

Before the Hearings Commissioners
at Palmerston North

in the matter of: in the matter of Notices of Requirement by the New Zealand Transport Agency under section 168 of the RMA for the construction, operation, maintenance and improvement of approximately 11.5km of new State Highway between Ashhurst and Woodville to replace the closed section of State Highway 3 through the Manawatū Gorge and associated works, known as the Te Ahu a Turanga Manawatū Tararua Highway Project ('the Project')

to: **Palmerston North City Council**

Manawatū District Council

Tararua District Council

applicant: **New Zealand Transport Agency**

submitter: **Meridian Energy Limited**

Statement of Evidence by **Lindsay John Daysh** on behalf of

Meridian Energy Limited

Date: 15 March 2019

Introduction and experience

1. My name is Lindsay John Daysh. I hold a Bachelor of Regional Planning Degree from Massey University and a graduate qualification in Transport Systems Engineering from the University of South Australia. I am a member of the New Zealand Planning Institute and the Resource Management Law Association.
2. I have over 30 years' experience in town planning and resource management in New Zealand and in Britain. This includes extensive experience in central government agencies, local authorities and since 2004 as a consultant carrying out a broad range of planning matters including strategic planning, policy development, and project development particularly for infrastructure providers.
3. I am also an independent commissioner with a chairmanship endorsement and have conducted a number of hearings since 2010 including for infrastructure projects.
4. My current position is as a Director of Incite, a resource management and environmental consultancy. I am based in Wellington.
5. Prior to my move to Incite in 2010 I was New Zealand Planning Manager with GHD Ltd, where I held national responsibility for all planning matters. Preceding that I was Regional Planning Manager at the former Transit New Zealand for Wellington and Nelson/Marlborough/Tasman. I have also had two periods of employment at Wellington City Council including through the hearings and appeals stages of the first District Plan under the Act. I also worked for the London Borough of Hillingdon, and the former Ministry of Works and Development.
6. My experience also includes being project director and/or the reviewer on the following wind energy projects.
 - (a) The Assessment of Environmental Effects for the Mill Creek wind farm north of Makara in Wellington City. In later years I was involved in considering vehicle access for construction and I have reviewed a number of ancillary district and regional resource consents or variation to conditions relating to this site.
 - (b) The Assessment of Environmental Effects for Central Wind between Taihape and Waiouru.
 - (c) Ancillary or additional consents relating to the operation of West Wind west of Makara including condition amendments.
 - (d) Various wind investigation site selection processes and consents for monitoring masts in a number of locations in the North Island.

7. In relation to the Te Āpiti wind farm, Incite was engaged to consider consenting issues for remediation of a large slip that occurred on the site in 2015.
8. I also have considerable experience in highway projects. This dates from 1999 when I was the Regional Planning Manager at the former Transit New Zealand Wellington Regional Office and then from 2004 as a consultant where I have continually been involved in transportation projects. Examples include:-
 - (a) The Scheme Assessment Report and the Plan Change to the Wellington Regional Freshwater Plan considered by a Board of Inquiry for Transmission Gully (2007-2011)
 - (b) As a strategic planning adviser for the Transport Agency, Wellington Northern Roads of National Significance projects. Apart from my role in the Transmission Gully Project I also carried out a full review of both the MacKays to Peka Peka and the Peka Peka to Otaki Assessments of Environmental Effects. These three projects have all been considered by Boards of Inquiry. I have also assisted at earlier stages with the Mount Victoria Tunnel to Cobham Drive Project (2007 to 2014).
 - (c) The Basin Bridge Project considered by a Board of Inquiry (2012-2014).
 - (d) Stage 2 of the Christchurch Southern Motorway (2009 to 2012);
 - (e) The earlier stages of the SH3 Mount Messenger Bypass Project (2017-2018);
 - (f) A seaward side reclamation from Ngauranga to Petone for Walking and cycling (2013 to 2019); and
 - (g) I have either authored or reviewed under my management, numerous other highway consents throughout New Zealand at varying scales and with varying environmental effects on the natural and urban physical environment.
9. I am very familiar with the land use and transportation context for the Te Ahu a Turanga Manawatū Tararua Highway Project ('the Project') having worked on a number of planning and transport planning tasks in the Lower North Island at strategic and project consenting levels for much of my career. I also grew up in the Rangitikei and Manawatū.
10. I confirm I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2014 and agree to comply with them in giving evidence in this proceeding. Except where I state that I am relying on the evidence of another person, this written evidence is within my area of expertise. I have not omitted to consider material facts

known to me that might alter or detract from the opinions expressed in this evidence.

11. In presenting this evidence I have also read the evidence prepared on behalf of Meridian by Paul Botha, Chris Jones and Tony Keyte.
12. In preparing my evidence I have considered the following documents:
 - (a) The Notice of Requirement and the supporting documentation;
 - (b) The s42A report and the accompanying technical evidence;
 - (c) The National Policy Statement for Renewable Electricity Generation 2011;
 - (d) The Consolidated Regional Policy Statement, Regional Plan and Regional Coastal Plan for the Manawatū -Wanganui Region (the One Plan);
 - (e) The Tararua, Palmerston North and Manawatū District Plans noting that the Te Āpiti wind farm is entirely contained within Tararua District;
 - (f) The evidence of the requiring authority and in particular that of Ms Downs (NZTA Portfolio Manager); Mr Whaley (Project Design), Mr Dalzell (Project Management), Mr Bentley (Cultural and Environmental Design Framework), Dr Forbes (Terrestrial Ecology) and Ms McLeod (Planning and Conditions);
 - (g) Minutes 1 to 4 from the Hearing Panel including specific questions to the requiring authority and the s42A advisers; and
 - (h) The project conditions proposed in the notice of requirement by the requiring authority, the amended conditions proposed by Mr Percy the s42A author and the further amended conditions proposed by Ms McLeod through Attachment C of her evidence.
13. I make this statement in support of Meridian's request that should the Notice of Requirement decision be recommended for approval that conditions be imposed to appropriately address adverse effects arising from the new State Highway between Ashhurst and Woodville which bisects an existing operational wind farm and is required for Meridian to carry out its renewable electricity generation activities.
14. I am familiar with the site and visited the Te Āpiti wind farm in September 2018.

Scope of Evidence

15. In forming my conclusions, particularly in relation to environmental effects, I have drawn on the expert evidence of Meridian's technical witnesses, and in particular the evidence of:
 - (a) Paul Cedric Botha;
 - (b) Christopher Simon Jones; and
 - (c) Tony Glenn Keyte.

