

**BEFORE THE COMMISSIONERS APPOINTED BY
THE QUEENSTOWN LAKES DISTRICT COUNCIL**

IN THE MATTER Of clause 6 of the First Schedule of
the Resource Management Act
1991

AND

IN THE MATTER the Queenstown Lakes District
Council Proposed District Plan
(Stage 3 and 3B)

BETWEEN **AURORA ENERGY LIMITED**

**Original Submission 3153 and
31020**

STATEMENT OF EVIDENCE OF JOANNE DOWD

DATED 28 MAY 2020

**GALLAWAY COOK ALLAN
LAWYERS
DUNEDIN**

Solicitor on record: Simon Peirce
P O Box 143, Dunedin 9054
Ph: (03) 477 7312
Fax: (03) 477 5564
Email: simon.peirce@gallawaycookallan.co.nz

BRIEF OF EVIDENCE OF JOANNE DOWD

Introduction

1. My name is Joanne Dowd, I am the Resource Planning, Property and Environment Manager employed by Aurora Energy Limited (**Aurora**).
2. I hold a masters degree in Town and Country Planning from The Queens University of Belfast, obtained in 1993. I have been a full member of the UK Royal Town Planning Institute since 1997. I am also a member of the Resource Management Law Association since 2006. I sit on the Electricity Networks Association's (**ENA**) Resource and Environmental Planning Forum and I am an ENA representative on the MfE's National Planning Template for Network Utilities Working Group. I am also a member of the Women's Infrastructure Network – WIN Otago/Southland. I am employed as Resource Planning, Property and Environment Manager at Aurora. Before that I was employed as the Network Policy Manager with Delta Utility Services Limited. I have been employed in my present position since July 2017 and I have 27 years international planning experience in both the private and public sector.
3. At Aurora, I am responsible for all Resource Management Act 1991 (**RMA**) processes associated with development of the network. Recent projects I have been involved with include the designation and associated regional council consenting of the Riverbank Road and Camphill Substations in Wanaka; and the Carrisbrook substation in Dunedin. I have also been involved in the consenting of our 33kV asset upgrades at Fernhill and consenting for the installation of our upgraded SCADA communications network which links our various substations within the District. In recent years, I have focused on providing consultancy advice with respect to regional and district plans, utility developments, resource consents and environmental management and environmental effects assessments.
4. As I am an employee of Aurora, I am unable to comply with the Code of Conduct for expert witnesses contained in the Environment Court Practice Note. However, I have prepared this evidence with reference

to it. I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court Practice Note. I confirm that I have considered all the material facts that I am aware of that might alter or detract from the opinions I express. Unless I state otherwise, this evidence is within the scope of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

5. I have previously given evidence to hearings panel commissioners as part of the Stream 5 hearings on PDP Stage 1 in 2016. That evidence sought amendments to the notified chapters as part of PDP Stage 1, including to Chapters 3, 6 and 30.
6. I was also involved and attended mediations for Aurora in relation to the Proposed District Plan (**PDP**) Stage 1 appeals. I attended mediation on Topic 1 (Subtopic 4): A Resilient Economy, Topic 2 (Subtopic 11): Regionally Significant Infrastructure and Topic 17 (Chapter 30): Energy and Utilities. I reviewed and approved (on behalf of Aurora) the relief relevant to Aurora's appeal in relation to those subtopics and have knowledge of the matters that they relate to.

Overview of Submission

7. Aurora has lodged two submissions with respect to PDP Stage 3 and 3B (collectively referred to as **PDP Stage 3**). The relief sought in relation to both submissions overlaps significantly such that it makes sense to lodge a single brief of evidence with respect to both submissions.
8. Aurora owns, operates and maintains an electricity distribution network which carries electricity from the National Grid to more than 90,000 homes and businesses across Dunedin City, Central Otago and the Queenstown Lakes District. Aurora owns substations, lines and cables located in public road reserve, as well as on private property.
9. Approximately 75% of Aurora's overhead Sub-transmission conductor network and 70% of its distribution conductor network is in Central Otago. The electricity network owned by Aurora comprises high voltage

power lines (above and below ground) which distributes electricity to local substations where the voltage is reduced before distribution through standard power lines (overhead and underground) as seen throughout the Otago Region. Aurora's total overhead network includes approximately 5,210 km of overhead conductors, made up of 526 km of high voltage sub-transmission voltage (lines up to 66kV). In addition to the distribution network, Aurora has the capacity to own and operate high voltage (up to 110kV) transmission lines, and associated structures, and may be required to own such assets as regional electricity demand grows.

10. Electricity is a vital resource for New Zealand, its economy and social and cultural wellbeing. The network owned by Aurora is considered as regionally significant infrastructure. This has also been recognised by the Proposed Otago Regional Policy Statement for Otago (Appeals Version) 2019 and now in consent memoranda on PDP Stage 1.
11. Recent growth in the Queenstown Lakes District has resulted in a corresponding increase in demand for electricity supply. Aurora seeks to secure the ability to meet this demand in the most efficient and cost-effective manner. Due to the nature and scale of Auroras' assets, continual upgrade, maintenance and renewal of these assets is also required to ensure security of electricity supply.

Submission Points

12. Aurora's submissions on PDP Stage 3 are primarily concerned with ensuring that PDP Stage 3 appropriately recognises the significance of the electricity distribution network as a physical resource under section 5 of the RMA and to provide for the social, economic and cultural wellbeing of communities. Aurora has largely achieved this through the appeal process under PDP Stage 1 and 2. With respect to matters subject to PDP Stage 3 (excluding Wahi Tūpuna) this can be achieved by carrying over the relief obtained through the PDP Stage 1 appeals process through to the provisions of PDP Stage 3 and by recognising the functional needs of infrastructure and day-to-day constraints and needs of Auroras Sub-transmission network.

13. In addition, Aurora has sought protection of its assets from adverse effects and particularly reverse sensitivity effects associated with land use activities which has resulted in various amendments to zone chapters as part of PDP Stage 1 and 2 to provide opportunities for Aurora's infrastructure to be considered when land-use activities are undertaken.
14. The Sub-transmission infrastructure owned by Aurora is critical to sustaining and growing Queenstown Lakes and has positive effects in enabling people and communities to provide for their social, economic and cultural wellbeing and for their health and safety. In my view, continuing the relief obtained in PDP Stage 1 and 2 into the notified zone chapters in PDP Stage 3 will go some way towards providing for those values.
15. Aurora's submission primarily relates to carrying over relief obtained through the appeals process for PDP Stage 1. That relief was mediated as part of Topic 1 (Subtopic 4): A Resilient Economy, Topic 2 (Subtopic 11): Regionally Significant Infrastructure and Topic 17 (Chapter 30): Energy and Utilities. Mediation on Chapters 3, 6 and 30 has completed and a consent memorandum lodged with the Environment Court. I use that consent memorandum as a basis for the agreement reached with Council and parties to that mediation. Attached to this statement of evidence as **Attachment 1** are copies of consent memoranda lodged with the Environment Court.
16. The relief agreed to through PDP Stage 1 included amendments to Strategic Objectives and Policies which seek to provide for the functional needs of regionally significant infrastructure and protect regionally significant infrastructure from incompatible activities. A high level summary of key relief is:
 - (a) Aurora's "electricity sub-transmission infrastructure" (**ESTI**) and "significant electricity distribution infrastructure" (**SEDI**) is now recognised in the PDP as "regionally significant infrastructure" (giving effect to the PRPS).
 - (b) A definition of ESTI was added to Chapter 2 (**SEDI**)

- (c) ESTI and SEDI are now shown on District Plan Maps.
17. Other appeals on PDP Stage 1 have resulted in additional policies being included in Chapters 3 and 6 such as the following strategic objective:
- SP 3.3.37 Protect regionally significant infrastructure by managing the adverse effects of incompatible activities (relevant to S.O. 3.2.1.9)
18. The above relief provides a high level framework for the outcomes that are sought to be achieved in relation to Aurora's network. Of particular importance to Aurora is ensuring that SP 3.3.37 is given effect to in zone chapters to avoid adverse reverse sensitivity effects.
19. By way of background, Aurora's relief with respect to PDP Stage 1 crystallised into a series of amendments to zone chapters¹ and district wide chapters to achieve a similar outcome to corridor protection but reframed in terms of managing the types of activities that can occur in proximity to Aurora's Sub-transmission Network. That relief can be summarised as:
- (a) New matters of discretion in relation to buildings (where they are a restricted discretionary activity) relevant to activities located near to Aurora's electricity sub-transmission infrastructure as shown on the District Plan Maps.
- (b) Advice notes in each zone chapter referring to the New Zealand Electrical Code of Practice for Electrical Safe Distances (**NZEC34**) which is a mandatory code providing specific setback distances for people and activities near overhead electrical conductors or cables.
- (c) New rules in zone chapters providing for limited notification to Aurora where the matters of discretion relevant to Aurora's infrastructure are triggered. The purpose of this limited notification is to ensure Aurora is given an opportunity to provide specific engineering advice (in accordance with NZECP34) to

¹ Zone Chapters 7, 8, 9, 11, 12, 16, 21, 22, 24, 38 and 43.

people seeking to undertake activities near Aurora's Sub-transmission infrastructure.

20. The Section 42A Report Authors for Chapters 18A, 19A, 20 (in part) and 46 supports rolling over this relief into these Zone Chapters. I support their views insofar as they maintain consistency between relief sought in PDP Stage 1, with some caveats with respect to drafting consistency and provisions in the Settlement Zone. In my opinion, it is crucial that there is a consistent approach to Aurora's infrastructure throughout the District. Aurora's infrastructure, much like municipal infrastructure, spans the entire district and is not fractured between zone boundaries. In my view, a district wide approach to the management of the Aurora infrastructure is required to avoid adverse reverse sensitivity effects and ensure that it can undertake tasks which provide for the functional needs of the network.
21. This submission also seeks amendments to notified variations to Chapters 25 and 30 which are relevant to the notified Chapter 39 Wāhi Tūpuna. This will be discussed in a further brief of evidence to be filed by 19 June 2020.
22. A site-specific submission in relation to the existing Wanaka Substation (located at 39 Ballantyne Road) has also been sought as a mechanism in Chapter 7 to avoid adverse reverse sensitivity effects from the notified Low Density Suburban Residential Zone (**LDSRZ**) on that infrastructure. Given the LDSRZ has already been decided as part of PDP Stage 1 it is now not possible to seek further amendments to the text of that Chapter through this submission process. Instead a zoning submission has been lodged to place a building restriction in the area surrounding the Zone Substation. That relief has been refined by way of this evidence.

RELIEF SOUGHT

Carrying over provisions from PDP Stage 1

23. Aurora has 30 points of relief on PDP Stage 3. Of those points of relief, over half relate to rolling over provisions achieved in PDP Stage 1 into the following zone chapters:
- (a) Chapter 18A General Industrial Zone.
 - (b) Chapter 19A Three Parks Commercial Zone.
 - (c) Chapter 20 Settlement Zone.
 - (d) Chapter 45 Rural Visitor Zone.

Collectively referred to as “**Zone Chapters**”

24. The relief which is being carried over can be sorted into three categories:
- (a) Matters of discretion related to provision of electricity supply and adverse effects on ESTI and SEDI;
 - (b) An advice note pointing plan users to mandatory obligations located in the NZECP34; and
 - (c) Rules giving priority to Aurora being an affected person for the purposes of limited notification.
25. The relief was largely supported by the section 42A Report Authors on each of the Zone Chapters. The purpose of the next section is to provide further background to those points of relief and why they are sought as they touch on wider issues with respect to Aurora’s infrastructure that it is seeking to manage.

Inclusion of matters of discretion

26. The consent memorandum for PDP Stage 1 Topic 17, records that additional matters of discretion are to be inserted into every zone chapter in the PDP. This was a refinement of Aurora’s original relief

which sought to include corridor protection for ESTI and SEDI. The matters of discretion sought to be included in the Zone Chapters state:

Where Electricity Sub-transmission Infrastructure or Significant Electricity Distribution Infrastructure as shown on the Plan maps is located within the adjacent road or the subject site any adverse effects on that infrastructure.

27. The role of this matter of discretion is to provide an opportunity for applicants and the Council to consider potential adverse effects on ESTI and SEDI in proximity to future development sites. Most of these network assets are located in road reserve (by virtue of section 24 of the Electricity Act 1992²) but there are also portions which run through private land.
28. In my view, there is a need to consider ESTI and SEDI at the time of making an application for resource consent to develop a site. Locating buildings and structures near Aurora's infrastructure can raise potential electrical hazards due to direct contact with lines or electricity arcing to adjacent structures which can cause serious injury or death. Aurora, together with any persons undertaking work near an electric asset is obliged to maintain safe distances in line with NZECP34. Failure to maintain safe distances is an offence under the Electricity (Safety) Regulations 2010³ and the Electricity Act 1992.⁴
29. In my experience, many developers (and the general public) are either completely unaware of the requirements of NZECP34 or choose to ignore it because it is not considered relevant to their development and may inhibit their development aspirations. The latter has been somewhat facilitated by a lack of awareness by local authorities of NZECP34 and led to it not being considered when an application for resource consent or building consent is lodged with the relevant local authority. Aurora has been proactively working with the Queenstown

² Section 24 of the Electricity Act permits Aurora to construct and maintain works through any road subject to any reasonable conditions imposed by the local authority in any particular instance.

