

**In the Environment Court
I Mua I Te Kōti Taiao O Aotearoa**

Under the Resource Management Act 1991

and in the matter of the direct referral of an application for resource consents by Meridian Energy Limited in respect of the proposed Mt Munro wind farm under section 87G of the Resource Management Act 1991 (**RMA**).

Meridian Energy Limited
Applicant

and

Tararua District Council, Masterton District Council, Manawatū-Whanganui Regional Council and Greater Wellington Regional Council (Councils)
Consent Authorities

and

s 274 Parties

Statement of Evidence of Christopher Simon Jones on behalf of Meridian Energy Limited

24 May 2024

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INTRODUCTION

1. My full name is Christopher Simon Jones. I am a Senior Associate at Resource Coordination Partnership (RCP). I have held this position since June 2022.
2. I am a member of Engineering New Zealand (MEngNZ) and hold chartered engineering status as a member of the Institution of Civil Engineers (UK) (CEng MICE) and have a Bachelor of Engineering (Civil) degree from Auckland University.
3. I have worked in the civil engineering industry for a continuous period of over 36 years. I have worked in roles for local government, private engineering consultancies and as client-side representative in both New Zealand and England.
4. During this time, I have led the design and construction for highway, water supply, coastal structures, land development and wind farm projects.
5. I have been involved in Project Management of civil engineering projects both in New Zealand and England for over 20 years. I have worked on the following wind energy projects for Meridian.
6. For Project Harapaki I was the Preconstruction Phase Project Manager and during the current construction phase am currently Civil Contract Engineer to Contract and Expert Advisor to Meridian.
7. I held the position of Senior Project Manager for Mill Creek. This role required me to manage the overall construction of that project, including the reconstruction of the sole access road to the site along Ohariu Valley Road referred to my evidence.
8. I led the Project Delivery Team in the Project planning, design and procurement of Project Central Wind Farm as part of the Project's Business case submission to the Meridian Board.
9. I held the role of Project Manager/Construction Manager for Project West Wind, Meridian's largest wind farm which was completed in 2009. I was responsible for the construction of a temporary wharf facility,

turbine logistics from Picton to the Wind Farm via the Cook Strait, the installation of the turbines and overall project management duties for the latter stages of the Project.

10. In preparing this evidence, I have also read the draft evidence prepared on behalf of Meridian by:
 - (a) Maurice Mills;
 - (b) Graeme Ridley;
 - (c) Nicholas Bowmar;
 - (d) Rob van der Munckhof;
 - (e) Colin Shields; and
 - (f) Miklin Halstead.
11. I am familiar with the site and have visited the Mt Munro site including Old Coach Road in April 2024.

CODE OF CONDUCT

12. I confirm that I have read the 'Code of Conduct for Expert Witnesses' contained in the Environment Court Consolidated Practice Note 2023. I agree to comply with this Code of Conduct. In particular, unless I state otherwise, this evidence is within my sphere of expertise 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

13. One of the key issues raised during the consultation period has been around the use of Old Coach Road as the only access to the site during construction. The narrow, unsealed public road between the State Highway and Site entrance currently has low traffic volumes.
14. In my evidence I will outline Meridian's previous experience of constructing the Mill Creek windfarm near Wellington. The Mill Creek wind farm project and its access road upgrade share some similar characteristics to Mt Munro. Mill Creek required the upgrade of Ohariu

Valley Road, the rural public road which provided access for the over dimensional loads for the wind farm site.

15. I will describe how construction effects at Mill Creek, particularly in relation to the Ohariu Valley Road upgrade, were successfully managed and mitigated via a suite of management plans. Dust, noise and traffic were successfully managed at Mill Creek, with a focus on minimising the impacts on the local community and residents during the road upgrade. I will also outline how this same approach can be applied to Mt Munro, including by inclusion of similar measures in a Construction Traffic Management Plan (**CTMP**), and how that will minimise impacts on the local community and residents of Old Coach Road.

