

**BEFORE THE INDEPENDENT HEARINGS PANEL FOR THE PROPOSED WAIKATO  
DISTRICT PLAN**

**IN THE MATTER OF** Resource Management Act 1991 (RMA)

**AND**

**IN THE MATTER OF** Proposed Waikato District Plan, Stage 1: Hearing 7,  
Industrial and Heavy Industrial Zone

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**PRIMARY STATEMENT OF EVIDENCE OF DAMIAN PAUL ELLERTON  
ON BEHALF OF GENESIS ENERGY LTD (GENESIS) SUBMITTER #924**

**ACOUSTICS**

**9 December 2019**

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### **Introduction**

1. My full name is Damian Paul Ellerton.
2. I am an Associate of Marshall Day Acoustics (MDA), a national acoustic consulting firm. I hold a Science degree from Waikato University majoring in Earth Sciences (Soils), and a Master of Science Degree in Environmental Acoustics from South Bank University, London, England. I have worked in the field of acoustics for more than 20 years.
3. I was employed by the New Plymouth District Council between 1994 and 1998 and my duties included assessment of noise compliance as well as assisting with policy development. Since 1998 I have worked as an acoustic consultant in England (3.5 years) and since then in New Zealand (3.5 years in Christchurch and 1.5 years in Wellington). I established the New Plymouth office for MDA in 2007.
4. I have been involved with the revision of District Plans for a number of Councils including recommending noise rules and limits.
5. I am familiar with the Huntly Power Station (HPS) and surrounding land as well as the proximity of Huntly township.

### **Code of Conduct for Expert Witnesses**

6. I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2014. This evidence has been prepared in accordance with it and I agree to comply with it. This evidence is within my area of expertise, except where I state that I am relying on another person, and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

### **Scope of evidence**

7. My evidence will cover:

## Evidence in respect of Genesis Energy Limited Submitter #924

- (a) Commentary on the existing and proposed noise controls as well as the relief sought by Genesis.
  - (b) Comment on the submission by the Waikato District Health Board with respect to reverse sensitivity.
  - (c) Comment on the S42A report prepared by Jane Macartney dated 25 November 2019.
8. I confirm that I have read and am familiar with the S42A report and various documents available on the Waikato District Council website at the time of writing this evidence.

### **Noise issues to be discussed**

9. The issues to which Genesis have submitted on the Proposed Waikato District Plan (PWDP), and that I will comment on, are:
- (a) Policy that reverse sensitivity effects on regionally significant infrastructure and industry shall be avoided or minimised, including by not locating noise sensitive activities near regionally significant infrastructure and industry and by requiring subdivision design to avoid reverse sensitivity effects.
  - (b) Retention of the “date stamp” of 25 September 2004 with regard to the existence of notional boundaries at which noise levels are to be complied at.
  - (c) Retention of the “date stamp” of 25 September 2004 with regard to the existence of residential boundaries at which noise levels are to be complied at.
  - (d) Retention of the 350m setback from HPS within which houses are required to provide acoustic insulation.
10. In addition to the items in paragraph 9 I also offer brief comments regarding wording or noise rules in a general sense.

**Noise rule wording**

11. I consider that the assessment position for noise should be “within the notional boundary...” or “within the boundary of sites zoned...” rather than “at” the boundary as used in the Proposed Plan. In my opinion, noise rule 21.2.3.2 P2 (and any other noise rule in the Proposed Plan that doesn’t already do so) should be amended to refer to “within” rather than “at” the relevant boundary.
  
12. I note that the noise rules with regard to HPS (and presumably this occurs elsewhere in PWDP) specifies the noise limits for the Rural zoned receivers, but only references the Residential zone receivers without identifying a specific limit. I consider the noise limit should be spelt out for both, giving a more definitive compliance limit for receivers in each zone. This is discussed under the section regarding the Officers report.

**Reverse sensitivity**

13. The PWDP appropriately recognises the need to anticipate potential reverse sensitivity issues may arise if adequate controls are not put in place. These controls include the prohibition of noise sensitive activities (i.e. housing) within airport contours for instance.
  
14. Other controls can be the requirement for acoustic insulation to be installed to either existing houses within an identified area of elevated noise, or upon new receivers who establish within an area of known elevated noise. The NZTA requirements for dwellings near state highways is an obvious example.
  