³ Electricity (Safety) Regulations 2010, section 17(3).

⁴ Electricity Act 1992, section 163C.

Lakes District Council and Dunedin City Council to ensure that better processes are enabled to consider the risks of breaches to NZECP34.

30. Where a developer has failed to consider the minimum safe distances under NZECP34 and constructed a building or structure, such a breach cannot be ignored and must be addressed due to the safety concerns it raises. In some instances, there are acceptable engineering solutions that reduce the risk to persons from a nearby electric line but in many instances there are not. In that circumstance, the only solution is to either remove the structure or the electric line. The application of retrospective engineering solutions typically leads to a less than ideal outcome for both a developer and Aurora and in my view is not an efficient process for managing risk to people.
31. Signalling to applicants and Council at the time a resource consent is made provides an opportunity to consider the potential reverse sensitivity effects on any nearby ESTI or SEDI. If there is a potential risk then Aurora (or one of its approved contractors) can undertake an engineering study to assess whether proposed buildings can safely encroach the minimum safe distances or provide advice as to why it cannot, therefore enabling design amendments to ensure a compliant outcome is achieved.

Advice Notes for NZECP34

32. Aurora has sought to include the following advice note in Zone Chapters:

Advice Note

New Zealand Electrical Code of Practice for Electrical Safe Distances
("NZECP34:2001")

Compliance with NZECP34:2001 is mandatory under the Electricity Act 1992. All activities, such as buildings, earthworks and conductive fences regulated by NZECP34: 2001, including any activities that are otherwise permitted by the District Plan must comply with this legislation.

To assist plan users in complying with NZECP 34(2001), the major distribution components of the Aurora network (the Electricity sub-transmission infrastructure and Significant electricity distribution infrastructure) are shown on the Planning Maps.

For the balance of Aurora's network plan users are advised to consult with Aurora's network maps at www.auroraenergy.co.nz or contact Aurora for advice.

33. The advice note provides guidance to plan users about their obligation under NZECP34 and where they can go to seek further information: such as the District Plan maps, Aurora's network maps or Aurora directly. The wording is deliberate as it indicates to applicants:
- (a) NZECP34 is mandatory under the Electricity Act 1992;
 - (b) Signals the types of activities that NZECP34 seeks to manage, i.e. earthworks, buildings and conductive fences and other land use activities in the District Plan;
 - (c) Signals that ESTI and SEDI are identified on District Plan maps; and
 - (d) Directs users to Aurora's network maps and to get in touch with Aurora directly if they require advice.
34. The section 42A Report Authors support the inclusion of the advice note in the Zone Chapters on the basis that it is the most efficient and effective way forward to ensure a consistent approach is applied to the PDP.⁵ I agree. But I am concerned that the section 42A Report Authors are proposing alternative drafting which will cause inconsistency.
35. The Section 42A Report Author for Chapter 19A Three Parks Commercial supports⁶ Aurora's relief to include the advice note but

⁵ Section 42A Report – Three Parks at 8.1.

⁶ Section 42A Report – Three Parks, Plus Variations – Text and Mapping at 8.2.

recommends the inclusion of an advice note at 19A.3.2.6 that uses the following wording:⁷

19A.3.2.6

Compliance with the New Zealand Electrical Code of Practice for Electrical Safe Distances ('NZECP34:2001') is mandatory under the Electricity Act 1992. All activities, such as buildings, earthworks and conductive fences regulated by NZECP34:2001, including any activities that are otherwise permitted by the District Plan must comply with this legislation. Chapter 30 Energy and Utilities part 30.3.3.2.c has additional information in relation to activities and obligations under NZECP34:2201.

36. A similar approach is taken by the Section 42A Report Author with respect to Chapter 18A General Industrial Zone at 18A.3.2.X.
37. The text shown above recommended by the section 42A Report Authors⁸ is inconsistent with what has been agreed by the parties in the consent memorandum for Topic 17. The advice note shown above does not refer to the major components of Aurora's infrastructure (ESTI and SEDI) being shown on District Plan maps or Aurora's network map, nor does it signal to applicants that they can seek advice directly from Aurora. In my view, these are important matters to direct plan users to as a means of ensuring that any application for resource consent or any permitted activity appropriately considers ESTI and SEDI.
38. Reference is also made to Rule 30.3.3.2.c in the above text, which I presume relates to Rule 30.3.2.C (consolidated decisions version) being an advice note similar to what is being sought to in the Zone Chapters. While reference to that provision is useful to direct plan users to NZECP34 it creates another step in understanding what further information is required i.e. identifying the infrastructure on the planning maps or Aurora's network map. Furthermore, Rule 30.3.2.C

⁷ Section 42A Report – Three Parks, Plus Variations – Text and Mapping at page 53.

⁸ Section 42A Report of Luke Thomas Place on Chapter 18A General Industrial Zone – Text and Mapping; and Section 42A Report of Nicholas Roberts on Chapter 19A Three Parks, Plus Variations – Text and Mapping.

does not direct plan users that they may seek advice directly from Aurora. This is particularly important where a potential breach to the minimum safe distances set out in NZECP34 has been identified requiring an engineering study to be undertaken.

39. The amended wording suggested by the section 42A Report Authors for Chapters 18A and 19A is also inconsistent with what the section 42A Report Authors have agreed to in Chapters 20 and 46 where they have accepted Aurora's relief in full. From a planning perspective, it is most efficient and effective to ensure there is consistency in drafting across all zone chapters. The effect of accepting the drafting as suggested by all section 42A Report Authors on PDP Stage 3 will mean that there is an inconsistent approach to what has already been agreed on PDP Stage 1 and 2 and even between chapters on PDP Stage 3.

Notification Rule

40. Aurora has sought amendments to provisions regarding limited notification of resource consent applications to prioritise Aurora where the matters of discretion related to buildings near ESTI and SEDI are engaged. The drafting of the PDP is such that buildings (where they are a restricted discretionary activity) are expressly excluded from requiring notification under section 95B of the Resource Management Act 1991. This would effectively exclude Aurora from limited notification even where the matters of discretion outlined above are engaged.
41. Limited notification will provide Aurora the opportunity to assess whether there are any adverse effects arising from a resource consent application on any existing SEDI or ESTI. The addition of these rules will provide Aurora with a back-stop to ensuring that adverse effects on this infrastructure is taken into account in the event that an applicant has not already assessed any possible breaches to NZECP34 or engaged Aurora or an approved contractor to make that assessment.
42. The Section 42A Report Authors have agreed to the inclusion of these rules with respect to Chapter 18A General Industrial Zone (Rule

18A.6.1.X); Chapter 19A Three Parks Commercial (Rule 19A.6.3) and Chapter 46 Rural Visitor Zone (Rule 46.6.x). I support the drafting of those provisions.

Remainder of Relief on PDP Stage 1

Chapter 20 Settlements Zone

43. Policy 20.2.2.6 states

Avoid activities that are not consistent with established amenity values or cause inappropriate adverse environmental effects.

44. Aurora's submission sought the following amendment to this policy (addition underlined):⁹

Avoid activities that are not consistent with established amenity values or cause inappropriate adverse environmental effects, or in the case of Regionally Significant Infrastructure, if avoidance is not practicable because of the functional needs of infrastructure then remedy or mitigate.

45. I acknowledge the difficulty that the proposed drafting poses to the Council on the basis that Regionally Significant Infrastructure (as defined in the consent memorandum for Topic 2 Subtopic 11) includes a broader range of infrastructure than just ESTI or SEDI, such as Queenstown Airport. The intent of the amendments to Policy 20.2.2.6 was to signal relate only to ESTI and SEDI to ensure that in the Settlement Zone the functional needs of Aurora's infrastructure has policy support that can be weighed against providing for amenity values in this zone.

46. I therefore propose refining the relief sought to Policy 20.2.2.6 as follows:

Avoid activities that are not consistent with established amenity values or cause inappropriate adverse environmental effects, or in the case of ~~Regionally Significant Infrastructure~~ Electricity sub-transmission

⁹ Aurora Energy Limited Original Submission 3153, Appendix 1, relief point 9.

infrastructure or Significant electricity distribution infrastructure, if avoidance is not practicable because of the functional needs of infrastructure then remedy or mitigate.

[Amended relief ~~highlighted/strikethrough~~]

47. The importance of this policy relief is that the Settlement Zones located within the Aurora network area (Glenorchy, Kinloch, Luggate, Makarora and Cardrona) are supplied by a single source, made up by a combination of primarily overhead lines as well as underground cables. The nature of having a single cable/line supplying electricity to these communities means that those communities are much more limited in terms of how new electricity connections can be made. This also means that this infrastructure is at a far greater risk of being compromised if any part of this infrastructure suffers a fault. That is why this infrastructure is given the status of “*Significant*” electricity distribution infrastructure as it plays a significant role as a lifeline utility to these isolated communities.

Site-Specific Zoning at Wanaka Substation

48. Aurora supplies the Upper Clutha Valley in Central Otago via two 66 kV overhead lines fed from the Transpower Cromwell Grid Exit Point (**GXP**). The 66 kV lines run up the Upper Clutha Valley on adjacent sides of Lake Dunstan where they supply the Lindis Crossing and Queensberry 66/11 kV zone substations. The two 66 kV lines terminate at the Wanaka zone substation located at 39 Ballantyne Road (**Wanaka Substation**) where they directly feed independent 66/33/11 kV transformers which provide a wider connection to Cardrona and Hawea. As such the Wanaka Substation is a significant asset serving this region.
49. The Wanaka Substation is currently designated under the Operative District Plan (**ODP**) and the designation was rolled over into the PDP as designation number 337.
50. The adjoining land has been zoned Low Density Suburban Residential Zone (**LDSRZ**) permitting a minimum density of 1 residential unit per

450m2 as a permitted activity. In my view, residential development of that scale in the area surrounding the Wanaka Substation could lead to significant reverse sensitivity issues.

51. The main areas of risk arising from incompatible development and activities near the substation include:
 - (a) Risks to the operation of the network.
 - (b) Risks to the health, safety and well-being of persons and property.
 - (c) Risks to amenity.

Risks to the operation of the network

52. Zone substations, like the Wanaka Substation are by their very nature high risk infrastructure with access controlled only to suitably qualified people. The primary risk of people accessing the infrastructure is managed by the large fence which borders the cadastral boundary of the property. The risks however do not stop there as effects can emanate from beyond the site boundary, such as noise. These effects are compounded when intensification of development occurs in proximity to this infrastructure. Development of buildings and structures next to substation sites can negatively impact on routine maintenance and upgrades which effectively constrains regular operations.
53. Allowing development right up to the boundary of the substation has the potential to lead to restrictions being placed on the continuation or upgrading of the existing infrastructure due to concerns about health and safety, such as electromagnetic health effects, noise nuisance or amenity concerns. These may, in turn, create an undue restriction on the ability for the assets to be used to meet forecast demand and future growth. In my view this is unacceptable given the importance of this strategic asset to the network and the role it plays in terms of meeting electricity demand within the District.

Risks to the health, safety and well-being of persons and property

54. Substations can present Earth Potential Rise (**EPR**) risks which can create potential hazards to persons and property. EPR is a phenomenon that occurs when large amounts of electricity enter the earth. This is typically caused when substations or high-voltage towers fault, or when lightning strikes occur (fault current). When currents of large magnitude enter the earth from a grounding system, not only will the grounding system rise in electrical potential, but so will the surrounding soil as well.
55. The voltages produced by an EPR event can be hazardous to both personnel and equipment. There are several factors which determine the level of hazard from such events including: soil type, temperature, underlying soil structure layers, the system configuration and the time to interrupt a fault. Soil has resistance known as soil resistivity which will allow an electrical potential gradient or voltage drop to occur along the path of the fault current in the soil. The resulting potential differences will cause currents to flow into all nearby grounded conductive bodies, including concrete, pipes, copper wires and people.
56. Although the likelihood of an EPR event occurring and injuring a person near a substation is extremely low, the potential consequences are high and as such proactive mitigation measures are required including the management of new sensitive land use around substations, and particularly those where residential activities are permitted.
57. For these reasons, as a general rule, it is my view that there should be no buildings in the area surrounding the Wanaka Substation where that could potentially harm people or worsen the effects of EPR.

Risks to amenity

58. Constraints resulting from neighbour complaints are minimised in rural environments, where most of Aurora's substations in the Queenstown Lakes District are located. The Wanaka Substation used to be viewed as being in a primarily "rural-looking" area. Overtime, land rezoning and

development has occurred around some of our substations in the District, creating reverse sensitivity with neighbouring properties. These effects invariably result in complaints and requires operational changes that can serve to significantly constrain opportunities to upgrade assets in the future.

59. While Aurora tries to minimise the potential for adverse effects from its operations it is impossible to eliminate all effects. For example, noise emissions from assets within a substation (such as magnetic fields inside the transformer and cooling fans) can operate within the noise limits set out in Condition 2 of Designation 337¹⁰ relating to the Wanaka substation.¹¹ However, due to its continual operation, people may become particularly sensitive to the continuous sound, even if it is within the District Plan limits.
60. In my view, there are other, more enduring ways of avoiding or minimising effects such as noise while enabling development and ensuring the substation can operate as effectively as possible to serve the needs of the community. The more proactive approach is to control the location of new sensitive land use around the Wanaka Substation. This can be achieved through appropriate planning rules such as boundary setbacks or the imposition of a buffer area such as that proposed in this submission which seeks to locate buildings and sensitive activities away from the substation boundary. Other measures such as earth bunding or acoustic fences are also a consideration. This means that development occurs in a manner that is compatible with Aurora's Network.