16. This statement provides:
 - (a) A brief Project Background;
 - (b) An outline of the NZTA proposal;
 - (c) Adverse effects;
 - (d) Planning Framework -
 - (i) Part II;
 - (ii) National Policy Statement for Renewable Electricity Generation;
 - (iii) The One Plan;
 - (iv) The relevant District Plans but in particular the Tararua District Plan;
 - (v) Other relevant matters;
 - (e) Response to s42A Officers Report;
 - (f) Response to NZTA Evidence;
 - (g) Recommendations including amended conditions;
 - (h) Conclusion.

Executive Summary

17. In summary, I accept the rationale for the notice of requirement. The clear community need for a highway replacement to the now closed SH3 through the Manawatū Gorge is well understood. I also acknowledge the efforts that the requiring authority has gone to in engaging with Meridian to date in order to work through the substantial issues that remain.

18. However, the designation bisects an operational windfarm which is generally accepted as being in an ideal location for wind power generation. There will be a loss of existing and potential renewable energy generation. In order to avoid the further loss of generation, to the extent that is reasonably practicable, it is imperative that ongoing co-operation between the requiring authority and Meridian continues.
19. There is a large amount of detail that has not been covered in the notice of requirement. This detail is being left to future processes, in particular, the securing of the necessary resource consents, the outline plan process, the compilation and then implementation of management plans and the ongoing and lengthy process of construction. This is in an area that is highly constrained by the existing wind farm.
20. The evidence of Mr Botha, Mr Keyte and Mr Jones have considered the implications of the existing context of the windfarm and have concluded that there remain adverse effects. In my view these concerns are not of a magnitude whereby the notice of requirement should not be recommended for approval in principle. However, in order to achieve an acceptable outcome for both the requiring authority and Meridian effective conditions guiding the future process are imperative.
21. There are four main areas of concern. The first is in relation to the potential for loss of generation capacity through design of cuts and fills that may adversely affect wind flows as described in Mr Botha's evidence. I note that the requiring authority has accepted that the windfarm site should not contain large vegetation as this also can affect wind generation capacity.
22. The second matter relates to the need for acknowledgement in ongoing processes of the ability for Meridian to shift turbine locations in accordance with the 100 metre flexibility permitted by the original resource consent for the Te Āpiti wind farm in 2003. A process is proposed where the built form of the highway alignment, including any cuts and fills, is within 160 metres of the turbine locations then detailed engineering design should consider the location of any replacement turbines in direct discussions with Meridian.
23. The third matter is the maintenance of effective and fit for purpose access to each turbine. The evidence of Mr Keyte details the practical issues there are with the bisection of the windfarm and the severing of some of the existing access provision.
24. The fourth matter is in relation to detail such as enabling works i.e. when they are done and how they are done, the protection of underground cables, the minimisation of dust and the general duty of care to manage construction effects.
25. I note the strength of the NPS Renewable Energy Generation that seeks to provide for new infrastructure, protect existing infrastructure, provide

for maintenance and upgrading of existing sites. This is in the context of Part 2, particularly the targeted section 7 matters in s7(b) (efficient use and development of natural resources) where the wind farm is an ideal site for this activity. In addition, s7(i) (the effects of climate change) and in particular s7(j) (the benefits to be derived from the use and development of renewable energy) are also relevant.

26. Having considered the evidence from the requiring authority and the s42A report authors particularly in respect of conditions, I have proposed some amendments. The most significant change proposed is the recasting of condition T1 to be a 'Wind Farm Management Plan'. The objective is to contain in one condition a process whereby the key design, programming and avoidance of effects matters on the operation and potential upgrading of the wind farm can be avoided where possible or effectively managed through a co-operative consultation and construction process.

Background

27. The description of the site has been described in the notice of requirement, the s42A report and in various statements of evidence. I need not repeat that detail but observe that the proposed alignment for the project crosses the North Island main divide between the Tararua and Ruahine Ranges north of the Manawatū Gorge.
28. The project rationale and the need for a replacement to the now closed State Highway 3 through the Manawatū Gorge is well understood. SH3 is the primary route from the Manawatū/Whanganui regions to Hawkes Bay and the Wairarapa. Alternatives in this location are the Saddle Road and the Pahiatua Track which are not designed to highway standards and there are no other east west crossing points between the Napier Taupo Road and the Remutaka Hill. From my consideration of the documentation provided with the notice of requirement the case for a replacement route is clear in my view.
29. In seeking a preferred alignment and in considering the topographical and land use constraints, I am aware that Meridian was consulted during the options evaluation process. Understandably at that stage Meridian had a strong preference for options that did not involve affecting the existing Te Āpiti wind farm.
30. The preferred route that is now subject to this notice of requirement however bisects the Te Āpiti windfarm where the evidence of Mr Botha at paras 21 to 27 outlines the process of the development of the Te Āpiti site as one of the first locations for a windfarm as part of New Zealand's sustainable electricity generation resource. Being at a low point in the main divide the prevailing winds from the north west gather speed as they cross the dividing ranges.

NZTA Proposal and the Te Āpiti Windfarm

31. The area that the notice of requirement relates to spans from Ashhurst in the west to Woodville in the east. The focus of this evidence is on where the designation footprint runs through the Te Āpiti wind farm generally located on a plateau between the Ruahine and Tararua ranges north of the Manawatū Gorge.
32. As was stated in the submission of Meridian Te Āpiti is a 55-turbine wind farm located north of the Manawatū Gorge and can generate up to 305 GWh per year of electricity. The wind farm generates enough electricity each year for about 39,000 average New Zealand homes. Te Āpiti was the first wind farm Meridian built in New Zealand and was operational in 2004. It is also the first wind farm to supply electricity into the national energy grid.
33. Te Āpiti wind farm is located on 1150 hectares of farmland owned by four separate landowners, including Meridian. It is recognised that the wind near the Manawatū Gorge is exceptional, even by international standards. The strong, unimpeded winds from the Tasman Sea and the funnel effect of the Manawatū Gorge make this the perfect place for a wind farm.
34. To implement the wind farm Meridian built 21 kilometres of roads to transport the turbine parts and excavated 55 foundations for the turbines. A 400 tonne crawler crane was used to install the turbines.
35. Meridian recognises that a replacement highway link between Manawatū/ Whanganui and Tararua/ Hawkes Bay communities is of particular importance since the closure of State Highway 3 through the Manawatū Gorge. It is also outlined within the Assessment of Effects on the environment that the broad alignment proposed will have adverse effects including:
 - removal of a turbine (or turbines);
 - destabilisation of turbine foundations as a result of earthworks;
 - disruption of access to (and within) the wind farm site as a result of physical relocation of the access tracks and interaction with construction activities;
 - disruption of fibre optic and electricity cabling as a result of relocation activities; and
 - changes to the wind environment as a result of replacement and offset planting in the vicinity of turbines.

