpleasant hedonic tone, close to the stacks.
- 13 Mr Chilton also discusses my observations during my site visit and criticises the distances at which I detected odour from the plant. In my evidence in chief I discuss these observations. I detected odour approximately 900m from the site under two separate wind directions. Whilst I admit that the Buttle residence is approximately 1400m for the dryers, I consider it possible/plausible that odour could be experienced at the Buttle residence under alternate meteorological conditions, this is supported by observations by the Enforcement officer, and Mr Buttle's own observations (recorded in the odour diary).
- 14 Notwithstanding the above, should the maximum extent of expansion occur, or even the applicants own proposed 'doubling' of the factory (in its current form), I consider the extension of odour effects on the Buttle residence has the potential to be significant.

Donovan Van Kekem

24 March 2017