¹⁰ Queenstown Lakes District Council Proposed District Plan, Chapter 37, C.69 at page 37-80.

¹¹ Designation 337 condition 2 states:

“Activities shall be so conducted that the following noise limits are not exceeded at any point within the boundary of any other site in the adjoining zone:

A. Day time (0800 – 2200 hours) 50dB_LAeq(15min)

B. night time (2200 – 0800 hours) 40dB_L Aeq(15min) and L_{max} 70dBA

Noise levels shall be measured and assessed in accordance with NZS 6801:1991 and NZS 6802:1991 and shall take into account special audible characteristics.

Three Parks Zone

61. I note that the concept of some type of buffer in this location is not a new phenomenon. It was the subject of Plan Change 4 *North Three Parks* where a landscape buffer was included in the area surrounding the Wanaka Substation. This is shown in the Three Parks Outline Development Plan (refer **Attachment 2** to my evidence). The Commissioners decision on Plan Change 4 stated:¹²

The Commission notes in this context that the potential exists for mounding or other treatment along the boundary with Ballantyne Road and that **a buffer zone is to be established adjacent to the Aurora substation as shown on the Open Space Plan**. The Commission also notes in this context that while Mr Botting advised that the Aurora substation will stay, Mr Dippie indicated that consideration was being given to an alternative location for the substation. **The Commission simply notes that if the substation is relocated no such buffering would be required.**

[Emphasis added]

62. I can confirm that there is no intention to find an alternative location for the Wanaka Substation which was alluded to in the Commissioners decision from 2013. In fact, the opposite is true, that the Wanaka Substation performs an important role in providing for the electricity supply of Wanaka and the Lake Hawea community.
63. As a consequence of the location of the Wanaka Substation in North Three Parks, the Commissioners recommended: “to include an additional Assessment Matter 12.26.4.5ii(nn) to provide for mounding and landscape treatment at the Ballantyne Road frontage, to the north-west of the Gordon Road extension and with respect to the existing Aurora substation”.¹³
64. Indeed, the assessment matter included in Section 12 proposed as part of the ODP relates specifically to reverse sensitivity and states:

¹² Report & Recommendations of Independent Commissioners Plan Change 4: North Three Parks Dated 9 August 2012 at page 38.

¹³ Report & Recommendations of Independent Commissioners Plan Change 4: North Three Parks Dated 9 August 2012 at 39.

Assessment Matter 12.26.4.5ii.x

Whether and to what extent **reverse sensitivity issues and issues arising from potentially incompatible uses** have been minimised. This may relate to uses at the interface of two subzones, at the interface with adjoining zones or between activities within a subzone, where the location has been identified at the ODP stage. The Council expects conflicts to be minimised through methods such as setbacks, noise insulation, covenants

[Emphasis added]

65. Additionally, with respect to the Wanaka Substation:

Assessment matter 12.26.4.5ii(nn)

Whether mounding or other landscape treatment is proposed to **mitigate effects on the LDR** sub-zone north-west of the Gordon Road extension associated with traffic on Ballantyne Road **and the existing Aurora substation at Ballantyne Road.**

[Emphasis added]

Relief sought for Wanaka Substation

66. The relief sought in relation to the Wanaka Substation will continue the buffer that is outlined in the Outline Development Plan and given effect to by assessment matters referred to above in relation to the ODP but not continued in relation to the notified LDSRZ surrounding the Wanaka Substation. A setback from buildings being in a 20-metre area following the cadastral boundary of the property. The area sought provides an effective set-back distance that will avoid the risks outlined above and to avoid any reverse sensitivity effects. This would still allow the area to be utilised for storage, car parks, greenways, walkways, and roads. The area will also provide sufficient headroom for any additional (but presently unknown) effects that might arise following any upgrades to the Wanaka Substation.
67. In my view, an additional standard can be included at Rule 7.5 of Chapter 7 as follows:

7.4 Rules - Activities

	Standards for activities in the Low Density Residential Zone	Non-compliance status
7.4.X	Where a building or structure is to be located within the Wanaka Substation Building Restriction Area the prior written approval of Aurora Energy must be obtained for the purpose of avoiding any adverse effects on that infrastructure.	NC

68. This amendment suggested above is a refinement of the Building Restriction Area requested in Aurora's original submission and provides an opportunity for engagement with Aurora to occur so that it can identify whether a building can be constructed. This would allow Aurora to advise an applicant on what materials can be used to ensure that there will be no adverse reverse sensitivity effects as a result of the building being constructed.
69. The Section 42A Report Author notes that "expanding the extent of the designation would have been a more efficient method to address potential reverse sensitivity".¹⁴ Aurora did not seek to expand the spatial extent of the Wanaka Substation designation during the PDP Stage 1 review, the reason for this was that the adjoining land had not been zoned as part of PDP Stage 1 so Aurora could not have known what potential reverse sensitivity effects might arise as a result of future zoning that had not yet been notified. Furthermore, Aurora had not been consulted in the preparation of the zoning for the adjoining land and whether it might be appropriate to roll-over the existing protections under the ODP into PDP Stage 3.
70. Aurora is currently investigating the option of expanding Designation 337 for the Wanaka Substation. However, at the date of filing this evidence, a Notice of Requirement has not been served on the Council and that process may not be complete by the time the Commissioners decide PDP Stage 3. In my view, it is appropriate to include the

¹⁴ Section 42A Report of Nicholas Roberts on Chapter 19A Three Parks, Plus Variations – Text and Mapping at 12.15 page 26.

building restriction area that avoids the reverse sensitivity effects from the Wanaka Substation regardless of whether Designation 337 is to be extended. While the buffer zone may not be the most efficient mechanism for resolving reverse sensitivity issues there is a risk that if nothing is done that the health and safety of the community near the Wanaka Substation will be compromised.

Conclusion

71. In my opinion, the relief sought in this submission is an appropriate way of giving effect to the Strategic Directions set out in Chapters 3 and 6, particularly in terms of the relief agreed to as part of mediations in PDP Stage 1.
72. The relief seeks to primarily roll-over relief which has been achieved as part of PDP Stage 1 by ensuring that Aurora's infrastructure is considered when land-use activities are undertaken.
73. Relief in relation to the Wanaka Substation has been sought to ensure that buildings, structure or other activities do not occur in proximity to that infrastructure where there is the potential for increased risk to health and safety of persons. A mapped building restriction area in addition to a non-complying activity status standard will ensure that if any buildings or structures are to be located within the building restriction area that they have prior written consent from Aurora.

Dated this 28th day of May 2020

Joanne Dowd

Attachment 1

Topic 1 Subtopic 4: (Regionally Significant Infrastructure) Draft Consent Order Appendix 1

APPENDIX 1

(amendments shown in underline and ~~strikethrough~~ text)

CHAPTER 2 - DEFINITIONS

Functional needs

Means the locational, operational, practical or technical needs of an activity, including development and upgrades.

National Grid

Means the network that transmits high-voltage electricity in New Zealand and that is, ~~at the notification of this Plan, was owned and~~ operated by Transpower New Zealand Limited, including:

- a. transmission lines; and
- b. electricity substations.

CHAPTER 3 – STRATEGIC DIRECTIONS

Strategic Issue 1: Economic prosperity and equity, including strong and robust town centres, and the social and economic wellbeing and resilience of the District's communities may be challenged if the District's economic base lacks diversification and supporting infrastructure.

SO 3.2.1.9 Infrastructure in the District that is operated, maintained, developed and upgraded efficiently and effectively to meet community needs in a sustainable way, ~~and to maintain the quality of the environment.~~ (also elaborates on S.O. 3.2.2 following)

SP 3.3.36 Provide for the functional needs of regionally significant infrastructure while managing its adverse effects on the environment. (relevant to S.O. 3.2.1.9)

SP 3.3.37 Protect regionally significant infrastructure by managing the adverse effects of incompatible activities. (relevant to S.O. 3.2.1.9)

CHAPTER 30 – ENERGY AND UTILITIES

30.2.8 Objective - The national significance of the National Grid is recognised by the facilitation of the ongoing operation, maintenance, development and upgrading of the National Grid, while subject to the adverse environmental effects on the environment of the National Grid, and on the National Grid, are network being managed.

Policies

30.2.8.1 ~~Enabling the use and development of the National Grid by managing its adverse effects by:~~

- ~~a. only allowing buildings, structures and earthworks in the National Grid Yard where they will not compromise the operation, maintenance, upgrade and development of the National Grid;~~
- ~~b. avoiding Sensitive Activities within the National Grid Yard;~~
- ~~c. managing potential electrical hazards, and the adverse effects of buildings, structures and Sensitive Activities on the operation, maintenance, upgrade and development of the Frankton Substation;~~
- ~~d. managing subdivision within the National Grid corridor so as to facilitate good amenity and urban design outcomes.~~

Recognise the benefits of the National Grid by:

- a. enabling the operation and maintenance of the National Grid;
- b. providing for the upgrade and development of the National Grid, while managing its adverse effects by:
 - i. seeking to avoid adverse effects on the values and attributes of the following:
 - A. Scheduled Significant Natural Areas, and those other areas that meet the criteria in Policy 33.2.1.8;
 - B. Outstanding Natural Landscapes and Features;

C. Rural Character Landscapes and other amenity landscapes;

D. Wahi Tupuna identified in the District Plan maps.

ii. where avoiding adverse effects on the values and attributes of the areas listed in (b)(i) above is not practicable, remedying or mitigating the adverse effects on those values and attributes;

iii. Avoiding, remedying or mitigating other adverse effects;

c. when considering the adverse effects on the upgrade and development of the National Grid, having regard to:

i. the extent to which measures to avoid, remedy or mitigate adverse effects may be constrained by functional needs;

ii. the extent to which adverse effects have been addressed through site, route or method selection;

iii. opportunities to reduce existing adverse effects;

iv. offsetting for residual adverse effects on indigenous biological diversity.

30.2.8.2

In the event of any conflict with:

a. the objectives and policies in Chapters 3, 6, 23, 24 and 33;

b. Objectives 7.2.6, 8.2.5 and 9.2.6; or

c. Policies 30.2.6.1 and 30.2.7.1;

Policy 30.2.8.1 takes precedence. The Assessment Matters (Landscape) in chapters 21 and 23 in this plan are relevant when implementing the policy.

30.2.8.3

Managing adverse effects on the National Grid by:

a. only allowing new or extended buildings, structures and earthworks in the National Grid Yard where they will not compromise the operation, maintenance, upgrade and development of the National Grid;

b. avoiding National Grid Sensitive Activities within the National Grid Yard and, to the extent reasonably possible, managing activities to avoid reverse sensitivity effects on the National Grid;

c. managing potential electrical hazards, and the adverse effects of buildings, structures and National

Grid Sensitive Activities on the operation, maintenance, upgrade and development of the Frankton Substation;

- d. managing subdivision within the National Grid Subdivision Corridor to avoid reverse sensitivity effects and to ensure that the National Grid is not compromised.

Topic 2 Subtopic 11 (Landscapes and Regional Significant Infrastructure Draft Consent Order Appendix 1)

APPENDIX 1

(amendments shown in underline and ~~strikethrough~~ text)

CHAPTER 2 - DEFINITIONS

Electricity Sub-transmission Infrastructure

Means electricity infrastructure which conveys electricity between:

- i. the National Grid and zone substations;
- ii. renewable energy generation sources and zone substations; or
- iii. zone substations.

Regionally Significant Infrastructure

Means:

- a. renewable electricity generation activities undertaken by an electricity operator; and
- b. the national grid; and
- c. electricity sub-transmission infrastructure; and
- d. significant electricity distribution infrastructure as shown on the District Plan Maps
- e. telecommunication and radio communication facilities; and
- f. state highways; and
- g. Queenstown and Wanaka airports and associated navigation infrastructure.

CHAPTER 3 - STRATEGIC DIRECTION

3.3 Strategic Policies

- 3.3.25 Provide for non-residential development with a functional need to locate in the rural environment, ~~including regionally significant infrastructure where applicable~~, through a planning framework that recognises its locational constraints, while ensuring maintenance and enhancement of the rural environment. (relevant to S.O. 3.2.1.8, 3.2.1.9, 3.2.5.1 and 3.2.5.2).

CHAPTER 6 – LANDSCAPES AND RURAL CHARACTER

6.3.3A: In relation to Regionally Significant Infrastructure, the policies in 6.3.35 to 6.3.38 take precedence in the event of any conflict with other policies in this Chapter. (3.2.1.9, 3.2.5.1, 3.2.5.2, 3.3.30, 3.3.32, 3.3.36)

Managing Regionally Significant Infrastructure

6.3.35 Locate, design, operate and maintain regionally significant infrastructure so as to seek to avoid adverse effects on Outstanding Natural Landscapes and Outstanding Natural Features, while acknowledging that functional needs ~~location constraints~~ and/or the nature of the infrastructure may mean that this is not practicable ~~possible~~ in all cases. (3.2.1.9, 3.2.5.1, 3.2.6, ~~3.3.25~~, 3.3.30, 3.3.36).