SUMMARY OF EVIDENCE

16. Meridian successfully undertook the upgrade of Ohariu Valley Road in a way that allowed the continued use of this road by the local community, and with minimal impacts on the local residents during these works.
17. I cannot see any reason why the implementation of the same proven mitigation measures used at Ohariu Valley Road would not successfully minimise and mitigate the construction impacts during the upgrade of Old Coach Road, which is shorter, has fewer residents living along it, and has lower traffic volumes.
18. Following the upgrade, the Ohariu Valley Road is a much safer road which affords better visibility and passing opportunities. The local community also obtained a more resilient telecommunications and power supply because of the new reticulation which was part of the road upgrade.
19. Based on my experience as senior project manager of the construction of the Mill Creek windfarm, and of the reconstruction and upgrade of Ohariu Valley Road in particular, I consider that effects arising from the upgrade of Old Coach Road can be appropriately managed and mitigated through the implementation of the proffered conditions, and in particular the development of a CTMP. This will allow for the safe,

effective and efficient operation of Old Coach Road to be maintained, and for effects on residents to be minimised as far as practicable.

20. Once the road has been upgraded, and assuming the upgrade and seal remains in place, I consider that the outcome will be an improved road environment, both for residents and for windfarm operation and maintenance.

OHARIU VALLEY ROAD – MILL CREEK

21. As part of the construction of Meridian's Mill Creek wind farm and in accordance with consent conditions all project construction traffic was directed along the northern section of Ohariu Valley Road. This was a 2.4 km length of road that was, prior to its upgrade, narrow and winding, and largely had only local light vehicles movements along it.
22. Table 1 below compares key features of Old Coach Road and Ohariu Valley Road (pre-upgrade). While there are physical similarities between Old Coach Road and Ohariu Valley Road (pre-upgrade) in terms of width, Ohariu Valley Road was longer, served a greater number of local residents, and had higher levels of local traffic volumes.

Table 1: Key features of Ohariu Valley Road and Old Coach Road (pre-upgrade)

	Ohariu Valley Road	Old Coach Road
Local Authority Road Classification	Local Road	Local Road
Road length	2.4km	1.7km
Trafficable Width	3 to 5m	3.5m typically
No exit road	Yes	Yes
Pavement/Surfacing	Chip Seal	Typically unsealed
Local Traffic volumes (ADT)	194 (Light & Heavy Vehicles)	32 (Light & Heavy Vehicles) ¹
Number of households served	19	6
Dedicated footpath, cycle, horse provisions	No	No
School bus route	No	No

¹ ** Colin Shields's Evidence

- 23. The northern section of Ohariu Valley Road served 19 households. There were no school or public bus routes along Ohariu Valley Road. The two-way annual average daily traffic volume was 194 vehicles per day.
- 24. The northern section of Ohariu Valley Road needed widening and strengthening to cater for construction of Project Mill Creek, in particular the over dimension and overweight turbine component deliveries to the Project Site.
- 25. It was important that the road could be used safely by the public and local residents and that they did not suffer needless delays during the upgrade works.
- 26. The reconstruction of Ohariu Valley Road was successfully completed by the implementation of the suite of management plans and processes which are described in my evidence.
- 27. Photos of Ohariu Valley Road are included in **Appendix A** to my evidence.

Scope of Ohariu Valley Road Upgrade

- 28. The reconstruction and upgrade of Ohariu Valley Road was a significant roading project which took six months to complete. Completion of the upgrade works was required before any site preparation (including any earthworks) or construction works could begin on the wind farm site, and a compliance monitoring officer at Wellington City Council had to approve the design of the upgrade before the upgrade works themselves could begin.
- 29. The upgrade of Ohariu Valley Road involved the widening and straightening of the existing road alignment over the 2.4km length of the section of Ohariu Valley Road from Boom Rock Road up to Spicer Forest.
- 30. The entire extent of the upgrade works was contained within the existing road reserve. Widening of the road increased the width of the road surface from 3 to 5m to 6 to 10m. New pavement construction was typically 330mm deep and specific excavations were required in

particularly soft areas of the underlying subgrade. During the upgrade peak construction traffic volumes were approximately 100 two-way vehicle movements per day.