Effects

36. The Project will result in a range of adverse environmental effects. The key actual and potential environmental effects arising from the Project can be broadly categorised as follows:
- Reduction in renewable energy;
 - Ongoing operational effects; and
 - Construction effects including traffic management, access to wind turbines for maintenance and potential upgrading, and the minimisation of possible electricity outages during highway construction.
37. It should be noted that these effects are solely in relation to Meridians role as a key supplier of renewable electricity generation and I recognise that there are a number of other matters raised by other submitters.

Reduction in renewable energy post construction

38. As has been outlined by Mr Botha at para 33, the Project impacts significantly on the wind farm operations of Te Āpiti Wind Farm with one being totally removed and a further 16 of the 55 turbines of Te Āpiti wind farm being separated from the existing operations and ultimately lying south of the new highway.
39. Apart from the one turbine proposed to be removed, additional turbines may be required to be removed but that is dependent on final design.
40. Aside from the absolute loss of one turbine and the potential loss of others, Mr Botha is also concerned about the disruption of wind flows to other turbines post construction. This is as a result of the finished form of the road particularly where cuts and fills are necessary. Mr Botha states in his executive summary at paras 17 and 18:

The highway alignment has not been finalized however the indicative alignment shows cut batters of up to 34m deep being located very close to existing wind turbine locations. The presence of those deep cuts through the wind farm are going to result in changes to the wind flow conditions (wind speed, turbulence intensity, inflow angle, wind shear and wind veer) with a reduction in the turbine lifetime and a reduction in wind turbine output.

Large spoil sites are proposed within the wind farm site and while the filling of valleys can have a beneficial effect, the height of those spoil sites has the ability to reduce the wind turbine wind speed and consequently the generation output of the wind farm.

41. While I recognise the benefits of a replacement State Highway 3 there are also effects on existing and potential renewable electricity generation. In my view every effort needs to be made to avoid to the greatest extent practicable outcomes that reduce existing or potential electricity generation. This includes the ability for input into the detailed design of cuts and fills to ensure that the wind flows are maintained to the greatest extent possible.
42. There will still be an absolute loss of actual or potential energy generation potential. In this regard I am aware that NZTA and Meridian have been involved in discussions for some time including as to a Heads of Agreement about the Project, but this remains outstanding and the parties have been unable to reach agreement.
43. However, in terms of the notice of requirement I consider that it is in both parties' interests to avoid effects and therefore limit the loss of energy generation potential that cannot be managed through co-operative design of the roading alignment. This is even more important considering the National Policy Statement for Renewable Energy Generation 2011 (NPSREG) and the emphasis on promoting new renewable energy and protecting existing sources of generation. I further discuss the NPSREG later in this evidence.
44. Effective conditions are required that outline a process of detailed Meridian involvement in highway design with a key objective being to avoid in the first instance and then to minimise the loss of potential generation from an existing site that is and widely recognised as being an ideal site for renewable energy. I recognise that there are conditions proposed by the requiring authority that in some way set a framework for ongoing Meridian input into design. I comment on revised conditions later in this evidence.
45. The second matter raised by Mr Botha is in relation to large vegetation. This leads from the recommendation contained within the Terrestrial Ecology report lodged with the notice of requirement where the Te Āpiti Windfarm site is seen as a priority when looking at the areas that may be suitable for Ecological Offset Planting Opportunities.
46. Mr Botha does not agree that a windfarm site is at all suitable for large vegetation (trees). He has outlined in his evidence the reasons why extensive planting disrupts wind flow and consequentially affects production capacity. In his executive summary at para 19 he states:-

Trees have the ability to both reduce the lifetime of the turbines and decrease the energy production through their impact on the wind flow conditions. The extensive tree planting proposed in the NOR application would have an impact on a significant number of turbines. There remains uncertainty around what planting is still being proposed by NZTA and therefore its impact on the long-term output of the Te Apiti wind farm however I do note NZTA has agreed by Memorandum dated 1 March 2019

not to carry out planting to offset or compensate for terrestrial ecology on the Te Āpiti Wind Farm site.

47. The requiring authority has agreed that the wind farm site is not an area that is to be used for offset ecological mitigation for the loss of significant vegetation arising from road construction. This is outlined in Mr Randal's Pre Hearing Report on behalf of the Transport Agency dated 1 March 2019 at para 22 (a). I understand that this undertaking includes the exception of the small gullies where a QE2 covenant exists. Roadside amenity planting has also been restricted to a maximum mature height of 1.5 metres.
48. This approach would also be consistent with the encumbrance on the title restricting vegetation height. This is within the Certificate of Title WN40B/274 which is subject to Meridian's wind power easement attached as part of the Meridian submission.
49. Based on the undertaking from the requiring authority in pre hearing report, the evidence of Mr Dalzell at para 65(c) and reflected in Ms McLeod's evidence at para 188(f), potential effects from large vegetation to the generation capability of the Te Āpiti wind farm site can be avoided.

Buffer Zones

50. Meridian's submission stated that it was granted resource consent for the Te Āpiti development on 3 September 2003 and was subject to 20 conditions. Of particular relevance to the notice of requirement was condition 2 which states.

2. *That no more than fifty-five (55) 1.5MW – 1.75MW wind turbine generators ("turbines") be installed, subject to the following:*
- *Each turbine shall be located within 100 metres of its location as shown on the plan marked 'Drawing No 1 (Rev 3) General Site Plan With Topo Information' submitted with the application, except that turbines numbered A11, A12, A13 and B02 shall not be located any closer to Ashhurst as shown on Drawing No.1 (Rev 3).*
 - *Turbine height (to the vertically extended blade tip) shall be limited to 106 metres plus 10% or minus 13%.*

51. Further the submission from Meridian outlined that:

This condition allows Meridian to maintain some flexibility or tolerance within a 100 metre radius Turbine Contingency Zone (TCZ) in terms of future upgrades (with like-for-like turbines that adhere to the existing conditions of consent). This tolerance allows Meridian, on repowering, to

locate the new turbine anywhere within the TCZ, subject to the imposed conditions.

The Notice of Requirement plans show a 60m setback from individual turbines in terms of implementing the new road. Meridian agrees that a 60m setback is appropriate to avoid the risk that significant road cuts may have on the wind turbine foundations, however, the setback also needs to take into account the consented TCZ, that is the setback should be 160m (100m + 60m). In adopting this setback Meridian may continue to maximise the wind potential of the turbine location and retain the existing positioning rights within the 2003 consent.

This applies to new turbines as the existing turbines cannot be physically relocated to move them out of the way of the road alignment and its associated cuts and fills.

52. At some stage in the future the existing turbines will need replacing and Meridian relies upon the condition referred to above to repower the site within the tolerances permitted by the 2003 consent. This includes the 100 metre Turbine Contingency Zone (TCZ) in the condition and then the 60 metre construction buffer offered by the requiring authority.