[moved from 6.3.17, and amended]

6.3.36 In cases where it is demonstrated that regionally significant infrastructure cannot avoid adverse effects on Outstanding Natural Landscapes and Outstanding Natural Features, avoid significant adverse effects so as to maintain the values that contribute to the outstanding nature, and remedy or mitigate ~~minimise~~ other adverse effects on those landscapes and features. (3.2.1.9, 3.2.5.1, 3.2.6, ~~3.3.25~~, 3.3.30, 3.3.36).

[moved from 6.3.18, and amended]

6.3.37 In relation to Rural Character Landscapes and other amenity landscapes, locate, design, operate and maintain regionally significant infrastructure so as to seek to avoid significant adverse effects on the character of the landscape, while acknowledging that functional needs ~~location constraints~~ and/or the nature of the infrastructure may mean that this is not practicable ~~possible~~ in all cases. (3.2.1.9, 3.2.5.2, 3.2.6, ~~3.3.25~~, 3.3.32, 3.3.36).

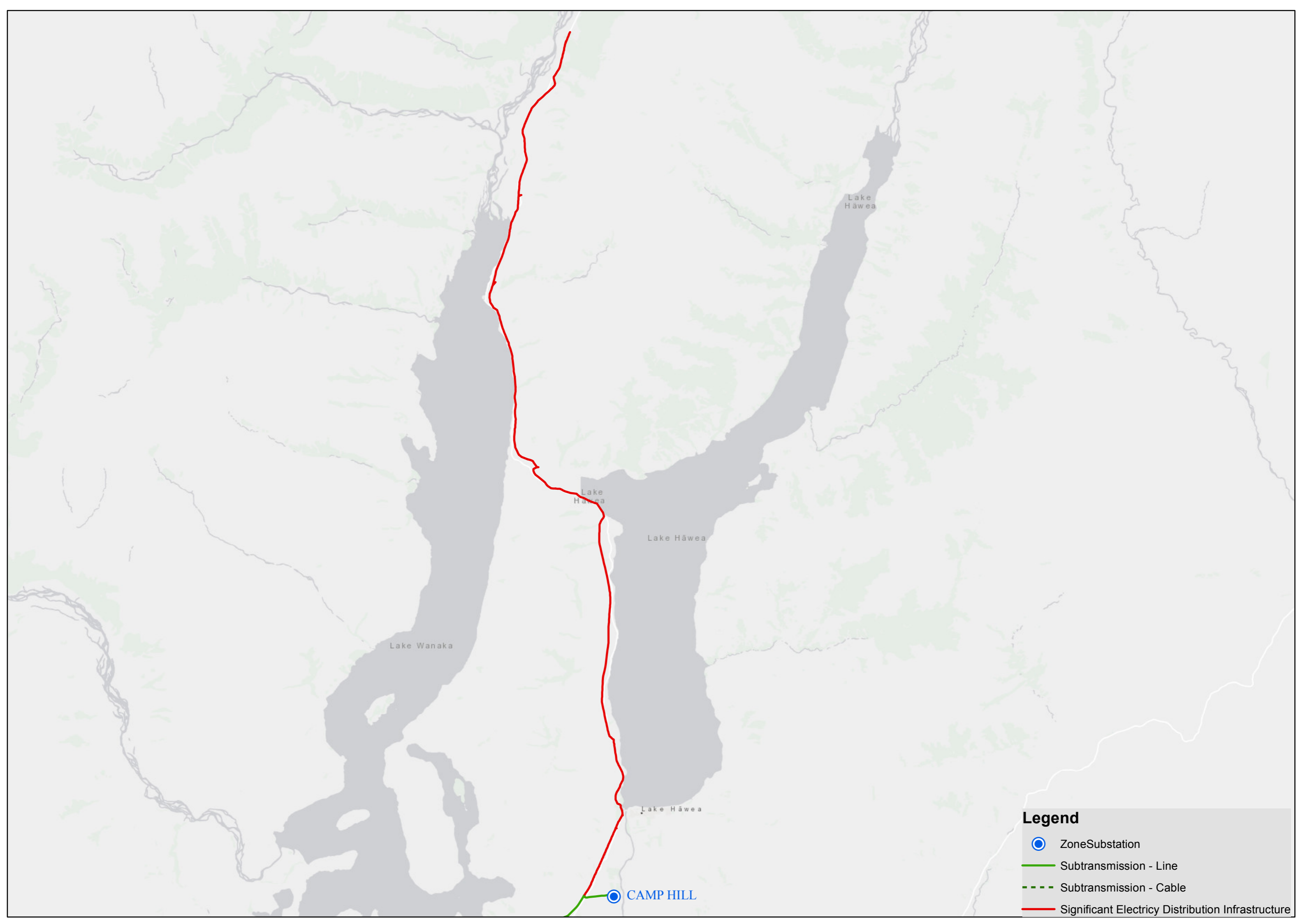
[moved from 6.3.24, and amended]

6.3.38 In cases where it is demonstrated that regionally significant infrastructure cannot avoid significant adverse effects on the character of the landscape, such adverse effects shall be remedied or mitigated ~~minimised~~. (3.2.1.9, 3.2.5.2, 3.2.6, ~~3.3.25~~, 3.3.32, 3.3.36).

[moved from 6.3.25, and amended]

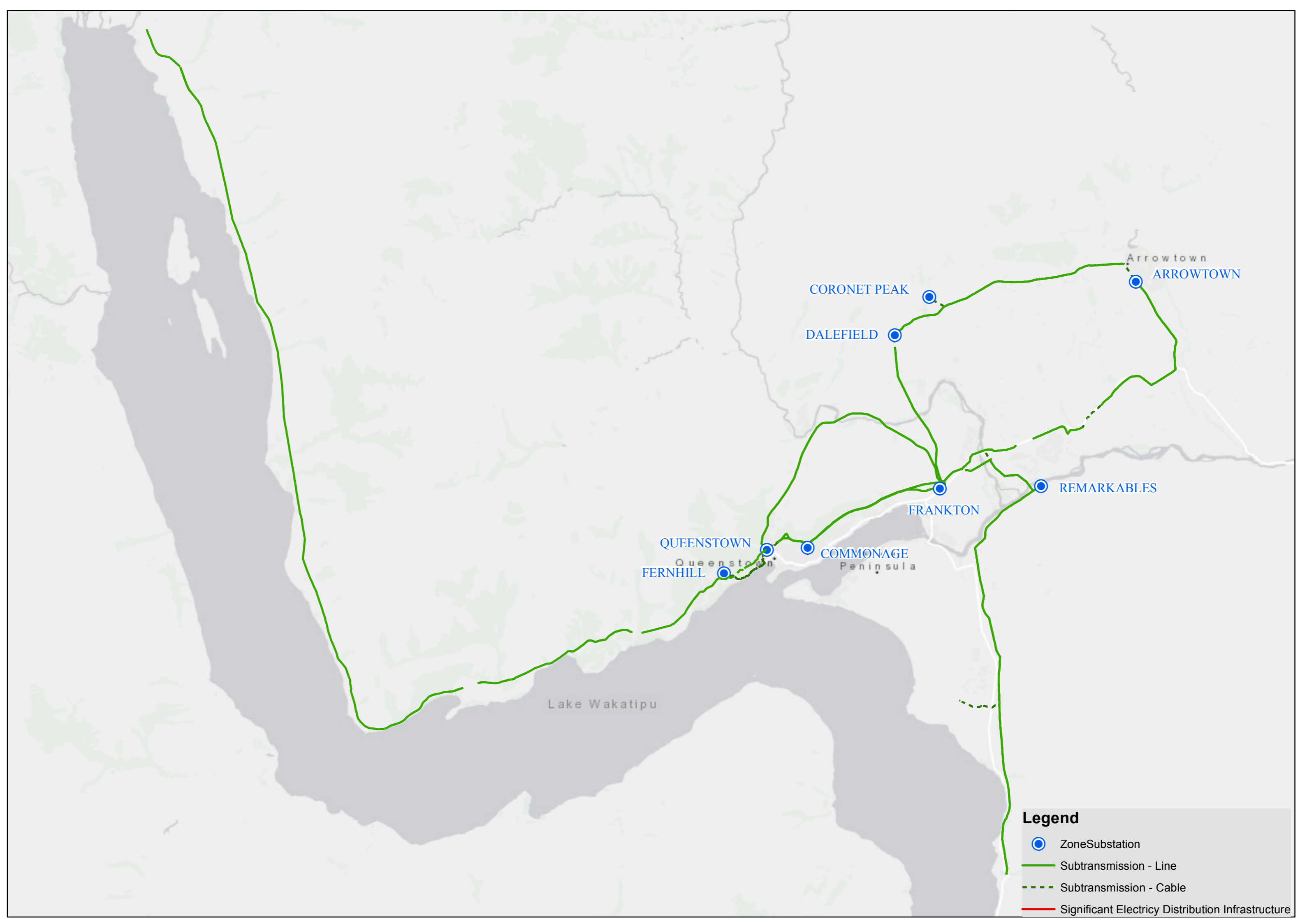
CONSEQUENTIAL CHANGES TO PLAN MAPS

1. Delete “Aurora Distribution Lines – For information only” from the District Plan Maps Legend
2. Add the following to the District Plan Maps Legend:
 - a. *“Electricity Sub-transmission Infrastructure”*
 - b. *“Significant Electricity Distribution Infrastructure”*
3. Amend the plan maps so that they show the Aurora infrastructure consistent with the attached maps):
 - 3.1 “Significant electricity distribution infrastructure” are the three following lines shown in **red** on the attached maps:
 - Wanaka to Treble Cone
 - Maungawera (near Camp Hill) to Makarora
 - Cardrona substation to the Cardrona Transformer at skifield base
4. ‘Electricity Sub-transmission Infrastructure’ are the balance of the lines shown in **green** on the attached maps.







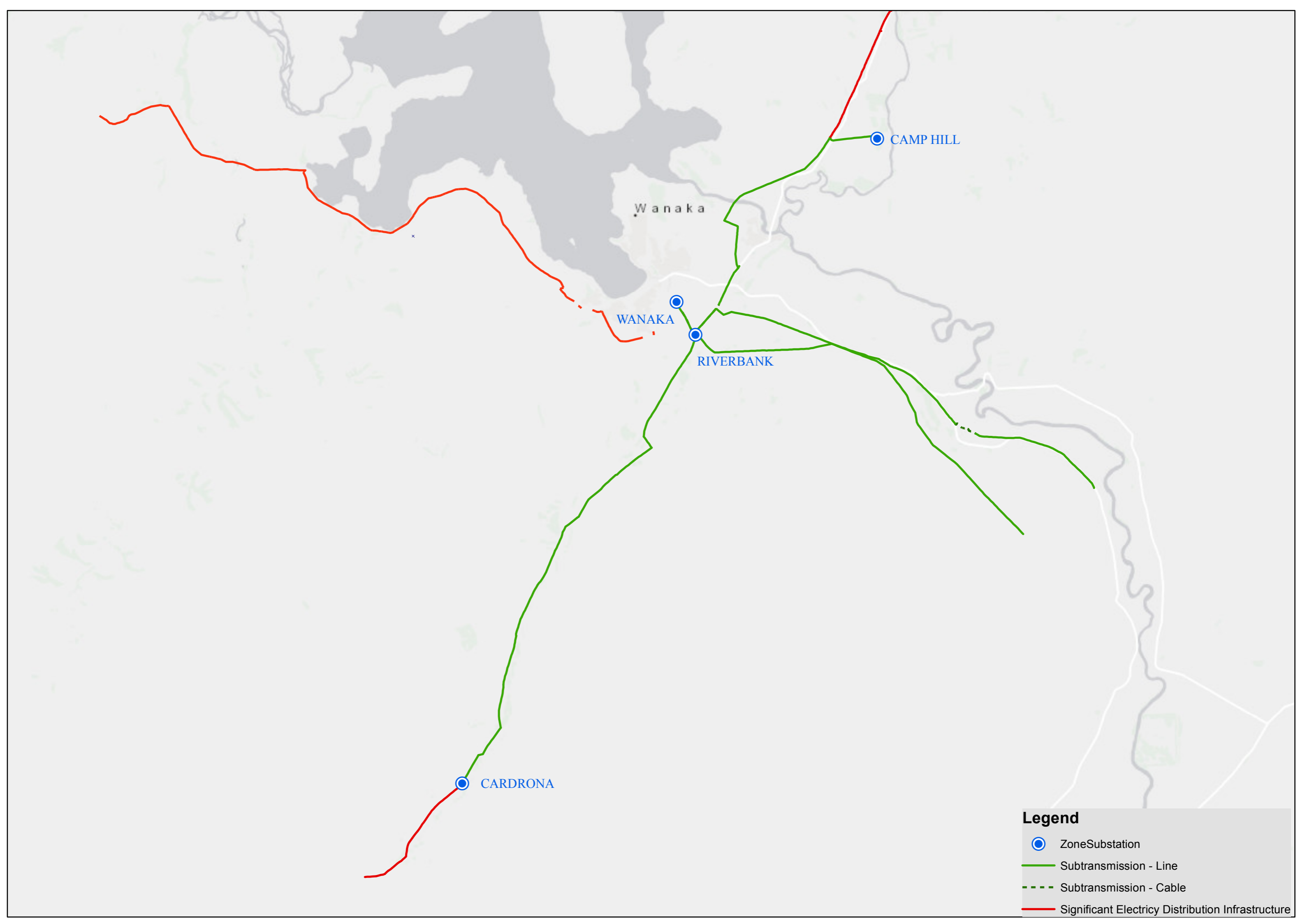
Legend

- ZoneSubstation
- Subtransmission - Line
- Subtransmission - Cable
- Significant Electricity Distribution Infrastructure



