

IN THE ENVIRONMENT COURT OF NEW ZEALAND
WELLINGTON REGISTRY

I MUA I TE KŌTI TAIAO O AOTEAROA
TE WHANGANUI-Ā-TARA ROHE

ENV-2024-WLG-000001

Under the	RESOURCE MANAGEMENT ACT 1991
In the matter of	the direct referral of applications for resource consents under section 87G of the Act for the Mt Munro Wind Farm
By	MERIDIAN ENERGY LIMITED Applicant

JOINT STATEMENT OF THE LIGHTING EXPERTS

30 July 2024

INTRODUCTION

1. This joint expert witness statement relates to the direct referral application lodged by Meridian Energy Limited for resource consents to construct, operate and maintain a windfarm on Mt Munro, Eketāhuna.
2. The landscape and visual experts attending the conference were:
 - (a) John McKensey (**JM**) for the Consent Authorities (Manawatū-Whanganui Regional Council, Wellington Regional Council, Tararua District Council, and Masterton District Council)
 - (b) Glen Wright (**GW**) for Meridian Energy Limited (**MEL**).
3. The conference took place remotely via Microsoft Teams on 29 July 2024.

AGREED AGENDA

4. The agenda for discussion is set out below in Annexure A.

CODE OF CONDUCT

5. This joint witness statement is prepared in accordance with section 9 of the Environment Court Practice Note 2023.
6. We confirm that we have read the Environment Court Practice Note 2023 and agree to abide by it.

PURPOSE AND SCOPE OF CONFERENCING

7. The purpose of this expert conferencing was to identify, discuss, and highlight points of agreement and disagreement on acoustic issues.
8. Issues have been identified following the reporting of the Consent Authorities in the s 87F reports, and through evidence filed by MEL and the s 274 parties. At mediation in June 2024, the parties also agreed that some issues would be discussed at expert conferencing.

AGREED ISSUES

9. Refer to Annexure A.

DISAGREEMENT AND REASONS

10. Refer to Annexure A.

Date: 30 July 2024


LDPP Leading Design Professionals
Nigaro Te Ndikarari Hootoo

John McKensey



Glen Wright

ANNEXURE A

In the matter of the Mt Munro windfarm application

Expert conferencing – Lighting – JM and GW

Issue	Agreed position with reasons	Disagreements with reasons
Topic: Methodology		
1. Appropriateness of methodology	Both agree with the methodology as set out in Glen's evidence.	
Topic: Effects Assessment		
2. Appropriateness/accuracy of characterisation of the project's lighting effects.	John agrees with Glen's evidence.	
3. Potential adverse effects and mitigation – operational and construction.	Both agree that the lighting effects will be mitigated appropriately by the proposed nature and extent of permanent lighting in the controls proposed by the Construction Lighting Management Plan (now proposed to become part of the Construction Environmental Management Plan).	
Topic: AS/NZ Standard		
4. What is the appropriate AS/NZS standard to be applied to the lighting used in the project?	<p>The lighting will be designed to satisfy the recommendations in AS/NZS4282:2023 (control of the obtrusive lighting effects of outdoor lighting).</p> <p>Aviation warning lighting will comply with CAA requirements. There is no AS/NZS standard for this.</p> <p>Likewise, there is no AS/NZS standard governing temporary construction lighting.</p>	

Issue	Agreed position with reasons	Disagreements with reasons
	The lighting associated with the substation and operations and maintenance building will be minor in nature and is not governed by an AS/NZS standard.	
Topic: Aviation Safety Lights		
5. Appropriateness of approach to assessment of aviation safety lights.	Both agree that the proposed aviation warning lighting will be the minimum required by the CAA.	
6. Use of ground shielded lights.	Both agree that aviation warning lighting is a CAA requirement and is mandatory and through the use of 'ground shielded' (i.e. 'optically controlled' or 'omni directional') lights the effects have been mitigated to dwellings and sensitive receivers as much as practicable.	
7. Mid-tower lighting – confirm if assessed with aviation safety lights and if not, why not. Note: see paragraph 31 of the evidence of Mr John Maxwell.	Both in agreement that these effects have been adequately assessed and are negligible nuisance due to a minimal light output. Both understand that CAA may or may not require these. The implementation will be subject to CAA requirements.	
8. Extent of effects (if any) of the aviation safety lights on nearby residents. Note: see concerns of s 274 parties as to extent of brightness, sleep patterns, view of valley, ability to undertake daily activities, extent of visibility during foggy/dull conditions.	Both are in agreement that the effects will be low to moderate. In addition, Glen has determined that receivers within two kilometres of installation will experience less than 3% of the 2,000 candela maximum intensity. These effects are also discussed in greater detail in Glen's evidence.	
9. Consider recommended mitigation of s 274 parties that radar technology is utilised to determine when turbine lighting is switched on.	There was some discussion about the merits of such a system. Both were of the view that in this instance it would not be practical primarily as such a system is not presently approved by the CAA and directly opposes the current regulations.	

Issue	Agreed position with reasons	Disagreements with reasons
Topic: Night Sky		
10. Effects (if any) on the visibility of the night sky, and in particular the Wairarapa Dark Sky Reserve as a result of the aviation warning lights.	Both agree that there will be no significant veiling effects from aviation warning lights. They will be visible and therefore have some effect on amenity when generally viewing the overall vista of the night sky, although viewing through a telescope or the like would be unaffected unless looking directly at a light.	
Topic: Other		
11. Effect of lighting (if any) on the prevalence of insects at the project site.	Since the only significant permanent exterior lighting will be monochromatic red in colour, insects will be unlikely to be affected, as they are understood generally not to be able to perceive red light.	
12. Construction Traffic Management Plan – lighting effects	Both agree that the Construction Traffic Management Plan (now to become the Construction Environment Management Plan) will suitably mitigate lighting effects.	
13. Questions from planning experts: Condition CB4(c)(iii) – do we require a specific lighting condition for a broader Construction Lighting Management Plan at Condition CL2? OR Can lighting be wrapped up under the main Construction Environmental Management Plan (Condition CM4) as a specific requirement within that management plan – removing the need for the above two noted conditions?	Both agree that the Construction Environment Management Plan can in principle accommodate the desired lighting mitigation. However, all of the conditions raised by John need to be specifically included. The wording in CM4 as provided today is not sufficient. Both Glen and John will need to review the final wording.	

Issue	Agreed position with reasons	Disagreements with reasons
14. Light pollution	This was raised by a number of submitters as a potential concern. Both agree that lighting pollution in a technical sense refers to light spill, glare, and sky glow. None of these will be present to a significant degree.	
15. Health effects of flashing red lights	The frequency of flashing will be very low and not sufficient to approach the frequency known to potentially cause negative health effects.	
16. Lighting effects in foggy conditions	As noted by at least one of the submitters light tends to diffuse in weather conditions such as fog. This will be particularly noticeable close to the light source however any effects rapidly diminish with distance as the fog filters the light. Both agree that the presence of fog would not change their view that the effects will be no more than minor.	
17. Safety concerns re effects on daily activities	Both agree that the nature of the lighting will be such that nil to negligible effect on the safe undertaking of daily activities is likely.	