15. I note the submission by the Waikato District Health Board supports the retention of Policies in the Plan regarding reverse sensitivity as a means of protecting communities from unfettered development whilst retaining industrial activities within specified areas (Page 17 and 18 of submission dated 8 October 2018 with respect to Policies 4.6.4, 4.6.7, 4.7.5-4.7.11 and Objective 4.6.6).

16. With regard to HPS it is my opinion that as a significant industrial activity, the issue of reverse sensitivity should be recognised in the Plan, the regional significance acknowledged to avoid doubt in the future, and rules put in place to support that. In broad terms this aligns with the conclusion reached by Council Officer (Alan Matheson) in the Hearing 3 s42A report where it was recommended in paragraph 210 and 211 that *“policy should be amended to differentiate different levels of risk and to recognise reverse sensitivity ... and the submission from Genesis be accepted”* [abridged]

**Time stamp existence of houses**

17. The PWDP removes the wording from the Operative Plan that references any notional boundary (rural house) or residentially zoned house that existed as at 25 September 2004.
18. In my opinion, it is necessary and appropriate to retain the reference to notional boundaries/dwellings that exist as at 25 September 2004 because this was included in the Environment Court Consent Order (ECCO) dated 15 June 2011 (copy attached as Appendix A).
19. I understand the ECCO confirmed the Genesis position at the time that the notional boundary should be fixed at a point in time so that any newcomers would know where the noise limit applied. If for instance new dwelling(s) were constructed closer to HPS, the received noise level would be higher.
20. With no date stamp, the notional boundary limit would change with a change in dwelling location. There is no reason why that certainty of outcome should change now. In fact, there is a valid current reason why it should be retained in terms of Genesis acting on the basis that the notional boundary location is fixed in time.

21. The reason for having such a reference with respect to HPS is that it gives some certainty of outcome to Genesis about the location at which it needs to achieve certain levels of noise. More importantly, it does not allow the occurrence of reverse sensitivity by a new dwelling being constructed closer to the HPS that then creates a new compliance location.
22. The ramification of a new compliance location occurring could be either a constraint on operation of the HPS generating units or extensive noise mitigation, or both.
23. I recommend the PWDP noise limits for the HPS retain the reference to any house and/or notional boundary that exists as at 25 September 2004 is retained. Specific wording is provided in my paragraph 38.

### **350m setback**

24. I support the Genesis submission for the retention of the 350m setback within which new dwellings are required to provide sound insulation and control intrusive noise to below a prescribed maximum.
25. HPS has been identified as one of the sites where acoustic insulation provisions apply; in this case, within a 350m setback requirement. However, it is not clear whether this setback is from the HPS site boundary or existing buildings.
26. The 350m setback provision is found in the Rural chapter and Appendix I of the PWDP. I understand the S42A report for the Rural Zone provisions is not due until June 2020. I support retention of the HPS setback provisions in Table 14 of Appendix I and consider that it would be prudent to add for clarity "Within 350m of the Huntly Power Station site boundary".
27. On a technical note, Table 14 in Appendix I of the PWDP recommends an internal noise of 40dB LAeq. I consider that:

- (a) The limit should incorporate a time basis to be technical correct and achievable; and
  - (b) The 40dB value is too high to protect bedrooms.
28. Both of these are easily resolved.
29. Firstly, I note that the Operative Plan uses 24 hours as the time base which I concur with i.e. XXdB LAeq(24 hour). A similar time base should be incorporated into Table 14.
30. Secondly, the noise limit within a bedroom should be reduced to 35dB LAeq(24 hour) to provide appropriate protection. The Operative Plan Part 3, M6, Table A could be replicated in full and/or cross referenced with regard to NZTA requirements and the other activities that enjoy the 350m setback protection in PWDP Table 14.
31. I recommend the 350m setback from HPS is retained in the PWDP and the noise limit within noise sensitive areas is amended as I have discussed, and as offered in Appendix B.

**Officers report**

32. I have read the Officers report (Jane Macartney) dated 25 November 2019 with regard to the Genesis submission.
33. The potential for reverse sensitivity issues, and avoiding these arising is acknowledged in the Officers report, and in particular para 711 where the request by parties such as Housing New Zealand and Ministry of Education to establish in the zone are rejected (as being Permitted) on the basis of non-compatible activities and reverse sensitivity concerns (Para 711).
34. I agree with those recommendations in terms of managing potential noise effects.