Legend

-  ZoneSubstation
-  Subtransmission - Line
-  Subtransmission - Cable
-  Significant Electricity Distribution Infrastructure



Wanaka

CAMP HILL

WANAKA

RIVERBANK

CARDRONA

Legend

- ZoneSubstation
- Subtransmission - Line
- Subtransmission - Cable
- Significant Electricity Distribution Infrastructure

Topic 17 (Energy and Utilities) Draft Consent Order Appendix 1

APPENDIX 1

(amendments shown in underline and ~~strikethrough~~ text)

2 DEFINITIONS

Minor Upgrading

Means an increase in the carrying capacity, efficiency or security of electricity transmission and distribution or telecommunication lines utilising the existing support structures or structures of similar character, intensity and scale and includes the following:

- a. addition of lines, circuits and conductors;
 - b. reconducting of the line with higher capacity conductors;
 - c. re-sagging of conductors;
 - d. bonding of conductors;
 - e. addition or replacement of longer or more efficient insulators;
 - f. addition of electrical fittings or ancillary telecommunications equipment;
 - g. addition of earth-wires which may contain lightning rods, and earth-peaks;
 - h. support structure replacement within the same location as the support structure that is to be replaced;
 - i. addition or replacement of existing cross-arms with cross-arms of an alternative design;
 - j. replacement of existing support structures ~~poles~~ provided they are less the same or similar in height, diameter and are located within 2 5 metres of the base of the support ~~poles~~ structure being replaced;
 - k. addition of a single service support structure for the purpose of providing a service connection to a site, except in the Rural zone;
 - l. the addition of up to ~~three~~ four new support structures extending the length of an existing line provided the line has not been lengthened in the preceding five year period.
- (m) An increase in support structure height required to comply with NZECP34:2001 by not more than 3 metres provided that the support structure has not been replaced within the preceding 10 year period.

National Grid Subdivision Corridor

Means the area measured either side of the centreline of above ground ~~National~~ Grid transmission line as follows:

- a. 16m for the 110kV lines on pi poles
- b. 32m of 110kV lines on towers or mono poles
- c. 37m for the 220kV transmission lines.

Excludes any transmission lines (or sections of line) that are designated.

National Grid Sensitive Activities

Means those activities ~~within the national grid corridor~~ that are particularly sensitive to ~~risks associated with electricity~~ National Grid transmission lines ~~because of either the potential for prolonged exposed to the risk, or the vulnerability of the equipment~~

~~or population that is exposed to the risk.~~ Such activities include buildings or parts of buildings used for, or able to be used for the following purposes:

- a. ~~hospital child day care activity;~~
- b. day care facility activity;
- c. educational activity;
- d. home stay;
- e. healthcare facility;
- f. papakāinga;
- g. any residential activity;
- h. visitor accommodation.

30 Energy and Utilities

Purpose

Energy and Utilities are of strategic importance and require a coordinated approach in relation to the development of energy resources, the generation and transmission of electricity and the provision of essential infrastructure throughout the District.

30.1.1 Energy

Energy resources play a key role in the socio-economic wellbeing and growth of the District. Local energy needs may change over time and are dependent on the scale of demand, as well as measures to reduce demand through energy efficiency, conservation and small scale renewable generation.

In the future, there may be a need for new generation sources to meet demand. Electricity generation by renewable energy sources is desired over non-renewable sources and this is reinforced in the National Policy Statement on Renewable Electricity Generation 2011. The generation of electricity from non-renewable sources is generally discouraged. However, standby generation may be necessary for essential public, civic, community and health functions, or in areas not connected to the electricity distribution network.

Energy efficiency and conservation go hand in hand with renewable energy. Conserving the use of energy together with the generation of renewable energy will be vital in responding to the challenges of providing enough energy to meet future energy needs and reducing greenhouse gas emissions. Small and community scale generation is encouraged and advantages of solar energy within the District are recognised. The benefits of solar energy may be realised through site design methods which promote solar efficient design, in addition to the inclusion of solar photovoltaic panels and solar hot water heating systems within buildings. Sustainable building forms which reduce energy demand and minimise heating costs are encouraged, including use of the Homestar™ rating system for residential buildings and Green Star tool for commercial buildings.

30.1.2 Utilities

Utilities are essential to the servicing and functioning of the District. Utilities have the purpose to provide a service to the public and are typically provided by a network utility operator.

Due to the importance of utilities in providing essential services to the community, their often high capital cost to establish, and their long life expectancy, the need for the establishment and on-going functioning, maintenance and upgrading of utilities is recognised. The need to operate, maintain, develop and upgrade the National Grid is a matter of national significance established by the National Policy Statement on Electricity Transmission 2008. In addition, some utilities have specific ~~locational~~ functional needs that ~~have need~~ to be accommodated for their operation. The co-location of utilities may achieve efficiencies in design and operation, reduce capital investment costs and also minimise amenity and environmental effects. The ability to co-locate compatible uses should be considered for all utility proposals.

It is recognised that while utilities can have national, regional and local benefits, they can also have adverse effects on surrounding land uses, some of which have been established long before the network utility.

The sustainable management of natural and physical resources requires a balance between the effects of different land uses. However, it is also necessary that essential utilities are protected, where possible, from further encroachment by incompatible activities which may lead to adverse effects including reverse sensitivity effects. This chapter therefore also addresses requirements for sensitive uses and habitable buildings located near to utilities.

30.2 Objectives and Policies

Energy

30.2.1 **Objective** - The sustainable management of the District's resources benefits from the District's renewable and non-renewable energy resources and the electricity generation facilities that utilise them.

Policies

30.2.1.1 Recognise the national, regional and local benefits of the District's renewable and non-renewable electricity generation activities.

30.2.1.2 Enable the operation, maintenance, repowering, upgrade of existing non-renewable electricity generation activities and development of new ones where adverse effects can be avoided, remedied or mitigated.

30.2.2 **Objective** - The use and development of renewable energy resources achieves the following:

- a. It maintains or enhances electricity generation capacity while avoiding, reducing or displacing greenhouse gas emissions;
- b. It maintains or enhances the security of electricity supply at local, regional and national levels by diversifying the type and/or location of electricity generation;
- c. It assists in meeting international climate change obligations;
- d. It reduces reliance on imported fuels for the purpose of generating electricity;
- e. It helps with community resilience through development of local energy resources and networks.

Policies

- 30.2.2.1 Enable the development, operation, maintenance, repowering and upgrading of new and existing renewable electricity generation activities, (including small and community scale), in a manner that:
- a. recognises the need to locate renewable electricity generation activities where the renewable electricity resources are available;
 - b. recognises logistical and technical practicalities associated with renewable electricity generation activities;
 - c. provides for research and exploratory-scale investigations into existing and emerging renewable electricity generation technologies and methods.
- 30.2.2.2 Enable new technologies using renewable energy resources to be investigated and established in the district.
- 30.2.3 **Objective** - Energy resources are developed and electricity is generated, in a manner that minimises adverse effects on the environment.

Policies

- 30.2.3.1 Promote the incorporation of Small and Community-Scale Distributed Electricity Generation structures and associated buildings (whether temporary or permanent) as a means to improve efficiency and reduce energy demands.
- 30.2.3.2 Ensure the visual effects of Wind Electricity Generation do not exceed the capacity of an area to absorb change or significantly detract from landscape and visual amenity values.
- 30.2.3.3 Promote Biomass Electricity Generation in proximity to available fuel sources that minimise external effects on the surrounding road network and the amenity values of neighbours.
- 30.2.3.4 Assess the effects of Renewable Electricity Generation proposals, other than Small and Community Scale with regards to:
- a. landscape values and areas of significant indigenous flora or significant habitat for indigenous fauna;
 - b. recreation and cultural values, including relationships with tangata whenua;
 - c. amenity values;
 - d. the extent of public benefit and outcomes of location specific cost-benefit analysis.
- 30.2.3.5 Existing energy facilities, associated infrastructure and undeveloped energy resources are protected from incompatible subdivision, land use and development.
- 30.2.3.6 To compensate for adverse effects, consideration must be given to any offset measures (including biodiversity offsets) and/or environmental

compensation including those which benefit the local environment and community affected.

30.2.3.7 Consider non-renewable energy resources including standby power generation and Stand Alone Power systems, with particular regard to servicing activities in remote locations, and where adverse effects can be mitigated.

30.2.4 **Objective** - Subdivision layout, site layout and building design takes into consideration energy efficiency and conservation.

Policies

30.2.4.1 Encourage energy efficiency and conservation practices, including use of energy efficient materials and renewable energy in development.

30.2.4.2 Encourage subdivision and development to be designed so that buildings can utilise energy efficiency and conservation measures, including by orientation to the sun and through other natural elements, to assist in reducing energy consumption.

30.2.4.3 Encourage Small and Community-Scale Distributed Electricity Generation and Solar Water Heating structures within new or altered buildings.

30.2.4.4 Encourage building design which achieves a Homestar™ certification rating of 6 or more for residential buildings, or a Green Star rating of at least 4 stars for commercial buildings.

30.2.4.5 Transport networks should be designed so that the number, length and need for vehicle trips is minimised, and reliance on private motor vehicles is reduced, to assist in reducing energy consumption.

30.2.4.6 Control the location of buildings and outdoor living areas to reduce impediments to access to sunlight.

Utilities

30.2.5 **Objective** - The growth and development of the District is supported by utilities that are able to operate effectively and efficiently.

Policies

30.2.5.1 Utilities are provided to service new development prior to buildings being occupied, and activities commencing.

30.2.5.2 Ensure the efficient management of solid waste by:

- a. encouraging methods of waste minimisation and reduction such as re-use and recycling;
- b. providing landfill sites with the capacity to cater for the present and future disposal of solid waste;
- c. assessing trends in solid waste;
- d. identifying solid waste sites for future needs;

- e. consideration of technologies or methods to improve operational efficiency and sustainability (including the potential use of landfill gas as an energy source);
 - f. providing for the appropriate re-use of decommissioned landfill sites.
- 30.2.5.3 Recognise the future needs of utilities and ensure their provision in conjunction with the provider.
- 30.2.5.4 Assess the priorities for servicing established urban areas, which are developed but are not reticulated.
- 30.2.5.5 Ensure reticulation of those areas identified for urban expansion or redevelopment is achievable, and that a reticulation system be implemented prior to subdivision.
- 30.2.5.6 Encourage low impact design techniques which may reduce demands on local utilities.
- 30.2.6 **Objective** - ~~The establishment, continued operation and maintenance~~ operation, maintenance, development and upgrading of utilities supports the well-being of the community.

Policies

- 30.2.6.1 Provide for the operation, need for maintenance or upgrading of utilities ~~including regionally significant infrastructure to ensure their on-going viability and efficiency subject to managing adverse effects on the environment consistent with the objectives and policies in Chapters 3, 4, 5 and 6.~~
- 30.2.6.2 When considering the effects of proposed utility developments consideration must be given to alternatives, and also to how adverse effects will be managed through the route, site and method selection process, while taking into account the constraints due to the functional needs ~~locational, technical and operational requirements~~ of the utility and the benefits associated with the utility.
- 30.2.6.3 Ensure that the adverse effects of utilities on the environment are managed while taking into account the positive social, economic, cultural and environmental benefits that utilities provide, including:
- a. enabling enhancement of the quality of life and standard of living for people and communities;
 - b. providing for public health and safety;
 - c. enabling the functioning of businesses;
 - d. enabling economic growth;
 - e. enabling growth and development;
 - f. protecting and enhancing the environment;
 - g. enabling the transportation of freight, goods, people;
 - h. enabling interaction and communication.
- 30.2.6.4 Encourage the co-location of facilities where operationally and technically feasible.

30.2.6.5 Manage land use, development and/or subdivision in locations which could compromise the safe and efficient operation of utilities.

30.2.7 **Objective** - The adverse effects of utilities are managed having regard to functional needs and environmental values on the surrounding environments are avoided or minimised.

Policies

- 30.2.7.A Manage the adverse effects of regionally significant infrastructure by:
- a. seeking to avoid adverse effects on the values and attributes of the following:
 - i. Scheduled Significant Natural Areas, and those other areas that meet the criteria in Policy 33.2.1.8;
 - ii. Heritage features identified as Category 1 in the Schedule in Chapter 26;
 - iii. Wahi tupuna identified in the District Plan maps;
 - b. seeking to avoid significant adverse effects on the values and attributes of the following:
 - i. Special Character Areas identified on the District Plan maps including the Arrowtown Residential Historic Management Zone;
 - ii. Other Heritage features, settings, overlay areas or precincts that are not identified in (a.ii) above;
 - c. where avoiding adverse effects on the values and attributes of (a), or avoiding significant adverse effects on the values and attributes of (b), is not practicable because of the functional needs of the infrastructure:
 - i. in relation to (a.i), ensure that the adverse effects on the values and attributes are avoided, remedied or mitigated so that the significant nature of the area is maintained;
 - ii. in relation to (b.ii) ensure that adverse effects on the values and attributes are remedied or mitigated, or where this is not practicable, consider the extent to which the activity implements the policies of Chapter 26.
 - iii. remedy or mitigate the adverse effects on the values and attributes;
 - d. avoiding, remedying or mitigating other adverse effects.