53. Mr Botha has considered this issue in detail in his evidence at para 52. He considers:

From a practical re-powering perspective, I think the 60 m construction buffer indicated is insufficient and would need to be increased in order to allow Meridian to sensibly repower Te Apiti with similar sized wind turbines. In order not to restrict Meridian's current ability to re-power turbines with new turbines located within 100 m of their consented locations the construction buffer zone would need to extend out to 160 m from the consented turbine locations.

54. I recognise NZTA does not agree with the Buffer zones and this is primarily through the evidence of Ms McLeod (para 189) which states:-

I note that Meridian's submission seeks a greater (160-metre) 'buffer' to apply in order to provide for the consented turbine locations (provided for by a 100-metre 'turbine contingency zone') and future 'repowering' of the wind farm. I do not support this inclusion of greater buffer areas because:

(a) providing for future turbines goes beyond what is anticipated by Objective B Policy B of the NPSREG that explicitly refers to existing renewable generation activities;

(b) depending on the extent of restriction that would apply, a 160-metre buffer could prevent the Project from proceeding on the basis that

there would be no feasible path through the wind farm that would avoid the buffer areas;

(c) while I am no expert in wind farm development, in a practical sense the usefulness of engineering advice to all parties may be limited where future foundation location, design and turbine specifications are unknown; and

(d) where the Project impacts on a consented development right, it is my understanding that this is compensated under the PWA.

55. I discuss my divergence of view with Ms McLeod on the NPSREG later in this evidence. However, in relation to the other points it is my understanding that the 160m setback request is not a 'no go' zone. I therefore consider that Ms McLeod overstates that "a 160-metre buffer could prevent the Project from proceeding on the basis that there would be no feasible path through the wind farm that would avoid the buffer areas".
56. Rather, all that the condition on the 2003 resource consent is signalling in the context of the notice of requirement is that, in relation to both highway design and potential repowering locations, more thinking, detailed design and engineering needs to occur to ensure that any final design is appropriate and fit for purpose. I accept the many millions of dollars of both highway and wind generation assets, that are either there or to be created into the future, that need to be carefully reconciled.
57. There is rightly a degree of caution to be exercised here in my view and I note that Meridian knows how unstable the land can be from its experience of large slip that occurred on the wind farm site in 2015, as is shown in the photographs included in the evidence of Mr Keyte at page 19. Indeed, the very reason for the alternative State Highway is due to the underlying geotechnical issues with State Highway 3 through the Manawatū Gorge. To me this also indicates a need for a prudent and conservative approach to be applied.
58. However I do see some middle ground that can be reflected in amended and reasonable conditions. That is where the built form of the highway alignment, including any cuts and fills (as opposed to the designation boundary which is necessarily very wide due to uncertainty as to detailed design), is within 160 metres of the turbine locations then detailed engineering design should consider the location of any replacement turbines in direct discussions with Meridian. This is reflected in my revised condition T1 that I refer to later in my evidence.
59. My understanding from Mr Botha that it may well be that a new turbine may be close to the position of the existing turbine taking advantage of the track access and the existing hardstand created for cranes. However it may also be the case as a result of detailed geotechnical engineering, geometric design or as a result of a diminution in wind flow created by

the finished form of the highway that an alternative location within the 100 metre tolerance and including the 60 metre buffer may be preferred.

60. I consider that the approach of detailed discussions is reasonable particularly as a result of the much more detail required to be confirmed prior to physical construction actually occurring. I have proposed some amended conditions to reflect this later in my evidence.

Effects on Electrical Cabling

61. It is my understanding that there would also be substantial disruption to the network of cables that carry electricity from each turbine to the substation on the Saddle Road where it is converted to 110 KV supply before being transmitted to the national grid via the Woodville Substation. In this regard I note that Mr Jones evidence at paras 64 to 67 for Meridian outlines the extent of effects to the existing cable configuration and potential disruption to continuity of supply unless recabling is carefully managed.
62. I understand that the reasons influencing continuity of supply include project staging, the location of the physical works and the location and compaction of spoil. These are further outlined by Mr Jones at paras 52 to 63 of his evidence. To me the reservations that Mr Jones outlines and the incredible amount of detail to be worked through all indicate the level of design that has been done to date.
63. If the notice of requirement is to be recommended for approval and short-term outages are to be avoided, clear conditions that guide the contractor in designing and implementing the project need to be well crafted. This includes provision for enabling works where I discuss the relevant conditions later in this evidence.

Turbine Access

64. Windfarms rely on access tracks for routine maintenance, and to be able to accommodate heavy and long loads in order for major turbine components to be transported to and from each turbine site. I noticed from my site visit that the access tracks appeared well maintained and I was advised that the access tracks did not contain sections that were either too steep or too 'tight' in terms of curvature. As continued access to each turbine location is required I note that the current proposal provides for the provision of an underpass between the bisected parts of the wind farm.
65. The proposal also requires the reconfiguration of access to a number of the existing turbines. This is necessitated by the road alignment severing a number of tracks and the need to provide for replacement access. It is clear to me that without effective replacement access to the specifications required for wind farms, that the existing electricity generating potential of the Te Āpiti site will be reduced. This is because some turbines may

not be able to be accessed for major maintenance including component replacement or for a full repowering i.e. replacing the existing turbines with more modern designs.

66. The evidence of Mr Keyte outlines the construction and access management issues that face Meridian going forward. From this evidence I note his conclusions at paras 95 to 98 of his evidence.

From a civil design and transportation perspective, I consider that additional detailed design is required, in consultation with MEL, to ensure that the geometric design of all reconfigured access roads is sufficient to accommodate the existing and future operational needs of the wind farm. The level of detail provided with the NOR is currently insufficient to provide those assurances.

The proposed Highway should be provided with adequate access facilities for the ingress and egress of over-dimension and overweight vehicles for both eastbound and westbound vehicles to both sides of the bisected wind farm.

Construction of the proposed Highway will present challenges for MEL regarding the transportation of over-dimension vehicles from Saddle Road to turbines in the southern section of the wind farm. The underpass cannot be relied upon to meet over-dimension needs and an interim design solution needs to be provided until such times as the Highway has been constructed and permanent accesses are available.

Outstanding civil design and transportation uncertainties are able to be addressed by way of consent conditions, based on the recommendations above.

67. I have incorporated Mr Keyte's recommended changes to conditions as Attachment A to this evidence.

Effects overall

68. To achieve an alignment to modern standards the steep topography has led to a number of engineering challenges where significant earthworks requiring cuts and fills are required leading to a significant disruption to existing land uses including the Te Āpiti wind farm site.
69. It is the interface between the proposed highway and the windfarm that is the subject of Meridian's submission and there are a number of matters that are either unresolved or require significant ongoing discussions to enable the wind farm to continue to operate and to further develop into the future.
70. Having had considerable experience with highway projects in steep undulating terrain I am well aware of the effort required to go from a preferred alignment to a detailed design that is ready to be constructed.