35. With regard to the retention of the date stamp (25 September 2004), the Officer rejects the Genesis submission in Para 784 of their report. I note the Officer acknowledges acoustics is outside their area of expertise and I am unsure why the change was therefore made in the first place.
36. Notwithstanding that, I consider that a date stamp is required in respect of the Notional Boundary limit in Rule 21.2.3.2 P2 and P3 to give certainty of outcome for Genesis regarding noise emission from HPS, and ensure any new dwelling is adequately sound insulated. Similarly, retention of the date stamp is required with respect to the Residential Zone for the same reasons as the Rural Zone and suggested wording is provided in paragraph 38.
37. The reference in Para 784 of the Officers report regarding National Planning Standards is correct. However, in this instance the National Standard is only relevant to the extent that the noise limits in the PWDP should use acoustic parameters such as  $L_{A90}$ ,  $L_{Aeq}$  or  $L_{AF(max)}$ . The National Standards do not define or determine where such standards should apply or what the noise limit should be in site specific cases.
38. In my opinion the Genesis submission is appropriate and while encompassing my above comments (assessment position and fullness of noise levels at different zone receivers), I recommend the following wording is considered:

*P1 Noise generated by emergency generators and emergency sirens.*

*P2 (a) Noise measured within the notional boundary of any dwelling existing as at 25 September 2004 in the Rural Zones shall not exceed:*

- (i) 55dB (LAeq) 7am to 10pm; and*
- (ii) 45dB (LAeq) and 75dB (LAm<sub>ax</sub>) 10pm to 7am the following day.*

*(b) Noise measured within any Residential Zone land where a dwelling exists as at 25 September 2004 shall not exceed:*

- (i) 50dB (LAeq) 7am to 7pm; and*



- (ii) *45dB (LAeq) 7pm to 10pm; and*
- (iii) *40dB (LAeq) and 65dB (LAmx) 10pm to 7am the following day.*
  
- (c) *Noise levels must be measured in accordance with the requirements of NZS 6801:2008 "Acoustics Measurement of Environmental Sound"*
- (d) *Noise levels must be assessed in accordance with the requirements of NZS 6802: 2008 "Acoustics Environmental Noise"*

39. I recommend retention of the 350 m setback, and inclusion of HPS as a source of noise, within which acoustic insulation is required for dwellings and other buildings containing sensitive land uses.
40. I recommend Table 14 is amended to incorporate 24 hour time base as well as more appropriate internal noise levels for different spaces. Appendix B provides the recommended alternative wording version for Table 14.

### **Conclusion**

41. The Proposed Waikato District Plan has several noise related aspects that Genesis Energy Limited have submitted on. I have reviewed the submission and concur that the relief sought is appropriate.
42. I have also suggested amendments to the Proposed Plan wording not only to reflect the Genesis Energy Limited relief sought but also to amend some technical aspects of the noise rules.
43. In my opinion, the recognition of potential reverse sensitivity issues for identified infrastructure and industry in Proposed Plan Policies and Objectives is appropriate.
44. It is essential that Policies and Objectives can be achieved through the implementation of appropriate [noise] rules. In my opinion, with the suggested changes made the Proposed Plan will achieve this.

Damian Ellerton

9 December 2019

APPENDIX A: Environment Court Consent Order

<b><u>IN THE MATTER</u></b>	of the Resource Management Act 1991
<b><u>AND</u></b>	
<b><u>IN THE MATTER</u></b>	of an appeal under clause 14(1), First Schedule of the Act
<b><u>BETWEEN</u></b>	<b><u>GENESIS POWER LIMITED</u></b>  ENV-2007-AKL-000067  <u>Appellant</u>
<b><u>AND</u></b>	<b><u>WAIKATO DISTRICT COUNCIL</u></b>  <u>Respondent</u>

**BEFORE THE ENVIRONMENT COURT**

Environment Judge R G Whiting sitting alone under section 279 of the Act

**IN CHAMBERS** at Auckland.

**CONSENT ORDER**

**Introduction**

1. The court has read and considered the appeal, the respondent's reply, and the memorandum of the parties dated 13 June 2011.
2. The following persons gave notice of an intention to become a party under s274:
  - (a) Greenhill Holdings Limited;
  - (b) Wind Farm Group Limited;
  - (c) New Zealand Minerals Association and Aggregates & Quarries Association of New Zealand;
  - (d) Perry Group Limited;
  - (e) Solid Energy New Zealand Limited;  
Fonterra Co-Operative Group Limited;