Advice note: In relation to landscapes, Policies 6.3.3A and Policies 6.3.35 to 6.3.38 are relevant and apply to regionally significant infrastructure.

[drafting note – not part of the draft consent order, but the references in the Advice Note above may need to be deleted following the release of the Topic 2 interim decision.]

- 30.2.7.1 Manage the adverse effects of utilities on the environment by:
- a. for utilities other than regionally significant infrastructure, avoiding their location on sensitive sites, including heritage and special character areas, Outstanding Natural Landscapes and Outstanding Natural Features, and skylines and ridgelines and where avoidance is not practicable, avoid significant adverse effects and minimise other adverse effects on those sites, areas, landscapes or features;
 - b. encouraging co-location or multiple use of network utilities where this is efficient and practicable in order to avoid, remedy or mitigate adverse effects on the environment;
 - c. ensuring that redundant utilities are removed;
 - d. using landscaping and or colours and finishes to reduce visual effects;
 - e. integrating utilities with the surrounding environment; whether that is a rural environment or existing built form.
- 30.2.7.2 Require the undergrounding of new utilities servicing services in new areas of development, other than the National Grid, where technically feasible.
- 30.2.7.3 Encourage the replacement of existing overhead services other than the National Grid, with underground reticulation or the upgrading of the existing overhead services, where technically feasible.
- 30.2.7.4 Take account of economic and operational needs in assessing the location and external appearance of utilities.

30.2.8 **Objective** – included in Topic 1, Subtopic 4 consent order.

Policies

30.2.8.1 [Included in Topic 1, Subtopic 4 draft consent order.]

30.2.8.2 [Included in Topic 1, Subtopic 4 draft consent order.]

30.2.8.3 [Included in Topic 1, Subtopic 4 draft consent order.]

30.3 Other Provisions and Rules

30.3.1 District Wide

Attention is drawn to the following District Wide Chapters.

1	Introduction	2	Definitions	3	Strategic Direction
4	Urban Development	5	Tangata Whenua	6	Landscapes and Rural

		Character
25 Earthworks	26 Historic Heritage	27 Subdivision
28 Natural Hazards	29 Transport	31 Signs
32 Protected Trees	33 Indigenous Vegetation	34 Wilding Exotic Trees
35 Temporary Activities and Relocated Buildings	36 Noise	37 Designations
Planning Maps		

30.3.2 Information on National Environmental Standards and Regulations

- a. Resource Management (National Environmental Standard for Electricity Transmission Activities) Regulations 2009:

Notwithstanding any other rules in the District Plan, the National Grid existing as at 14 January 2010 is covered by the Resource Management (National Environmental Standard for Electricity Transmission Activities) Regulations 2009 (NESETA) and must comply with the NESETA.

The provisions of the NESETA prevail over the provisions of this District Plan to the extent of any inconsistency. No other rules in the District Plan that duplicate or conflict with the Standard shall apply.

- b. Resource Management (National Environmental Standards for Telecommunications Facilities "NESTF") Regulations 2016:

The NESTF 2016 controls a variety of telecommunications facilities and related activities as permitted activities subject to standards, including:

- i. cabinets in and outside of road reserve;
- ii. antennas on existing and new poles in the road reserve;
- iii. replacement, upgrading and co-location of existing poles and antennas outside the road reserve;
- iv. new poles and antennas in rural areas;
- v. antennas on buildings;
- vi. small-cell units on existing structures;
- vii. telecommunications lines (underground, on the ground and overhead) and facilities in natural hazard areas; and
- viii. associated earthworks.

All telecommunications facilities are controlled by the NESTF 2016 in respect of the generation of radiofrequency fields.

The NESTF 2016 and relevant guidance for users can be found at: <http://www.mfe.govt.nz/rma/legislative-tools/national-environmental-standards/national-environmental-standards> .

The provisions of the NESTF 2016 prevail over the provisions of this District Plan, to the extent of any inconsistency. No other rules in the District Plan that duplicate or conflict with the NESTF 2016 shall apply.

However, District Plan provisions continue to apply to some activities covered by the NESTF 2016, including those which, under regulations 44 to 52, enable rules to be more stringent than the NESTF, such as being subject to heritage rules, Significant Natural Areas, Outstanding Natural Features and Landscapes, and amenity landscape rules.

- c. New Zealand Electrical Code of Practice for Electrical Safe Distances. Compliance with the New Zealand Electrical Code of Practice for Electrical Safe Distances (“NZECP 34:2001”) is mandatory under the Electricity Act 1992. All activities regulated by the NZECP 34(2001) (such as buildings, earthworks and conductive fences), including any activities that are otherwise permitted by the District Plan must comply with this legislation.

Advice Note: To assist plan users in complying with NZECP 34:2001 ~~these regulations~~, the major distribution components of the Aurora network (the Electricity sub-transmission infrastructure and Significant electricity distribution infrastructure) are shown on the Planning Maps.

For the balance of Aurora’s network plan users are advised to consult with Aurora’s network maps at www.auroraenergy.co.nz or contact Aurora directly for advice.

Compliance with this District Plan does not ensure compliance with NZECP 34:2001.

- d. Advice Note: Electricity (Hazards from Trees) Regulations 2003. Vegetation to be planted around electricity networks should be selected and/or managed to ensure that it will not result in that vegetation breaching the Electricity (Hazards from Trees) Regulations 2003.

30.3.3 Interpreting and Applying the Rules

- 30.3.3.1 A permitted activity must comply with all the rules listed in the Activity and Standards tables, and any relevant district wide rules.
- 30.3.3.2 Where an activity does not comply with a Standard listed in the Standards table, the activity status identified by the Non-Compliance Status column applies. Where an activity breaches more than one Standard, the most restrictive status applies to the Activity.
- 30.3.3.3 The rules contained in this Chapter take precedence over any other rules that may apply to energy and utilities in the District Plan, unless specifically stated to the contrary and with the exception of:

- a. 25 Earthworks;
- b. 26 Historic Heritage.

Note: Utilities can also be provided as designations if the utility operator is a requiring authority. Refer to Chapter 37 – Designations of the Plan for conditions and descriptions of designated sites.

30.3.3.4 The following abbreviations are used in the tables.

P	Permitted	C	Controlled
RD	Restricted Discretionary	D	Discretionary
NC	Non Complying	PR	Prohibited

30.4 Energy Rules

30.4.1	Renewable Energy Activities	Activity Status
30.4.1.1	Small and Community-Scale Distributed Electricity Generation and Solar Water Heating (including any structures and associated buildings but excluding Wind Electricity Generation), other than those activities restricted by Rule 30.4.1.4.	P
30.4.1.2	Small and Community-Scale Distributed Wind Electricity Generation within the Rural Zone, Gibbston Character Zone and Rural Lifestyle Zone that complies with Rule 30.4.2.3 Control is reserved to the following: a. noise; b. visual effects; c. colour; d. vibration.	C
30.4.1.3	Renewable Electricity Generation Activities, limited to masts, drilling and water monitoring for the purpose of research and exploratory-scale investigations that are temporary. Discretion is restricted to: a. the duration of works and the research purpose; b. the location of investigation activities and facilities, including proximity to, and effects on, sensitive uses and environments; c. the height and scale of facilities and potential visual effects; d. environmental effects.	RD
30.4.1.4	Small and Community-Scale Distributed Electricity Generation and Solar Water Heating including any structures and associated buildings, which is either: a. Wind Electricity Generation other than that provided for in Rule 30.4.1.2. OR b. Located in any of the following sensitive environments: i. Arrowtown Residential Historic Management Zone; ii. Town Centre Special Character Areas; iii. Significant Natural Areas; iv. Outstanding Natural Landscapes; v. Outstanding Natural Features; vi. Heritage Features and Heritage Overlay Areas.	D
30.4.1.5	Renewable Electricity Generation Activities, other than Small and Community-Scale Distributed Electricity Generation, and including any new or additional building	D

30.4.1	Renewable Energy Activities	Activity Status
	housing plant and electrical equipment.	

30.4.2	Renewable Energy Standards	Activity- Status Non- compliance Status
30.4.2.1	<p>Small and Community-Scale Distributed Electricity Generation and Solar Water Heating must:</p> <p>30.4.2.1.1 Not overhang the edge of any building.</p> <p>30.4.2.1.2 Be finished in recessive colours: black, dark blue, grey or brown if Solar Electricity Generation cells, modules or panels.</p> <p>30.4.2.1.3 Be finished in similar recessive colours to those in the above standard if frames, mounting or fixing hardware. Recessive colours must be selected to be the closest colour to the building to which they form part of, are attached to, or service.</p> <p>30.4.2.1.4 Be set back in accordance with the internal and road boundary setbacks for buildings in the zone in which they are located. Any exemptions identified in the zone rules for accessory buildings do not apply.</p> <p>30.4.2.1.5 Not intrude through any recession planes applicable in the zone in which they are located.</p> <p>30.4.2.1.6 Not protrude more than a maximum of 0.5 m above the maximum height limit specified for the zone if solar panels on a sloping roof.</p> <p>30.4.2.1.7 Not protrude a maximum of 1.0 m above the maximum height limit specified for the zone, for a maximum area of 5m² if solar panels on a flat roof.</p> <p>30.4.2.1.8 Not exceed 150m² in area if free standing Solar Electricity Generation and Solar Water Heating.</p> <p>30.4.2.1.9 Not exceed 2.0 metres in height if free standing Solar Electricity Generation and Solar Water Heating.</p> <p>30.4.2.1.10 Be located within an approved building platform where located in the Rural, Gibbston Character or Rural Lifestyle Zone.</p>	D
30.4.2.2	<p>Mini and Micro Hydro Electricity Generation must:</p> <p>30.4.2.2.1 Comply with Road and Internal Boundary Building Setbacks in the zone in which they are located.</p> <p>30.4.2.2.2 Not exceed 2.5 metres in height.</p> <p>30.4.2.2.3 Be finished in recessive colours consistent with</p>	D

30.4.2	Renewable Energy Standards	Activity- Status Non- compliance Status
	<p>the building it is servicing on site.</p> <p>Note: Reference should also be made to the Otago Regional Council Regional Plan: Water.</p>	
30.4.2.3	<p>Wind Electricity Generation must:</p> <p>30.4.2.3.1 Comprise no more than two Wind Electricity Generation turbines or masts on any site.</p> <p>30.4.2.3.2 Involve no lattice towers.</p> <p>30.4.2.3.3 Be set back in accordance with the internal and road boundary setbacks for buildings in the zone in which they are located. Any exemptions identified in the zone rules for accessory buildings do not apply.</p> <p>30.4.2.3.4 Not exceed the maximum height or intrude through any recession planes applicable in the zone in which they are located.</p> <p>30.4.2.3.5 Be finished in recessive colours with a light reflectance value of less than 16%.</p> <p>Notes: In the Rural and Gibbston Character Zones the maximum height shall be that specified for non-residential building ancillary to viticulture or farming activities (10m). The maximum height for a wind turbine shall be measured to the tip of blade when in vertical position. Wind turbines must comply with Chapter 36 (Noise).</p>	D
30.4.2.4	<p>Biomass Electricity Generation</p> <p>30.4.2.4.1 Biomass Electricity Generation fuel material shall be sourced on the same site as the generation plant, except where the generation plant is located in Industrial Zones (and Industrial Activities Areas within Structure Plans).</p> <p>30.4.2.4.2 Any outdoor storage of Biomass Electricity Generation fuel material shall be screened from adjoining sites and public places.</p> <p>30.4.2.4.3 Biomass Electricity Generation plant and equipment shall be located inside a Building.</p> <p>Note: Reference should also be made to the Otago Regional Council Regional Plan: Air</p>	D
30.4.2.5	<p>Buildings for renewable energy activities</p> <p>Any building housing plant and electrical equipment associated with Renewable Electricity Generation activities, unless permitted in the zone in which it located or approved by resource consent, shall:</p> <p>30.4.2.5.1 Not exceed 10m² in area and 2.5m in height.</p> <p>30.4.2.5.2 Be set back in accordance with the internal and</p>	D

30.4.2	Renewable Energy Standards	Activity- Status Non- compliance Status
	road boundary setbacks for accessory buildings in the zone in which it is located. 30.4.2.5.3 Be finished in recessive colours, consistent with the building it is servicing on site.	