I am also familiar with the need to provide for a logical sequencing during the construction phase and this often leads to an enabling phase where utilities in particular are relocated first up to enable security of supply prior to bulk earthworks.

71. I also note that the proposal is limited in detail. There are no resource consents under the One Plan sought at this time and no confirmation as to a preferred design. It is entirely feasible that the preferred design and the regional resource consent requirements could change the indicative alignment.
72. Rather the NZTA approach has been to provide an indicative alignment with a relatively wide designation footprint. Necessary detail is to be worked on and the subsequent resource consents, outline plans and detailed management plans are to be sought later.
73. Therefore, the provision of effective conditions to be complied with when more detail comes to hand is imperative. This includes co-ordination with Meridian to avoid to the greatest extent possible the loss of electricity production.
74. I recognise that the requiring authority has made considerable effort to discuss the above issues with Meridian. From these discussions I also understand that NZTA will engage an "Alliance" consortium to take the project commencing at the end of the notice of requirement phase through the ongoing statutory processes, to carry out detailed design and then take the project into construction.
75. In particular the detailed design and the securing of regional consents will be left to the Alliance to control and manage while being cognisant of conditions attached to the Notice of Requirement.
76. While I completely understand the procurement process it has substantial issues in terms of the lack of detail where it is left to future processes when a contractor is on board to resolve.
77. In summary there are significant risks and the potential for adverse effects if not managed accordingly. Consequently, I consider that a detailed Enabling works programme and dedicated section dealing with Wind Farm Management in Condition T1 relating to Outline Plan process needs to form an integral part of any approval recommending the notice of requirement be confirmed.
78. An alternative to this approach would be to include such detail in the two party (NZTA and Meridian) Heads of Agreement but this is not preferred as there may be other parties and in particular the territorial authorities whose input into construction management globally across the project would be imperative depending on the matter in hand.

Planning Framework

79. Mr Percy the s42A author and Ms McLeod on behalf of the requiring authority outline the relevant planning instruments in their respective evidence. With one exception we are broadly in agreement and I have focused my assessment of the planning instruments relating to renewable energy as opposed to the raft of other documents or provisions of relevance to the entire notice of requirement.
80. These include provisions in the Regional Policy Statement section of the One Plan relating to recognising and providing for Regionally Significant Infrastructure which I agree is clearly relevant for the primary highway link between Manawatū / Whanganui and Hawkes Bay/ Wairarapa.
81. In respect of the project and its relationship with the Te Āpiti wind farm the relevant documents or provisions are:
- Part 2 and in particular s 7(b), 7(i) and 7(j);
 - National Policy Statement for Renewable Energy Generation 2011
 - Horizons One Plan
 - The Tararua District Plan.
82. As the Panel will be aware there has been considerable policy developed by this and previous governments responding to, amongst other things, managing the effects of climate change. The current Government's policy is for a move towards carbon neutrality, limitations on greenhouse gas emissions and promotion of alternatives to the use of fossil fuels.
83. Part 2 of the Act provides good context in my view. In terms of the notice of requirement particular regard needs to be to section 7 matters where there are three clauses of relevance. The first being s7(b) *the efficient use and development of natural and physical resources*. The evidence of Mr Botha has outlined that the Te Āpiti wind farm is located at a site that benefits from an exceptional wind resource. Therefore there needs to be particular regard to the continued and future operation of the site for efficient and effective renewable electricity generation.
84. Secondly under s7(i) *the effects of climate change* emissions a key component is the Government's renewable energy generation policy for 100% renewables by 2025. Also strongly allied to s7(i) matters in the context of this notice of requirement is the relationship with s7(j) matters in that particular regard needs to be the benefits to be derived from the use and development of renewable energy.

National Policy Statement for Renewable Energy Generation 2011

85. S7(j) manifests itself in the NPSREG where the preamble (p3) gives an outline of what the NPS seeks to achieve:-

The contribution of renewable electricity generation, regardless of scale, towards addressing the effects of climate change plays a vital role in the wellbeing of New Zealand, its people and the environment. In considering the risks and opportunities associated with various electricity futures, central government has reaffirmed the strategic target that 90 per cent of electricity generated in New Zealand should be derived from renewable energy sources by 2025 (based on delivered electricity in an average hydrological year) providing this does not affect security of supply.

86. Further Objective A, Policy A of the NPS directs decision-makers to recognise and provide for the national significance and benefits that are derived from renewable electricity generation. These benefits include maintaining electricity generation capacity (and thereby reducing greenhouse gas emissions through the use of renewable resources).

87. The one policy whereby Ms McLeod and I disagree is in respect of Objective B Policy B that states:-

Objective B. Acknowledging the practical implications of achieving New Zealand's target for electricity generation from renewable resources

Policy b) even minor reductions in the generation output of existing renewable electricity generation activities can cumulatively have significant adverse effects on national, regional and local renewable electricity generation output;

88. In opposing the relief sought by Meridian to achieve a 160-metre buffer zone for repowering Ms McLeod (para 189a) states

providing for future turbines goes beyond what is anticipated by Objective B Policy B of the NPSREG that explicitly refers to existing renewable generation activities.

89. The word "existing" can be read as not only being the physical infrastructure in terms of turbines but also in terms of what is otherwise permitted by the 2003 grant of resource consent. My understanding is that the existing environment is defined as not only what exists currently but also the scenario where other activities are either permitted in a plan or through the provisions of a resource consent.

90. In other words, Meridian can in accordance with the existing consent build a new turbine within the 100-metre turbine contingency zone as of right subject to remaining within the consented height parameter. All Meridian is seeking is to be involved in the detailed design where it is proposed that the road alignment is within that area in order to assess the effects and to provide appropriate input.

91. Further Objective C Policy C1 is also relevant.

Objective C. Acknowledging the practical constraints associated with the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities

Policy C1 Decision-makers shall have particular regard to the following matters:

a) the need to locate the renewable electricity generation activity where the renewable energy resource is available;

b) logistical or technical practicalities associated with developing, upgrading, operating or maintaining the renewable electricity generation activity;

92. Decision makers must acknowledge the practical constraints associated with not only the location (clause a) but importantly must have regard to developing, upgrading, operating or maintaining the renewable electricity generation activity (*my emphasis*).
93. Therefore, consideration of potential upgrading scenarios is an important factor in decision making and, in my view, the detailed design of the road in respect of the Te Āpiti wind farm. As I have stated previously in my evidence on the basis of Mr Botha's, Mr Keyte's and Mr Jones's evidence there are a significant number of practical issues that need to be worked through.
94. Finally, there is policy support in the NPSREG in Objective D, Policy D for recognising reverse sensitivity effects
- Objective D. Managing reverse sensitivity effects on renewable electricity generation activities*
- Policy D Decision-makers shall, to the extent reasonably possible, manage activities to avoid reverse sensitivity effects on consented and on existing renewable electricity generation activities.*
95. This objective and the relevant policy are directly relevant where the road interfaces with the consented and existing Te Āpiti Wind Farm.
96. In my view the NPS has strong provisions relating to protection, enhancement, operating and potential upgrading of renewable energy generation. In my view the amendments that I recommend to the conditions go some way to achieving the right balance.
97. Also of some relevance but less targeted to the Te Āpiti wind farm than the NPSREG is the NPS for Electricity Transmission that I need not discuss further.