- (g) Hamilton City Council;
  - (h) Poultry Industry Association of New Zealand Inc;
  - (i) New Zealand Transport Agency (previously Transit New Zealand);
  - (j) Transpower New Zealand Limited ("Transpower"); and
  - (k) Mighty River Power Limited ("Mighty River Power").
3. Transpower and Mighty River Power have subsequently withdrawn their interest in the appeal.
4. The court is making this order under s279(1)(b) of the Act, such order being by consent, rather than representing a decision or determination on the merits pursuant to section 297. The court understands for present purposes that:
- (a) All parties to the proceedings have executed the memorandum (except those that have withdrawn their interest) requesting this order;
  - (b) All parties are satisfied that all matters proposed for the court's endorsement fall within the court's jurisdiction, and conform to relevant requirements and objectives of the Resource Management Act, including in particular Part 2.

**Order**

5. Therefore the court orders, by consent, that the provisions of the Proposed Waikato District Plan are amended as follows:
- (a) In Chapter 3, insert new paragraph (fb) to Policy 3.4.2 to read as follows:
    - (fb) *Avoiding, remedying or mitigating any adverse effects in accordance with the landscape and visual amenity values of the zone in which the activity is located.*
  - (b) Amend Section 3.5.1 Visual Amenity to read:

**3.5.1 Landscape and Visual Amenity**

*The objective seeks to retain and enhance landscape and visual amenity values viewed from public places. This policy applies to landscape and visual amenity values throughout the*



*district, including to outstanding landscapes and features shown on the planning maps. As described in the Boffa Miskell Waikato Landscape Study (1992, revised 2003 and 2006) every part of the district has some landscape and visual amenity value, and some valued natural features. The attributes and relative importance of these vary from place to place. The design and management of subdivision, use and development needs to respond to the visual amenity requirements of the locality, consistent with the maintenance and enhancement of amenity values required under section 7(c) of the Resource Management Act. The objectives of retention and enhancement of landscape values may not necessarily both be attained by the same development or in the same place. In addition, the policy recognises that the landscape characteristics and amenity values of the zone in which any activity is located must be taken into account when seeking to avoid adverse effects. Adverse visual effects of signs and development on old pa sites are of particular concern to tangata whenua.*

- (c) Amend Section 3.5.2 Buildings to read:

*The siting, bulk and location of buildings needs to be sympathetic to the landscape to ensure that they do not have an obtrusive effect. Provision of visible open space is particularly important in rural areas, where extensive open space is a defining aspect of the landscape, while industrial zones are characterised by buildings and are working environments. Buildings and development may appear more dominating in some landscapes the closer they are together and to the viewing point. Setbacks from roads, and backdrops of land, not sky, to help merge buildings into their surroundings. Other factors that affect the obtrusiveness of a building include apparent height, size, form, colour and materials. The Boffa Miskell study assessed the absorption capacity of landscapes in the district.*

- (d) In Chapter 13, amend Reasons and Explanations Section 13.3.1 Containment to read as follows:

### **13.3 Reasons and Explanations**

#### **13.3.1 Amenity Values**

*This objective and policies provide for an outcome that effects of activities must be contained within the site where they arise or be remedied or mitigated. The purpose of internalising environmental effects is to ensure that these effects do not unreasonably compromise the amenity values of neighbouring properties. The person carrying out an activity (and deriving the benefits from it) is best placed to manage the effects, and it is rational and efficient for that person to be primarily responsible for avoiding, mitigating or remedying the effects. This philosophy is sometimes referred to as the polluter pays principle. It is consistent with the general duty under*



section 17 of the Resource Management Act that every person must avoid, remedy or mitigate adverse effects of activities they carry out.

The objective has implications for the creation of buffer areas around activities that have adverse effects that cross boundaries. Taking all reasonable steps to avoid cross-boundary effects, for example by setting the activity away from the site boundary to create internal buffers, creating bunds, planting shelterbelts, adopting best work practices or managing hours of operation, should be considered first. That is, primary emphasis should be placed on seeking to internalise the environmental effects. An external buffer area restricting development on neighbouring land is not an automatic planning response.