30.4.3	Non-Renewable Energy Activities	Activity Status
30.4.3.1	Non-renewable Electricity Generation where either: a. the generation only supplies activities on the site on which it is located and involves either: i. standby generators associated with community, health care, and utility activities; or ii. generators that are part of a Stand-Alone Power System on sites that do not have connection to the local distributed electricity network or iii. <u>standby generators and generators within Ski Area Sub Zones.</u> OR b. generators that supply the local distributed electricity network for a period not exceeding 3 months in any calendar year. Note: Diesel Generators must comply with the provisions of Chapter 36 (Noise).	P
30.4.3.2	Non-Renewable Energy Activities which are not otherwise specified.	NC

30.5 Utility Rules

30.5.1	General Utility Activities	Non- compliance Status Activity Status
30.5.1.1	Buildings associated with a Utility Any building or cabinet or structure of 10m ² or less in total footprint or 3m or less in height which is not located in the areas listed in Rule 30.5.1.4. This rule does not apply to: a. masts for navigation or meteorology b. poles, antennas, and associated cabinets (cabinets up to 10m ² in area and 3m in height, exclusive of any plinth or other foundation), for telecommunication and radio communication	P

30.5.1	General Utility Activities	Non-compliance Status Activity Status
	c. lines and support structures.	
30.5.1.2	Flood Protection Works for the maintenance, reinstatement, repair or replacement of existing flood protection works for the purpose of maintaining the flood carrying capacity of water courses and/or maintaining the integrity of existing river protection works.	P
30.5.1.3	Buildings (associated with a Utility) The addition, alteration or construction of buildings greater than 10m ² in total footprint or 3m in height other than buildings located in the areas listed in Rule 30.5.1.4. This rule does not apply to: a. masts or poles for navigation or meteorology; b. poles, antennas, and associated cabinets (cabinets up to 10m ² in area and 3m in height, exclusive of any plinth or other foundation) for telecommunication and radio communication; c. line and support structures. Control is reserved to: a. location; b. external appearance and visual effects; c. associated earthworks; d. parking and access; e. landscaping.	C
30.5.1.4	Buildings (associated with a Utility) Any addition, alteration or construction of buildings in: a. any Significant Natural Areas; b. the Arrowtown Residential Historic Management Zone. This rule does not apply to: a. masts or poles for navigation or meteorology; b. poles, antennas, and associated cabinets (cabinets up to 10m ² in area and 3m in height, exclusive of any plinth or other foundation), for telecommunication and radio communication; c. lines and support structures, and associated <u>electricity cabinets up to 10m² in area and 3m in height, exclusive of any plinth or other foundation).</u>	D
30.5.1.5	Flood Protection Works not otherwise provided for in Rule <u>30.4.5.1.2</u> <u>30.5.1.2</u>	D
30.5.1.6	Waste Management Facilities	D
30.5.1.7	Water and Wastewater Treatment Facilities	D

30.5.1	General Utility Activities	Non-compliance Status Activity Status
30.5.1.8	Utilities and Buildings (associated with a Utility) which are not: 30.5.8.1 provided for in any National Environmental Standard; OR 30.5.8.2 otherwise listed in Rules 30.5.1.1 to 30.5.1.7, 30.5.3.1 to 30.5.3.5, <u>30.5.3.7</u> , 30.5.5.1 to 30.5.5.8, or 30.5.6.1 to 30.5.6.13.	D

30.5.2	General Utilities - Standards	Non-compliance Status
30.5.2.1	Setback from internal boundaries and road boundaries Where the utility is a building, it must be set back in accordance with the internal and road boundary setbacks for accessory buildings in the zone in which it is located. This rule does not apply to: a. poles, antennas, and associated cabinets (cabinets up to 10m ² in area and 3m in height, exclusive of any plinth or other foundation), for telecommunication and radio communication; b. lines and support structures for telecommunications.	D
30.5.2.2	Buildings associated with a Utility in Outstanding Natural Landscapes (ONL) and Outstanding Natural Features (ONF) Any building within an ONL or ONF must be less than 10m ² in area and less than 3m in height. This rule does not apply to: a. masts or poles for navigation or meteorology; b. poles, antennas, and associated cabinets (cabinets up to 10m ² in area and 3m in height, exclusive of any plinth or other foundation), for telecommunication and radio communication; c. lines and support structures.	D
30.5.2.3	Height All buildings or structures must comply with the relevant maximum height provisions for buildings of the zone they are located in. This rule does not apply to: a. masts or poles for navigation or meteorology; b. poles, antennas, and associated cabinets (cabinets up to 10m ² in area and 3m in height, exclusive of any plinth or other foundation), for telecommunication and radio communication; c. lines and support structures.	D

30.5.3	National Grid Activities	Non-compliance- Status Activity Status
30.5.3.1	Minor Upgrading	P
30.5.3.2	Buildings, structures and activities that are not National Grid sSensitive aActivities within the National Grid Yard Corridor Subject to compliance with Rules 30.5.4.1 and 30.5.4.2.	P
30.5.3.3	Earthworks within the National Grid Yard Subject to compliance with Rule 30.5.4.2	P
30.5.3A	<u>Underground electricity cables</u> <u>The placement of underground electricity transmission cables provided the ground surface is reinstated to the state it was prior to works commencing.</u>	P
30.5.3.4	Buildings, structures and National Grid sensitive activities in the vicinity of the Frankton Substation Any building, structure or National Grid sensitive activity or storage or use of explosive or flammable Hazardous Substances* within 45m of the designated boundary of Transpower New Zealand Limited’s Frankton Substation. Control is reserved to: a. the extent to which the design and layout (including underground cables, services and fencing) avoids adverse effects on the on-going operation, maintenance upgrading and development of the substation; b. the risk of electrical hazards affecting public or individual safety, and the risk of property damage; and c. measures proposed to avoid or mitigate potential adverse effects, including reverse sensitivity effects. <u>* Excludes storage or use of Hazardous Substances ancillary to Residential Activity.</u>	C
30.5.3.B	<u>Lines and Supporting Structures</u> <u>Erecting any lines or support structures for new overhead electricity transmission lines to convey electricity at a voltage of 110kV or less in all zones and outside of any Outstanding Natural Feature, Outstanding Natural Landscape or Scheduled Significant Natural Areas.</u> <u>Discretion is restricted to:</u>	RD

30.5.3	National Grid Activities	Non-compliance Status Activity Status
	<ul style="list-style-type: none"> a. <u>the effects on activities within the proposed National Grid Yard;</u> b. <u>Landscape and visual effects;</u> c. <u>the route, site and method selected;</u> d. <u>the functional needs of the National Grid;</u> e. <u>the benefits derived from sustainable, secure and efficient electricity transmission.</u> 	
30.5.3.5	<u>Substation, Lines and Supporting Structures Except as provided for in Rule 30.5.3.B, erecting any substation, lines, lattice towers or support structures for new overhead transmission lines to convey electricity (at a voltage of more than 110kV with a capacity over 100MVA) in all zones and in any Outstanding Natural Feature, Outstanding Natural Landscape or Scheduled Significant Natural Areas.</u>	D
30.5.3.6	<u>National Grid Sensitive Activities in the National Grid Yard</u>	NC

30.5.4	National Grid Standards	Non-compliance Status
30.5.4.1	<p>Buildings and Structures permitted within the National Grid Yard:</p> <p>30.5.4.1.X <u>Buildings and structures that meets the safe electrical clearance distances required by New Zealand Electrical Code of Practice for Safe Electrical Distances (NZECP 34:2001);</u></p> <p>30.5.4.1.1 A non-conductive fence located 5m or more from any National Grid Support Structure and no more than 2.5m in height.</p> <p>30.5.4.1.2 A network utility within a transport corridor or any part of electricity infrastructure that connects to the National Grid, excluding a building or structure for the reticulation and storage of water for irrigation purposes.</p> <p>30.5.4.1.3 Any new non-habitable building less than 2.5m high and 10m² in floor area and is more than 12m from a National Grid <u>transmission line support structure.</u></p> <p>30.5.4.1.4 Any non-habitable building or structure used for agricultural <u>or horticultural</u> activities provided that they are:</p>	NC

30.5.4	National Grid Standards	Non-compliance Status
	<p>a. less than 2.5m high;</p> <p>b. located at least 12m from a National Grid <u>transmission line</u> <u>Support</u> <u>Structure</u>;</p> <p>c. not a <u>wintering barn</u>, <u>produce packing facility</u>, milking shed/dairy shed (excluding the stockyards and ancillary platforms), or a commercial glasshouse, or a structure associated with irrigation, or a factory farm.</p> <p>30.5.4.1.5 Alterations to existing buildings that do not alter the building envelope.</p> <p>30.5.4.1.6 An agricultural <u>or horticultural</u> structure where Transpower has given written approval in accordance with clause 2.4.1 of NZECP34:2001.</p> <p>Note: Refer to the Definitions for illustration of the National Grid Yard.</p>	
30.5.4.2	<p>Earthworks permitted within the National Grid Yard</p> <p>30.5.4.2.1 Earthworks within 6 metres of the outer visible edge of a National Grid <u>Transmission line</u> <u>Support</u> <u>Structure</u> must be no deeper than 300mm.</p> <p>30.5.4.2.2 Earthworks between 6 metres to 12 metres from the outer visible edge of a National Grid <u>Transmission line</u> <u>Support</u> <u>Structure</u> must be no deeper than 3 metres.</p> <p>30.5.4.2.3 Earthworks must not create an unstable batter that will affect a <u>National Grid transmission line</u> support structure.</p> <p>30.5.4.2.4 Earthworks must not result in a reduction in the existing conductor clearance distance below what is required by the NZECP 34:2001.</p> <p>The following earthworks are exempt from the rules above:</p> <p>30.5.4.2.5 Earthworks undertaken by network utility operators in the course of constructing or maintaining utilities providing the work is not associated with buildings or structures for the storage of water for irrigation purposes.</p> <p>30.5.4.2.6 Earthworks undertaken as part of agricultural <u>or horticultural</u> activities or domestic gardening.</p> <p>30.5.4.2.7 Repair, sealing, resealing of an existing road, footpath, farm track or driveway.</p> <p>Note: Refer to the Definitions for illustration of the National Grid Yard.</p>	NC
30.5.4.3	<p><u>Electric and magnetic fields</u></p> <p>30.5.4.3.1 <u>Electric and magnetic fields must not exceed</u></p>	NC

30.5.4	National Grid Standards	Non-compliance Status
	<u>the International Commission on Non-ionising Radiation Protection Guidelines for limiting exposure to time varying electric and magnetic fields (1Hz – 100kHz) (Health physics, 2010, 99(6); 818-836) and recommendations from the World Health Organisation Monograph Environmental Health Criteria (No 238, June 2007).</u>	

30.5.5	Electricity Distribution Activities	Non-compliance-Status Activity Status
30.5.5.1	Minor Upgrading	P
30.5.5.2	Lines and Supporting Structures The placement and upgrading of lines, poles and supporting structures within formed legal road.	P
30.5.5.3	Underground Electricity Cables The placement of underground electricity distribution cables provided the ground surface is reinstated to the state it was prior to works commencing.	P
30.5.5.4	Lines and Supporting Structures Except as otherwise stated in Rules 30.5.5.2 above, and 30.5.5.5 below new lines and associated above ground support structures including masts, poles or ancillary equipment, but excluding lattice towers, to convey electricity (at a voltage of equal to or less than <u>1100kV</u> at a capacity equal to or less than 100MV). Control is reserved to: a. location; b. route; c. height; d. appearance, scale and visual effects.	C
30.5.5.5	Lines and Supporting Structures Any line or support structure where it involves erecting any support structures for overhead lines to convey electricity (at a voltage of equal to or less than 110kV at a capacity of equal to or less than 100MVA) in any Outstanding Natural Feature or Outstanding Natural Landscape or Significant Natural Areas.	D

30.5.6	Telecommunications, radio communication, navigation or meteorological communication activities	Activity Status
30.5.6.1	Minor Upgrading	P
30.5.6.2	New Aerial Lines and Supporting Structures within formed road reserve; or	P

30.5.6	Telecommunications, radio communication, navigation or meteorological communication activities	Activity Status
	New aerial telecommunication line/s on existing telecommunication or power structures including when located in sensitive environments identified in Rule 30.5.6.5.	
30.5.6.3	The construction, alteration, or addition to underground lines providing the ground surface is reinstated to the state it was prior to works commencing.	P
30.5.6.4	New Aerial Lines and Supporting Structures (outside formed road reserve) Not located in any of the sensitive environments identified by Rule 30.5.6.5 Control is reserved to: a. location; b. route; c. appearance, scale and visual effects.	C
30.5.6.5	New Aerial Lines and Supporting Structures Any line or support structure within any Outstanding Natural Feature or Outstanding Natural Landscape or Significant Natural Areas.	D
30.5.6.6	Poles With a maximum height no greater than: a. 18m in the High Density Residential (Queenstown – Flat Sites), Queenstown Town Centre, Wanaka Town Centre (Wanaka Height Precinct) or Airport Zones; b. 25m in the Rural Zone; c. 15m in the Business Mixed Use Zone (Queenstown); d. 13m in the Local Shopping Centre, Business Mixed Use (Wanaka) or Jacks Point zones; e. 11m in any other zone; and f. 8m in any identified Outstanding Natural Landscape. Where located in the Rural Zone within the Outstanding Natural Landscape or Rural Character Landscape, poles must be finished in colours with a light reflectance value of less than 16%.	P
30.5.6.7	Poles Exceeding the maximum height for the zones identified in Rule 30.5.6.6 OR any pole located in a. any identified Outstanding Natural Feature; b. the Arrowtown Residential Historic Management Zone; c. Arrowtown Town Centre; d. Queenstown Special Character Area; e. Significant Natural Area; f. Sites containing a Heritage Feature; and g. Heritage Overlay Areas.	D
30.5.6.8	Antennas and ancillary equipment Provided that for panel antennas the maximum width is 0.7m, and for all other antenna types the maximum	P