31. The section of Ohariu Valley Road that was reconstructed is shown in red in the figure below.



Figure 1: Map showing reconstructed section of Ohariu Valley Road in red.

32. Ohariu Valley Road did not have any existing footpaths alongside the road. Temporary footpaths were not required during the construction period, and no dedicated permanent footpath provision was incorporated into the new road construction.
33. The Ohariu Valley Road upgrade work involved:
- installation and maintenance of erosion and sediment controls;
 - removal of any vegetation, including mature trees in some places, that encroached over the road reserve;
 - removal of unsuitable soft subgrade material and importation of suitable backfill materials;
 - installation of subsoil drainage;
 - removal of existing road culverts and the installation of replacement ones;
 - construction of retaining walls;

- (g) importation of new roading pavement aggregates; and
 - (h) chip sealing of the road and associated road marking.
34. New fencing was installed along the road reserve boundaries to replace any existing fencing within the road reserve that was impacted by the upgrade works. New vehicle accessways were constructed to tie into the new road construction. Existing telecommunication and power lines and poles were also replaced where they were impacted by upgrade works.

Mitigation Measures Implemented

35. At Mill Creek, Meridian and its contractor operated under a series of management plans. These contained specific measures to manage and minimise impacts on Ohariu Valley Road residents during the road upgrade works: The plans included:
- (a) A dedicated Ohariu Valley Road Traffic Management Plan;
 - (b) A Noise Management Plan; and
 - (c) A Dust Management Plan.
36. Every person working on the Ohariu Valley Road upgrade works was informed of the requirements of these management plans as part of their induction to the project by both Meridian and the civil contractor undertaking the upgrade works. The civil contractor's performance was monitored with respect to ongoing compliance with these plans.
37. Meridian met the cost of all the road upgrade works and the associated mitigations contained in the suite of the management plans.

Dedicated Construction Traffic Management Plan

38. Throughout the upgrade, local traffic continued to use Ohariu Valley Road in accordance with a dedicated CTMP. This contained a number of requirements to ensure the safe and efficient use of the road throughout the upgrade works. Such measures included the following:

- (a) Construction traffic on Ohariu Valley Road was restricted to between 7am and 7pm, Monday to Friday. On Saturday, Sunday and Public Holidays no construction vehicles were permitted.
 - (b) Where safe to do so heavy construction vehicles were required to pull over in dedicated passing bays to allow local resident traffic to pass.
 - (c) During the upgrade a temporary speed limit of 30km/hr was imposed on all project and non-project related vehicles using Ohariu Valley Road. Upon completion of the construction the speed was increased to 40km/hr.
39. Management of stock movements was also included as part of the Construction Traffic Management Plan. The movement of stock either along or across the Road was not a regular occurrence along this section of Ohariu Valley Road, and on the few times this did occur, 24 hours' notice was provided by the farmer to Meridian's Stakeholder Manager. Specific timing and co-ordination discussions then took place with the civil contractor and Meridian's project team. All stock movements occurred without incident, and via standard traffic management controls.
40. Temporary screening/fencing (mesh cloth) was installed along a section of property boundary to visually screen construction activities from horses in an adjacent commercial horse-riding facility. No other provisions were implemented for any other farming operations along the length of Ohariu Valley Road, and no incidents in relation to stock or horses occurred because of the upgrade works.
41. All utilities, postal and emergency services were notified prior to the road upgrade work commencing, and the Meridian project team and contractor contact details were provided to these agencies. If access for an emergency vehicle had been required, normal road prioritisation rules would have prevailed. There were no emergency events during the Ohariu Valley Road reconstruction.