Horizons One Plan/ Tararua District Plan

98. Mr Percy outlines his view on the relevant provisions in the RPS. He states at para 636 that:

There is a desire to increase the use of renewable energy resources within the Region (RPS, Objective 3-2, Energy). Policy 3-6 Renewable Energy (RPS) states that Territorial Authorities must have particular regard to the benefits of the use and development of renewable energy resources including: the logistical or technical practicalities associated with developing, upgrading, operating or maintaining an established renewable electricity generation activity and the need for renewable energy activities to locate where the renewable resource is located.

99. I adopt this reasoning and note that Ms McLeod has taken a similar view in her evidence at Page 12. There are similar issues with implementing the RPS in the context of the Project and the relationship with the NPSREG referred to above especially in relation to the existing and potential upgrading of the Te Āpiti wind farm site in the future.

100. Mr Percy and Ms McLeod also recognise that relevant provisions at the district level which relate to network utilities are identified relating to renewable energy.

To recognise the potential of the District's Rural Management Area for renewable electricity generation and wind farms in particular (TDP: 2.8.4.1 Objective); and

To recognise the local, regional and national benefits to be derived from the development of renewable energy resources, and wind farms, in particular (TDP: 2.8.4.2. Policy a).

101. This is in my opinion consistent with Objective E3 Wind resources Policy E3 of the NPSREG where it states:

Regional policy statements and regional and district plans shall include objectives, policies, and methods (including rules within plans) to provide for the development, operation, maintenance and upgrading of new and existing wind energy generation activities to the extent applicable to the region or district.

102. While I recognise the importance of a new highway link overall, the Project as it relates to the Te Āpiti wind farm is potentially inconsistent with the direction of the respective objectives and policies.

s42A Report

103. I need not comment in detail on the s42A report as it appears comprehensive and I note that the hearings panel have requested clarification on a number of matters.
104. In respect of the Te Āpiti wind farm the report author generally agrees with Meridians submission particularly in regard to potential future upgrading of the Te Āpiti wind farm site and in terms of amendments to detailed conditions including those that relate to Outline Plan information and the need for the requiring authority to work co-operatively with Meridian. I note that Mr Percy also recommends a number of changes to conditions.

NZ Transport Agency Evidence

105. The requiring authority has provided a number of statements of evidence in support of the notice of requirement. As I stated previously the rationale for the project is well understood and I agree with the necessity to provide forward progress with a fit for purpose replacement to the now closed State Highway 3 through the Manawatū Gorge.
106. I also note that there are references from Mr Dalzell (at paras 64 to 66), to the numerous engagement processes that have been carried out. In addition, Mr Dalzell outlines the regular meetings that there have been with Meridian on the actual and potential turbine loss, the need to maintain access to turbines as well as enabling the ongoing functioning of the wind farm into the future. He also states (para 66) that the Public Works Act 1981 process of compensation is relevant in relation to effects to the extent they cannot be avoided through detailed design.
107. In relation to other NZTA evidence Mr Whaley on engineering matters at paras 170 to 173 of his evidence states that the 160 metre setback is not required for engineering considerations relating to the existing turbines. I note the evidence of Mr Botha (paras 47 to 52) and Mr Keyte (para 91) in this regard where they do not agree with this position. I also consider that there should be an element of caution as there is a large amount of detail still to come, in relation to the road location, the cuts and fills and the interface with potential upgrading of the windfarm site in the future.
108. Dr Forbes on ecology also comments at paras 22 to 24 that by not planting on the windfarm is a missed opportunity in terms of ecological mitigation and offset. Again, I note the evidence of Mr Botha as to why large trees should be avoided in respect of wind farms. Dr Forbes concludes that he accepts NZTA's position. I also note the existence of the encumbrance on Certificate of Title WN40B/274 restricting the height of vegetation.
109. In terms of Ms McLeod's evidence on the Te Āpiti windfarm I have already outlined the NPSREG matter on the 160 metre requested setback that we do not agree upon. Perhaps the only other matter where we do not agree is on the conditions particularly as further changes have been proposed

by Meridian experts. In terms of the lack of detailed design I consider that some improvements can be made.

110. Finally, Attachment 1 to Ms Downs evidence contains a draft master plan prepared by Te Āpiti Governance Group which is a group that does not include Meridian. Ms Downs at para 60 states:

In recent days (on 1 March 2019) the Transport Agency has been provided with a document purporting to be a draft master plan that is being prepared by the Te Āpiti Governance Group, which is a submitter on the NoRs. I append that document to my evidence as Attachment 1.

111. Further at para 62 Ms Downs notes that:

Nonetheless, I note that a potential mountain bike track near the Project, across land occupied by Meridian's Te Āpiti Wind Farm, is signalled in the draft document. Again, I do not know if there has been any engagement with Meridian, tangata whenua, or others about those plans.

112. I understand that there has been no consultation with Meridian about a mountain bike track and am advised that this cannot go ahead without landowner approval. Given the health and safety concerns around public access to the wind farm I am informed that any consent is unlikely to be given.

Recommendations

113. My recommendations all relate to conditions and I note the evidence of Mr Botha, Mr Keyte and Mr Jones that all consider that revised conditions would be beneficial. I have used Ms McLeod's version as the basis noting that few of Mr Percy's recommended changes have been adopted by her. I do however support some of Mr Percy's changes.
- (a) **Condition 1B** Management Plans for Enabling Works. I see no problem with including Mr Percy's condition. It outlines the competencies required to discharge the requirements for such enabling works. In terms of the Te Āpiti wind farm and its continued use for electricity generation the avoidance to the extent possible of outages through effective management of enabling works is essential.
 - (b) **Condition 5A** Outline Plans or Outline Plans (enabling works) As with condition 1B I see no problem with the condition. In the absence of detailed design and any applications for regional resource consents the design of enabling works are critical particularly for Meridian's continued operation of the Te Āpiti wind farm.
 - (c) **Condition 10** For the reasons outlined under Condition 5A I support the condition referring to condition 5A in clause 10(b).

