

**BEFORE INDEPENDENT HEARING COMMISSIONERS  
APPOINTED BY THE WAIKATO DISTRICT COUNCIL**

**IN THE MATTER** of the Resource Management Act 1991 (**Act**)

**AND**

**IN THE MATTER** of hearing submissions and further submissions  
on the Proposed Waikato District Plan.

**SUBMITTER** NZTE Operations Limited

Submitter [No. 823]

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**SUMMARY OF EVIDENCE OF LAUREL SMITH ON BEHALF OF NZTE  
OPERATIONS LIMITED**

**(ACOUSTIC)**

**Dated:** 3 March 2021

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## **INTRODUCTION**

- 1 My name is Laurel Jean Smith. I am a consultant in the acoustical consulting practice of Marshall Day Acoustics Limited.
- 2 I outlined my qualifications, experience, and commitment to comply with the Environment Court Expert Witness Code of Conduct in my Evidence in Chief dated 15 February 2021 (**EIC**).

## **SUMMARY OF EVIDENCE**

- 3 I was engaged by NZTE Operations Limited (**NZTE**) to advise on airport noise management matters associated with Te Kowhai Aerodrome (**Aerodrome**) and Te Kowhai Airpark (**Airpark**) in the proposed Waikato District Plan (**pWDP**).
- 4 The key conclusions that can be drawn from my EIC are:
  - (a) New Zealand Standard NZS 6805:1992 (**NZS 6805**) is the principal standard for managing airport noise and surrounding land use in New Zealand. In my view, it is the appropriate standard for the Aerodrome and Airpark.
  - (b) The notified pWDP airport Outer Control Boundary (**OCB**), Airpark Noise Buffer, and associated rules are missing key aspects of the NZS 6805 standard and in my view are inappropriate.
  - (c) For the NZTE submission, I prepared two alternative noise control boundaries based on the forecast future aircraft activity. I recommended these revised noise provisions for the Airpark as they are more consistent with NZS 6805.

### ***NZ Standards – airport noise***

- 5 NZS 6805 recommends a two-pronged approach to managing airport noise effects which involves both land use controls and noise limits on aircraft operations (using the average noise exposure metric  $L_{dn}$ ). I consider this approach is appropriate for the Aerodrome and it is consistent with the provisions for Hamilton Airport and the majority of airports and aerodromes in New Zealand.

***Notified aerodrome provisions inappropriate***

- 6 In my opinion, the notified provisions fail to provide for the Aerodrome activity in the following respects:
- (a) noise from aircraft operations is not controlled by a limit;
  - (b) the OCB does not adequately provide for current or future aircraft activity at the Aerodrome; and
  - (c) noise from aircraft taxiing has been treated as a separate noise source rather than being included with aircraft operations noise.

***Alternative noise control boundaries and amendments***

- 7 The provisions sought by NZTE include appropriate land use and airport noise controls associated with the revised OCB and Air Noise Boundary (**ANB**) which have been developed in accordance with NZS 6805. My EIC recommends:
- (a) A revised OCB, and an alternative ANB developed in accordance with NZS 6805, to replace the notified OCB; and
  - (b) Amendments to the land use and airport noise control rules associated with the revised boundaries.
- 8 In my opinion, the alternative noise control boundaries, and the amendments to the zone rules, better achieve the objectives of NZS 6805 and are therefore more appropriate than the notified provisions.
- 9 Among the recommended amendments to the Te Kowhai Airpark Zone (**Airpark Zone**) rules, are additional night-time controls to manage sleep disturbance effects to a reasonable level. These additional controls would ensure:
- (a) no circuit training would take place between 10pm and 7am; and
  - (b) the number of departures at night (10pm – 7am) would be limited to 40 over 3 consecutive months (an average of 3 departures per week).

- 10 My assessment of noise effects from the NZTE alternative noise control boundaries shows the future aircraft noise levels would result in moderate but reasonable effects for occupants of existing dwellings.
- 11 The number of existing dwellings exposed to aircraft noise levels of 55 dB  $L_{dn}$  or greater is predicted to increase from one in 2019, to 54 under the NZTE proposed noise boundaries. For these dwellings, aircraft noise would increase gradually (over 10 to 20 years) by between 5 and 9 decibels compared with 2019. A 5-decibel increase is noticeable, and a 9-decibel increase is subjectively twice as loud. However, in my opinion the gradual increase over more than 10 years means the subjective impression will not be so stark.
- 12 NZS 6805 does not recommend mitigation measures for existing dwellings between 55 dB and 65 dB  $L_{dn}$ . This noise environment is quite common for dwellings near New Zealand airports and although not desirable for residential activity, it is not unreasonable.

***Response to the Section 42A report***

- 13 The Section 42A report recommends several changes to the provisions, and I agree with some of these. However, I do not agree with the following recommendations:
- (a) Alternative noise boundaries based on 15,000 annual movements as modelled by Tonkin and Taylor.
  - (b) A rule limiting the number of annual movements to 15,000.
  - (c) A rule defining the operational hours of the Aerodrome to be 7am to 10pm.
  - (d) A rule excluding engine testing between 10pm and 7am.
  - (e) Non-complying status of circuit training and a flight school.
  - (f) Non-complying status of activities sensitive to noise inside the ANB within the Airpark Zone.

- (g) A rule requiring noise from aircraft operations to comply with the 55 and 65 dB Ldn limits at the OCB and ANB respectively within the Airpark Zone.
  - (h) Increased frequency of compliance modelling and monitoring.
- 14 I address each of these matters in my EIC. In summary I do not support the smaller OCB and ANB recommended in the Section 42A report as these noise boundaries are based on a 10-year planning horizon which I consider too short for an airport and inadequate for managing the long-term future of the Aerodrome and Airpark. Also, I do not consider the following additional controls are appropriate or necessary to manage the noise effects from the Aerodrome:
- a) Cap on annual aircraft movements (15,000).
  - b) Hours of operation (7am – 10pm).
  - c) Non-complying status of circuit training and flight schools.

### **CONCLUSION**

- 15 In conclusion, I consider that the noise boundaries proposed by NTZE in its submission and the associated rules discussed in my EIC are appropriate to manage the health and amenity effects of aircraft noise on the community whilst providing for the efficient use of the Aerodrome and Airpark.

**Laurel Smith**  
**3 March 2021**