Construction Noise Management Plan

- 42. The Construction Noise Management Plan had a dedicated schedule for Ohariu Valley Road and the road upgrade. Construction noise was controlled in accordance with this plan. Truck engine braking and the use of vehicle reversing squawkers were forbidden, exhausts required muffling and all plant and equipment had to be well maintained to minimise disturbance to local residents and livestock or horses in the adjacent fields.
- 43. I note proffered condition CN3 requires the preparation and implementation of a Construction Noise and Vibration Management Plan. As occurred with Project Mill Creek I consider this is the appropriate plan used to document the prescribed measures to minimise and mitigate any noise effects generated by the reconstruction of Old Coach Road.
- 44. I note proffered condition CN3 c) IV requires identification of mitigation measures associated with the operation of machinery and equipment for residents along Old Coach Road, which I consider is appropriate to include.

Dust Management Plan

- 45. Dust along Ohariu Valley Road was controlled in accordance with a Dust Management Plan. This restricted all construction and public traffic to a speed limit of 30km/hr. A further dust control measure implemented was the regular use of water carts to keep the trafficked metalled surfaces damp.
- 46. Meridian provided a potable water supply to certain properties where the residents considered their existing roof water supply was impacted during the Ohariu Valley Road reconstruction. Water was delivered by tankers and discharged into existing water tanks that previously stored roof top water. Rooftop supply was reinstated upon completion of the reconstruction works adjacent to the affected properties.
- 47. I note proffered condition AQM2 requires the preparation and implementation of an Air Quality Management Plan. As occurred with

Project Mill Creek I consider this is the appropriate Plan used to document the prescribed measures to minimise and mitigate any dust effects generated by the upgrade of Old Coach Road.

Management of Construction Effects on Old Coach Road

48. I note proffered condition CTM6 requires the preparation and implementation of a Construction Traffic Management Plan. As occurred with Project Mill Creek I consider this is the appropriate plan used to document the prescribed measures to minimise and mitigate any construction traffic effects generated by the upgrade of Old Coach Road.
49. When finalising the detail of the CTMP (which I understand is being provided in a draft form ahead of the hearing) and considering project arrangements with contractors, I consider that some of the learnings from Ohariu Valley Road could be usefully incorporated. I set out some of these below.

Workforce Driver Education

50. A key component to managing the effects of Ohariu Valley Road reconstruction was project workforce driver education and awareness. This included:
- (a) Speed limit – Strict adherence to 30km/h during reconstruction works. The contractor had obligations to strictly monitor speed construction workforce limits.
 - (b) Giving priority to public traffic to minimise delays – where road width allows construction traffic to safely pull over, this should occur so that public/ local resident traffic can pass. At Ohariu Valley Road passing occurred in the widened layby areas in the permanent road widths.
 - (c) Protocols around other road users (e.g. horses/cyclists/foot traffic) – at Ohariu Valley Road such protocols included a 20km/h limit and a minimum separation of 1.5 m between construction vehicles and horses/cyclists/foot traffic. If this separation could not be achieved, then the construction vehicle had to wait until a

safe passing space was available or the rider or pedestrian had signaled that it was safe to pass;

- (d) No unnecessary stopping outside private residences, and no stopping or parking in residents' driveways;
- (e) Self-monitoring of any potential dust/dirt tracking effects;
- (f) Reporting of any incidents/issues to Meridian.
- (g) The need to give way to other project traffic where practicable and safe. Deliveries were co-ordinated to ensure that delivery trucks and large construction vehicles didn't meet on narrow sections of road.

Meridian Project Stakeholder Manager

51. Having a dedicated Project Stakeholder Manager is also a useful means of minimising impact to a local community. The role of the Project Stakeholder Manager is twofold - to liaise with local residents to keep them informed of Project activities and progress and also to understand any specific access requirements and effects that residents may be experiencing during the construction activity. An example of this could be specific regular or *ad hoc* deliveries to the residents or stock movements.