- (d) **Condition 22** (Construction Traffic Management Plan) – On the advice of Mr Keyte this condition would be improved by the inclusion of a new subsection 22(e)(iv) to '*avoid damage to Te Āpiti wind farm buried infrastructure*'.
- (e) **Condition 22** (Construction Traffic Management Plan) –Mr Keyte recommends amending subclause 22(i) (now Ms McLeod's (k)), to read '*detail measures to provide on-going vehicle access to private properties, including site specific transport requirements relating to the maintenance and operation of the Te Āpiti wind farm, and limit the adverse effects of construction and severance, including by forming any new permanent or temporary accesses at the earliest opportunity.*'
- (f) **Condition T1 (Outline Plan – Te Āpiti Wind Farm)**. This is the key condition relating to Meridians interests and I recommend a comprehensive series of changes. The objective is to contain in one condition a process whereby the key design, programming and avoidance of effects matters on the operation and potential upgrading of the wind farm can be avoided where possible or effectively managed through a co-operative consultation and construction process. A number of these changes have been recommended by Mr Keyte, Mr Botha and Mr Jones. The main reason though is to contain the relevant matters in one condition as follows.

T1 - Outline plan – Te Āpiti Wind Farm

Where an outline plan or plans describes works within the Te Āpiti wind farm site, the Requiring Authority shall prepare a specific plan concerning the overall management of construction effects being a Wind Farm Management Plan (the Plan). In preparing the plan the Requiring Authority must:

- a) consult with Meridian Energy Limited ("Meridian") and provide Meridian with reasonable opportunities to make comments on the proposed designs and construction of the Project. The Requiring Authority must have due regard to Meridian's comments, in particular, where design elements can be incorporated to avoid adverse effects, as far as practicable, on the Windfarm Operations and Windfarm Infrastructure; ~~for the purpose of designing and constructing the Project to minimise, as far as practicable, impacts on the wind farm;~~ and
- b) as a minimum, include the following in the ~~outline~~ plan:
 - i. details of the consultation undertaken under clause (a) and the extent to which Meridian requirements have been incorporated into the finalised Plan;
 - ii. details of on-going access arrangements including for over dimensional loads during construction, including the management of construction traffic within the wind farm;

- iii. where construction activities (other than for the relocation of services ~~not related to the operation of the wind farm and access~~) and/or the finished form of the alignment are within 160 metres of ~~any turbine that is to be retained~~ the consented location of that turbine, or any practical location for a replacement turbine to the ones that exist currently, provide advice including technical, engineering and geotechnical advice from a suitably qualified and experienced person or persons in relation to any potential impact on the safe and efficient operation of that turbine or any permitted replacement turbine under Tararua District Council resource consent granted 3 September 2003;
 - iv. confirmation of compliance with NZECP 34:2001;
 - v. details of site management and security; ~~and~~
 - vi. arrangements for site inductions and contractor training, including Meridian's involvement in that training;
 - vii. details for the protection and/or relocation of underground cables;
 - viii. confirmation that geometric alignment of reconfigured access roads is capable of accommodating Meridian's existing and future operational, maintenance and upgrade needs;
 - ix. confirm measures to manage the effects of dust that may damage turbines, the substation and associated transmission lines; and
 - x. outline measures proposed under other management plans required in other conditions attached to the notice of requirement that also apply to the Te Āpiti wind farm.
114. On the basis that all matters concerning the wind farm are in one place there is no need for Mr Percy's recommended conditions T1(a) (windfarm access during construction) or T1(b) moving turbines or relocating transmission infrastructure. It is also recognised that it may not be prudent for all wind farm infrastructure relocations to occur prior to construction commencing as it may be better to carry out some works in conjunction with highway construction. In addition, with condition 5A concerning an outline plan for enabling works the detail of what needs to be shifted and at what time can in my view be effectively managed.

Dated: 15 March 2019

A handwritten signature in black ink, appearing to read 'Lindsay Daysh', with a long horizontal flourish extending to the right.

Lindsay Daysh

Attachment A

Tracked Changes key

Light green: Relevant changes recommended by s42A author

Light blue: NZTA changes post lodgement

Brown: Meridians proposed changes and comments

Reference	Draft Conditions
<u>1B</u>	<p><u>Management Plans for enabling works</u></p> <p><u>For enabling works that are part of the designation, the management plans required by Condition 5A must be prepared and technically certified by the relevant Territorial Authority at least 10 working days before the enabling works commence¹</u></p> <p>Lindsay Daysh support for inclusion.</p>
<u>5A</u>	<p><u>5A. Outline plan or outline plans (enabling works)</u></p> <p>a) <u>An outline plan or plans must be prepared and submitted to the relevant Council, in accordance with section 176A of the RMA, for enabling works that are not otherwise a permitted activity pursuant to the relevant District Plan (unless the requirement is waived by the territorial authority);</u></p> <p>b) <u>In addition to the matters required by section 176A of the RMA, an outline plan or plans must demonstrate how the matters listed in condition 5(e) are achieved;</u></p> <p>c) <u>The outline plan will not cover reinstatement of any non-permanent works and those details will be covered by the Outline Plan (permanent works);</u></p> <p>d) <u>the following conditions are also relevant to the content of an outline plan or plans for enabling works:</u></p> <ol style="list-style-type: none"> i. <u>Condition PN1: Outline plan – Parahaki Island;</u> ii. <u>Condition M1: Outline plan – Tararua High Pressure Gas Transmission Pipeline;</u> iii. <u>Condition M2: Outline plan – Palmerston North to Gisborne Rail Corridor;</u> iv. <u>Condition T1: Outline plan – Te Āpiti Wind Farm;</u>

¹ 1 S42a Planning Report – Chapter 10: recommendation to provide greater certainty

	<ul style="list-style-type: none"> v. Condition T2: Outline plan – Mangamaire – Woodville A 110kV National Grid transmission line; vi. Condition T3: Outline plan – Ballantrae Farm Research Station; and vii. vii. Condition T4: Outline plan – QEII National Trust open space covenants. <p>Lindsay Daysh support for inclusion.</p>
10	<p>Construction Environmental Management Plan</p> <ul style="list-style-type: none"> a) Prior to the commencement of construction, the Requiring Authority must prepare a Construction Environmental Management Plan (“CEMP”) that sets out measures that must be implemented to comply with the designation conditions and to appropriately manage any adverse effects of construction activities. b) The CEMP must accompany any relevant outline plan prepared in accordance with Condition 5 and condition 5A and also include the following suite of management plans: <ul style="list-style-type: none"> i. CTMP prepared in accordance with Condition 22; ii. CNVMP prepared in accordance with Condition 21; iii. TVMMP prepared in accordance with Condition 23; iv. EMP prepared in accordance with Condition 17; v. LMP prepared in accordance with Condition 12; and vi. MGSR Car Park Plan prepared in accordance with Condition PN2. c) The CEMP must include (as a minimum): <ul style="list-style-type: none"> i. the roles and responsibilities of staff and contractors; ii. the Requiring Authority’s ‘Environmental and Social Responsibility Policy’ environmental policy basis and relevant regional and district plan rules and associated performance standards and conditions that are achieved by the implementation of the CEMP; iii. a description of the Project including: <ul style="list-style-type: none"> A. the construction programme and staging approach; B. construction methodologies; C. a detailed site layout;