Where the adverse effects cannot be practically contained (for example noise from aircraft using an airport) the neighbourhood will be affected to some extent. In those circumstances, the policy to remedy or mitigate the cross-boundary effects will apply. An external buffer might be considered where mitigation has not provided a satisfactory outcome, there is a demonstrable and significant public benefit from the activity (for example public access to air travel), or a clear threat to the viability of the activity exists (for example from reverse sensitivity pressures).

Refer to section 6.8 for special provisions for strategically important utilities, and industrial and research sites.

- (e) In Chapter 25, amend Rules 25.68 and 25.68.1 Acoustic Insulation of Buildings to include the Huntly Power Station as follows:

25.68	25.68.1	25.68.2
<p>Acoustic insulation of buildings</p> <ul style="list-style-type: none"> <li>• Airport Noise Outer Control Boundary</li> <li>• Gun Club</li> <li>• Huntly Power Station</li> </ul>	<p>Construction or alteration of a building within an Airport Noise Outer Control Boundary, the Gun Club Noise Boundary, or within 350 metres of the Huntly Power Station site boundary for a building constructed after 13 June 2011, is a permitted activity if:</p> <p>(a) it is designed and constructed to comply with Appendix M (Acoustic Insulation)</p>	<p>Any activity that does not comply with a condition for a permitted activity is a discretionary activity</p>

- (f) In Appendix M: Acoustic Insulation, amend Rule M1 Application to read:

*This appendix is referred to in the rules related to subdivision and building in the noise control boundaries for Hamilton International Airport, for building in the noise control boundaries for Te Kowhai Airfield, the Waikato Gun Club, or within 350 metres of the Huntly Power Station site boundary for buildings constructed in the Rural Zone after 13 June 2011, and in the Rural Zone rule allowing reduced building setbacks in certain circumstances.*



- (g) The following new rule shall be added to Chapter 24 Industrial Zone (after existing Rule 24.19):

Evidence in respect of Genesis Energy Limited Submitter #924

24.19A	24.19A.1	24.19A.2
<p>Noise Heavy Industrial Zone – Huntly Power Station</p>	<p>Notwithstanding Rule 24.19, any activity in the Huntly Power Station Heavy Industrial Zone is a permitted activity if it is designed and conducted so that noise from the activity, other than construction noise, measured:</p> <p>(a) at the notional boundary of any dwelling house existing as at 25 September 2004 in the Rural Zone does not exceed:</p> <p>(i) 55dB (L<sub>Aeq</sub>), 7am to 10pm (ii) 45dB (L<sub>Aeq</sub>) and 75dB (L<sub>Amax</sub>), 10pm to 7am the following day.</p> <p>(b) at the site boundary of any dwelling house existing as at 25 September 2004 in the Living Zone does not exceed:</p> <p>(i) 50dBA (L<sub>10</sub>), 7am to 7pm, Monday to Saturday, and (iii) 45dBA (L<sub>10</sub>), 7pm to 10pm, Monday to Saturday; and (iv) 40dBA (L<sub>10</sub>), and 65dBA (L<sub>max</sub>) all other times and public holidays.</p>	<p>Any activity that does not comply with a condition for a permitted activity is a discretionary activity.</p>

**Resolution of parts of appeal**

6. This consent order fully resolves appeal points 7.1, 7.5, 7.6, 7.8 and 7.12 of appeal ENV-2007-AKL-000067.
7. For the avoidance of doubt, appeal points 7.10 and 7.11 of appeal ENV-2007-AKL-000067 remain extant.
8. There is no order for costs.

DATED at Auckland this 15<sup>th</sup> day of *June* 2011



R.G. Whiting  
Environment Judge



APPENDIX B: Recommended Table 14 amendments

Table 14: Internal sound level

Area	Type of occupancy/activity	Internal design sound level, dB L <sub>Aeq</sub> (24 hour)
Within 350m of Huntly Power Station	Bedrooms in residential activity buildings, travellers accommodation, home occupation, home-stays and Papakainga housing	35
Dwellings in the Business Zone	Educational buildings (teaching spaces)	35
Dwellings in the Business Town Centre Zone	Other habitable rooms in residential activity	40
Within 100m of the Tamahere Commercial Areas A, B and C	Hospital wards	35
Multi-Unit Development Comprehensive Development – Rangitahi Peninsula	Hospital, all other noise sensitive areas	40