Community Liaison Group

52. For Mill Creek a Community Liaison Group was established which included representatives from the local community, Regional and Local Councils and the Project Team. One task this Group undertook was reviewing the dedicated Traffic, Dust and Noise Management Plans and providing feedback to the Wellington City Council (Consenting Authority) prior to final Council approval of these plans.
53. This Group proved to be a very effective means of communicating with the Community, in particular advising of the efficacy of the mitigation measures and key road upgrade activity updates.
54. I note proffered condition SLG1 requires the establishment of a Stakeholder Liaison Group. As occurred with Project Mill Creek I

consider this is the appropriate forum in which to communicate with the local community and in particular those who live on Old Coach Road the about the timing and status etc of upgrade of Old Coach Road.

55. I note proffered condition CTM6 c) (ix) requires procedures for consulting and communicating with local residents along Old Coach Road regarding traffic arrangements and any road closures. As occurred with Project Mill Creek I consider that the Stakeholder Liaison Group required under SLG1 is the appropriate forum for these communication channels.

RESPONSES TO ISSUES IN SUBMISSIONS

56. I have reviewed the submissions on the application that relate to the upgrade and management of construction traffic effects at Old Coach Road.

57. In its summary of submissions, Council identified eleven submissions that appear to relate to Old Coach Road.² I comment on the following issues where my experience at Ohariu Valley Road is relevant:

- (a) Air discharge including the risk of dust to human and animal health, effects on rainwater supply of potable water and diesel emissions;
- (b) High increase in the volume of traffic on Old Coach Road which may lead to accidents, road safety issues for young children and elderly pedestrians and also for stock being moved along the road;
- (c) Noise effects on residents and stock from high vehicle movements; and
- (d) Restricted access along Old Coach Road for existing road users such as residents and rural mail delivery.

58. I now address these matters below.

² (Rachel Taylor #1, David and Mary Cook #3, Hastwell/Mt Munro Protection Society Inc #14, John Murray #15, Soul Joyce Olliver #20, Charmaine Semmens #21, Nick Olliver #24, Isaac Davies #62, Amelia Boot #63, Jason Taylor #65).

Air Discharge

59. A number of submissions raised concern about effects on roof water collection effects ³
60. During the upgrade of Old Coach Road, dust can be managed through a Dust Management Plan, as described in the evidence of Mr Van de Munckhof. I consider that keeping speed limits to 30kph for all traffic will assist in keeping dust levels low. A further dust control measure during road construction will be the use of water carts to keep the temporary trafficked metalled surfaces damp.
61. Following the upgrade and sealing of the road, I understand dust generation from construction traffic will be negligible.
62. Providing temporary potable water supply to local residents demonstrably impacted by dust is also an available option to manage the impact of dust should other controls not prove effective.
63. With respect to diesel emissions typically there are requirements in the Contractor's Management Plans for the restriction on construction vehicles idling. That is, if stationary the engines need to be turned off to minimise any diesel emissions.

Road Safety

64. A number of submissions raised concern about construction traffic effects on road safety.⁴
65. The approved Construction Management Plan and contractors' methodology are likely to prescribe where possible the implementation of physical separation and demarcation of construction works and local traffic access routes along Old Coach Road. In constrained areas where this may not be possible proven traffic management controls, such as stop/go controls are likely to be implemented. Associated traffic signage will complement these measures.

³ Soul Joyce Olliver (submitter 20), Nick Olliver (submitter 24), Isaac Davies (submitter 62), Amelia Boot #63, Jason Taylor #65).

⁴ 2 Hastwell/Mt Munro Protection Society Inc (submitter 14), John Murray (submitter 15)

66. The proposed upgrade works will improve the long-term safety of Old Coach Road for all users with driver visibility improvements, better road realignments, widening and road sealing.