	<p>D. the design and management specifications for all earthworks on-site, including disposal sites and their location; and</p> <p>E. the design of temporary lighting for construction works and construction support areas;</p> <p>F. the approach to the management of construction waste, taking into account the waste management hierarchy to reduce, re-use, recycle and recover, along with responsible disposal of residual waste;</p> <ul style="list-style-type: none"> iv. a description of training requirements for all site personnel (including employees, subcontractors and visitors); v. environmental incident and emergency management procedures; vi. environmental complaints management measures; vii. compliance monitoring, environmental reporting and environmental auditing requirements; viii. the details for emergency contact personnel who must be contactable 24 hours, 7 days a week; ix. site security arrangements; x. an accidental discovery protocol, where required by and in accordance with Condition 24; xi. xi. a requirement for a copy of the CEMP to be held at all site offices. xii. xii. methods for amending, augmenting and updating the CEMP, including, but not limited to, in response to future resource consent conditions and as provided for by Condition 5(d). <p>d) The CEMP may be updated to incorporate any requirement of regional resource consents.</p> <p>Lindsay Daysh support for inclusion of reference to condition 5A. Agree with Ms McLeod on the need to avoid duplication with regional resource consents.</p>
<p>22</p>	<p>Construction Traffic Management Plan</p> <p>Prior to the commencement of construction, the Requiring Authority must prepare a Construction Traffic Management Plan ("CTMP") to minimise adverse effects on property access, traffic safety and efficiency as a result of</p>

	<p>construction activities. The CTMP forms part of the CEMP required by Condition 10 and must, as a minimum:</p> <ul style="list-style-type: none"> a) be prepared by a suitably qualified and experienced person; b) accompany any relevant outline plan prepared in accordance with Condition 5 or 5A; c) take into account the outcomes of any consultation with the Community Liaison Group established by Condition 8 and Councils; d) set out the numbers, frequencies, routes and timing of construction traffic movements; e) identify site access routes and access points for heavy vehicles and describe measures to: <ul style="list-style-type: none"> i. manage the movements of heavy vehicles on Saddle Road during peak times; ii. manage the movements of heavy vehicles accessing the site from Hope Road, including by: <ul style="list-style-type: none"> A. restricting vehicle movements to between the hours of 0730 and 1800; and B. consulting with the owners/occupiers of 29 Hope Road and 75 Hope Road to identify any further practicable measures to manage adverse effects on these properties; and iii. provide for access to the site to be gained (where possible) from both sides of the Ruahine Ranges; iv. avoid damage to Te Āpiti wind farm buried infrastructure. f) describe methods to manage local and network wide effects of the construction of individual elements of the Project including, as a minimum, the roundabout connections at Ashhurst and Woodville including temporary traffic management measures; g) describe methods to limit the movement of heavy vehicles through Ashhurst at night and peak times, including limiting night-time movements to oversized loads and essential movements (such as concrete trucks for continuous pours); h) describe methods to limit the movement of heavy vehicles through Woodville at night, including limiting night-time movements to oversized loads and essential movements (such as concrete trucks for continuous pours); i) hi) give consideration to opportunities to reduce adverse effects though:
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	<p>iA. use of KiwiRail’s infrastructure to delivery construction materials the Manawatū River bridge site;</p> <p>#B. accelerated construction of the Manawatū River bridge and Hope Road bridge so that these bridges may be used to access the site;</p> <p>j) #j) set out how the current provision for pedestrian and cycling activities is maintained;</p> <p>k) #k) detail measures to provide on-going vehicle access to private properties, including site specific transport requirements relating to the maintenance and operation of the Te Āpiti wind farm, and limit the adverse effects of construction and severance, including by forming any new permanent accesses at the earliest opportunity; and</p> <p>l) #l) confirm the management approach to loads on heavy vehicles, including covering loads of fine material and the timely removal of any material deposited or spilled on public roads.</p> <p>Lindsay Daysh: support for inclusion of 5A in 22(a). Support including condition relating to buried Meridian infrastructure and improving condition 22(k) relating to . No view on Mr Percy’s other changes.</p>
T1	<p>Outline plan – Te Āpiti Wind Farm</p> <p>Where an outline plan or plans describes works within the Te Āpiti wind farm site, the Requiring Authority shall prepare a specific plan concerning the overall management of construction effects being a Wind Farm Management Plan (the Plan). In preparing the plan the Requiring Authority must:</p> <p>a) consult with Meridian Energy Limited (“Meridian”) and provide Meridian with reasonable opportunities to make comments on the proposed designs and construction of the Project. The Requiring Authority must have due regard to Meridian’s comments, in particular, where design elements can be incorporated to avoid adverse effects, as far as practicable, on the Windfarm Operations and Windfarm Infrastructure; for the purpose of designing and constructing the Project to minimise, as far as practicable, impacts on the wind farm; and</p> <p>b) as a minimum, include the following in the outline plan:</p> <p>i. details of the consultation undertaken under clause (a) and the extent to which Meridian</p>

	<p>requirements have been incorporated into the finalised Plan;</p> <ul style="list-style-type: none"> ii. details of on-going access arrangements including for over dimensional loads during construction, including the management of construction traffic within the wind farm; iii. where construction activities (other than for the relocation of services not related to the operation of the wind farm and access) and/or the finished form of the alignment are within 160 metres of any turbine that is to be retained the consented location of that turbine, or any practical location for a replacement turbine to the ones that exist currently, provide advice including technical, engineering and geotechnical advice from a suitably qualified and experienced person or persons in relation to any potential impact on the safe and efficient operation of that turbine or any permitted replacement turbine under Tararua District Council resource consent granted 3 September 2003; iv. confirmation of compliance with NZECP 34:2001; v. details of site management and security; and vi. arrangements for site inductions and contractor training, including Meridian's involvement in that training; vii. details for the protection and/or relocation of underground cables; viii. confirmation that geometric alignment of reconfigured access roads is capable of accommodating Meridian's existing and future operational, maintenance and upgrade needs; ix. confirm measures to manage the effects of dust that may damage turbines, the substation and associated transmission lines; and x. outline measures proposed under other management plans required in other conditions attached to the notice of requirement that also apply to the Te Āpiti wind farm. <p>vii — details of the consultation undertaken with Meridian and any measures taken by the Requiring Authority to respond to these comments.</p>
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