Stock Safety

67. A number of submissions raised concern about stock safety along Old Coach Road.⁵ I note that there were no adverse effects on stock from the upgrade of the Ohariu Valley Road, which was in a similar rural environment, and that stock movements there were successfully accommodated using standard traffic management protocols. No impacts from construction or construction-traffic noise were observed.
68. Any existing stock fencing that is impacted by the reconstruction will be reinstated along a new alignment within the Road Reserve Boundary. Permanent stock fencing or temporary stock proof fencing will be installed prior to the removal of any existing fences. Any temporary fencing would be offset from the permanent fence alignment and this temporary alignment would be agreed with the associated landowner.
69. Any stock movements across the road reconstruction could easily be managed in accordance with the approved Construction Traffic Management Plan. Following the upgrade of Old Coach Road, stock movements during the construction of the main Project could continue to be co-ordinated in this way.

Noise

70. The noise generated by any upgrade activities would be managed in accordance with the approved Noise Management Plan. Noise matters are addressed in the evidence of Mr Halstead.

Restricted Access to Existing Road Users

71. Continued access during construction was an issue raised in a submission, although not from a resident of Old Coach Road.⁶

⁵ R Taylor (submitter 1), D and M Cook (submitter 3), Glen Opel Ltd (Sub 34)

⁶ Charmaine Semmens (submitter 21)

72. Local residents will be afforded access to Old Coach Road in accordance with the approved Construction Traffic Management Plan. Wherever possible the duration of reconstruction work opposite local residents' vehicle access points (driveways) will be minimised. Where this work has to occur over several days, typically temporary metalled accesses will be provided to allow access where there is a level difference between the access at the boundary and the road levels whilst the road is being constructed.
73. I note proffered condition CTM6 c) includes a requirement that access for residents of Old Coach Road is maintained at all times. As occurred with Project Mill Creek I consider that the Construction Management Plan will document the measures to provide this access.
74. In the event upgrade construction work is occurring in the vicinity of a property access and resident/visitor access is needed it is envisaged that this access will be co-ordinated between the Project's Stakeholder Manager and the Civil Contractor.
75. Upon completion of the road upgrade new accesses will be constructed that are comparable in standard to the existing vehicle accesses.
76. Details of Rural mail deliveries can be incorporated into the Construction Traffic Management Plan and the Civil Contractor will coordinate its activities to ensure access for this service is maintained.

CONCLUSIONS

77. Meridian successfully undertook the upgrade of Ohariu Valley Road in a way that allowed the continued use of this Road by the local Community and with minimal impacts on the local residents during these works..
78. I cannot see any reason why the implementation of the same proven mitigation measures used at Ohariu Valley Road would not successfully minimise and mitigate construction impacts during the upgrade of the less populated and trafficked Old Coach Road.
79. The Ohariu Valley Road Residents now enjoy a much safer road which affords better visibility and passing. The local residents obtained a

more resilient telecommunication and power supply as a consequence of the associated new reticulation.

80. Based on my experience I consider that effects arising from the upgrade of Old Coach Road can be appropriately managed and mitigated through the implementation of the proffered conditions such that the safe, effective and efficient operation of Old Coach Road can be maintained, and effects on residents minimised as far as practicable.
81. Once the road has been upgraded, and assuming the upgrade remains in place, I consider that the outcome will be an improved road environment, both for residents and for windfarm operation and maintenance.

Christopher Jones

24 May 2024

APPENDIX A: PHOTOS OF OHARIU VALLEY ROAD



Photo 1: Existing Ohariu Valley Road Prior to Upgrade – Southern end. Note two-way provision and substandard lane width.



Photo 2: Existing Ohariu Valley Road Prior to Upgrade – Northern end. Note single lane provision and reduced sight distance.



Photo 3: Ohariu Valley Road during reconstruction



Photo 4: Ohariu Valley Road during reconstruction. Note dedicated live traffic lane and construction working zones.



Photo 5: Reconstructed Ohariu Valley Road. Note two-way provision and standard lane widths. Photo approx. in same place as Photo 1.