30.5.6	Telecommunications, radio communication, navigation or meteorological communication activities	Activity Status
	<p>surface area is no greater than 1.5m² and for whip antennas, less than 4m in length.</p> <p>Where located in the Rural Zone within the Outstanding Natural Landscape or Rural Landscape Classification, antennae must be finished in colours with a light reflectance value of less than 16%.</p>	
30.5.6.9	<p>Antennas and ancillary equipment</p> <p>Subject to Rule 30.5.6.10 provided that for panel antennas the maximum width is between 0.7m and 1.0m, and for all other antenna types the surface area is between 1.5m² and 4m² and for whip antennas, more than 4m in length.</p> <p>Control is reserved to all of the following:</p> <ul style="list-style-type: none"> a. location; b. appearance, colour and visual effects. 	C
30.5.6.10	<p>Any antennas located in the following:</p> <ul style="list-style-type: none"> a. any identified Outstanding Natural Feature; b. the Arrowtown Residential Historic Management Zone; c. Arrowtown Town Centre; d. Queenstown Special Character Area; e. Significant Natural Areas; and f. Heritage, Features and Heritage Overlay Areas. 	D
30.5.6.11	<p>Small Cell Units</p> <p>Provided that the small cell unit is not located within a Heritage Precinct.</p>	P
30.5.6.12	<p>Microcells</p> <p>A microcell and associated antennas, with a volume of between 0.11m³ and 2.5m³ provided that the microcell is not located within a Heritage Precinct.</p> <p>Control is reserved to:</p> <ul style="list-style-type: none"> a. appearance; b. colour; and c. visual effects. 	C
30.5.6.13	<p>Small Cell Units and Microcells</p> <p>30.5.6.13.1 A microcell and associated antennas, with a volume more than 2.5m³.</p> <p>OR</p> <p>30.5.6.13.2 A small cell unit located within a Heritage Precinct.</p>	D

30.6 Rules - Non-Notification of Applications

30.6.1 Any application for resource consent for the following matters does not require the written approval of other persons and will not be notified or limited-notified:

- 30.6.1.1 Controlled activities except for applications when within 45m of the designated boundary of Transpower New Zealand Limited’s Frankton Substation.
- 30.6.1.2 Discretionary activities for Flood Protection Works.
- 30.6.2 Rules – Notification
- 30.6.2.1 For any application for resource consent made under Rules 30.5.3.4, and 30.5.4, when deciding who is an affected person for the purposes of section 95E of the Resource Management Act 1991 the Council will give specific consideration to Transpower New Zealand Limited.

Chapter 8 Medium Density Residential

- **Delete Rule 8.5.13**

8.5.13	Setbacks from electricity transmission infrastructure National Grid Sensitive Activities are located outside of the National Grid yard.	NC
-------------------	--	----

Chapter 23 Gibbston Character Zone

Amend 23.2.1.9:

Policy 23.2.1.9 In cases where it is demonstrated that regionally significant infrastructure cannot avoid significant adverse effects on the character of the landscape, such adverse effects shall be minimised remedied or mitigated.

Chapter 27 Subdivision and Development

- **Amend Policy 27.2.2.8 and include new Policy 27.2.2.8A**

Policy 27.2.2.8 Manage subdivision ~~within the National Grid Corridor or near to~~ electricity distribution lines to facilitate good amenity and urban design outcomes, while ~~minimising potential adverse effects (including reverse sensitivity effects) on the National Grid and~~ avoiding, remedying or mitigating potential adverse effects (including reverse sensitivity effects) on electricity distribution lines.

Policy 27.2.2.8A Manage subdivision within the National Grid Subdivision Corridor to avoid reverse sensitivity effects on the National Grid and facilitate good amenity and design outcomes, to the extent reasonably

possible, and to ensure that the operation, maintenance, upgrading and development of the National Grid is not compromised.

- **Amend Rule 27.5.10:**

27.5.10	<p>Subdivision of land in any zone within the National Grid <u>Subdivision</u> Corridor except where any allotment identifies a building platform to be located within the National Grid Yard.</p> <p>Discretion is restricted to:</p> <ol style="list-style-type: none"> impacts on the operation, maintenance, upgrade and development of the National Grid; the ability of future development to comply with NZECP34:2001; the location, design and use of any proposed building platform as it relates to the National Grid transmission line. <u>the risk of electrical hazards affecting public or individual safety, and the risk of property damage.</u> <u>whether any proposed planting within the subdivision would result in the planting of trees or shrubs in the vicinity of the National Grid transmission lines and the potential for effects on the operation and security of the transmission lines.</u> 	RD
---------	--	----

- **Amend Rule 27.9.4.1(f):**

- 27.9.4.1 Assessment Matters in relation to Rule 27.5.10. (National Grid Subdivision Corridor)
- whether the allotments are intended to be used for residential or commercial activity;
 - the need to identify a building platform to ensure future buildings are located outside the National Grid Yard;
 - the ability of future development to comply with NZECP34:2001;
 - potential effects of the location and planting of vegetation on the National Grid;
 - whether the operation, maintenance and upgrade of the National Grid is restricted;
 - the extent to which Policy 27.2.2.8A is achieved.

- Amend Advice Note 27.11.3:

27.11.3 **New Zealand Electrical Code of Practice for Electrical Safe Distances**

27.11.3.1 Compliance with the New Zealand Electrical Code of Practice for Electrical Safe Distances (“NZECP34:2001”) is mandatory under the Electricity Act 1992. All activities regulated by NZECP34: 2001, including any activities that are otherwise permitted by the District Plan must comply with this legislation.

To assist plan users in complying with NZECP 34:2001, the major distribution components of the Aurora network (the Electricity sub-transmission infrastructure and Significant electricity distribution infrastructure) are shown on the Planning Maps.

For the balance of Aurora’s network plan users are advised to consult with Aurora’s network maps at www.auroraenergy.co.nz or contact Aurora for advice.

**THE FOLLOWING RELIEF RESOLVES THE
AURORA ENERGY LIMITED APPEAL POINT SEEKING CORRIDOR PROTECTION FOR
ELECTRICITY SUB-TRANSMISSION INFRASTRUCTURE AND SIGNIFICANT ELECTRICITY
DISTRIBUTION INFRASTRUCTURE**

CHAPTER 7 – LOWER DENSITY SUBURBAN RESIDENTIAL

- Include advice note in section 7.3.2 ‘Interpreting and Applying the Rules’ as follows:

7.3.2.6A Compliance with the New Zealand Electrical Code of Practice for Electrical Safe Distances (“NZECP34:2001”) is mandatory under the Electricity Act 1992. All activities, such as buildings, earthworks and conductive fences regulated by NZECP34:2001, including any activities that are otherwise permitted by the District Plan must comply with this legislation. Chapter 30 Energy and Utilities part 30.3.3.2.c has additional information in relation to activities and obligations under NZECP34:2001.

- **Add matter of discretion to Rule 7.4.7 as follows:**
 - (j) Where Electricity Sub-transmission Infrastructure or Significant Electricity Distribution Infrastructure as shown on the Plan maps is located within the adjacent road, any adverse effects on that infrastructure.

- **Amend Part 7.6 Rules - Non-Notification of applications as follows:**
 - 7.6.1** The following Restricted Discretionary activities shall not require the written approval of affected persons and shall not be notified or limited notified:

 - 7.6.1.1 Residential units pursuant to Rule 7.4.7, except where:
 - a. vehicle crossing or right of way access on or off a State Highway is sought;
 - b. in relation to the electricity distribution network and where Rule 7.4.7(j) is relevant, the Council will give specific consideration to Aurora Energy Limited as an affected person for the purposes of section 95E of the Act.

CHAPTER 8 – MEDIUM DENSITY RESIDENTIAL

- **Include advice note in section 8.3.2 'Interpreting and Applying the Rules' as follows:**
 - 8.3.2.8A Compliance with the New Zealand Electrical Code of Practice for Electrical Safe Distances ("NZECP34:2001") is mandatory under the Electricity Act 1992. All activities, such as buildings, earthworks and conductive fences regulated by NZECP34: 2001, including any activities that are otherwise permitted by the District Plan must comply with this legislation. Chapter 30 Energy and Utilities part 30.3.3.2.c has additional information in relation to activities and obligations under NZECP34:2001.

- **Add matter of discretion to Rules 8.5.6 and 8.5.8 as follows:**
 - e. Where Electricity Sub-transmission Infrastructure or Significant Electricity Distribution Infrastructure as shown on the Plan maps is located within the adjacent road, any adverse effects on that infrastructure.

CHAPTER 9 – HIGH DENSITY RESIDENTIAL

- **Include advice note in section 9.3.2 ‘Interpreting and Applying the Rules’ as follows:**

9.3.2.5A Compliance with the New Zealand Electrical Code of Practice for Electrical Safe Distances (“NZECP34:2001”) is mandatory under the Electricity Act 1992. All activities, such as buildings, earthworks and conductive fences regulated by NZECP34: 2001, including any activities that are otherwise permitted by the District Plan must comply with this legislation. Chapter 30 Energy and Utilities part 30.3.3.2.c has additional information in relation to activities and obligations under NZECP34:2001.

- **Add matter of discretion to Rules 9.4.5, 9.5.5 and 9.5.8**

- a. Where Electricity Sub-transmission Infrastructure or Significant Electricity Distribution Infrastructure as shown on the Plan maps is located within the adjacent road and any proposed building is located within 9.5 meters of that road boundary, any adverse effects on that infrastructure.

- **Include a new notification Rule 9.6.2.4 as follows:**

9.6.2.4 Where the matters of discretion include effects on the Electricity Sub-transmission Infrastructure or Significant Electricity Distribution Infrastructure, Council will give specific consideration to Aurora Energy Limited as an affected person for the purposes of section 95E of the Act.

CHAPTER 11 – LARGE LOT RESIDENTIAL

- **Include advice note in section 11.3.2 ‘Interpreting and Applying the Rules’ as follows:**

11.3.2.6A Compliance with the New Zealand Electrical Code of Practice for Electrical Safe Distances (“NZECP34:2001”) is mandatory under the Electricity Act 1992. All activities, such as buildings, earthworks and conductive fences regulated by NZECP34: 2001, including any activities that are otherwise permitted by the District Plan must comply with this legislation. Chapter 30 Energy and Utilities part 30.3.3.2.c has additional information in relation to activities and obligations under NZECP34:2001.

CHAPTER 12 – QUEENSTOWN TOWN CENTRE ZONE

- **Include advice note in section 12.3.2 ‘Interpreting and Applying the Rules’ as follows:**

12.3.2.4A Compliance with the New Zealand Electrical Code of Practice for Electrical Safe Distances (“NZECP34:2001”) is mandatory under the Electricity Act 1992. All activities, such as buildings, earthworks and conductive fences regulated by NZECP34: 2001, including any activities that are otherwise permitted by the District Plan must comply with this legislation. Chapter 30 Energy and Utilities part 30.3.3.2.c has additional information in relation to activities and obligations under NZECP34:2001.

- **Add matter of discretion to Rule 12.4.6(j) as follows:**

(j) Where Electricity Sub-transmission Infrastructure or Significant Electricity Distribution Infrastructure as shown on the Plan maps is located within the adjacent road, any adverse effects on that infrastructure.

- **Add new Rule to Part 12.6 Rules – Non-Notification of Applications, Rule 12.6.3.2**

12.6.3.2 In relation to the electricity distribution network and where Rule 12.4.6(j) is relevant, the Council will give specific consideration to Aurora Energy Limited as an affected person for the purposes of section 95E of the Act.

CHAPTER 16 – BUSINESS MIXED USE

- **Include advice note in section 16.3.2 ‘Interpreting and Applying the Rules’ as follows:**

16.3.2.4A Compliance with the New Zealand Electrical Code of Practice for Electrical Safe Distances (“NZECP34:2001”) is mandatory under the Electricity Act 1992. All activities, such as buildings, earthworks and conductive fences regulated by NZECP34: 2001, including any activities that are otherwise permitted by the District Plan must comply with this legislation. Chapter 30 Energy and Utilities part 30.3.3.2.c has additional information in relation to activities and obligations under NZECP34:2001.

- **Add matter of discretion to Rule 16.4.4 (k) as follows:**

(k) Where Electricity Sub-transmission Infrastructure or Significant Electricity Distribution Infrastructure as shown on the Plan maps is located within the adjacent road and any proposed building is located

within 9.5m of that road boundary, any adverse effects on that infrastructure.

- **Add new Part 16.6 Rules – Non-Notification of Applications.**

16.6.3.2 In relation to the electricity distribution network and where Rule 16.4.4(k) is relevant, the Council will give specific consideration to Aurora Energy Limited as an affected person for the purposes of section 95E of the Act.

CHAPTER 21 – RURAL ZONE

- **Add advice note at 21.3.3.4 as follows:**

21.3.3.4 Compliance with the New Zealand Electrical Code of Practice for Electrical Safe Distances (“NZECP34:2001”) is mandatory under the Electricity Act 1992. All activities, such as buildings, earthworks and conductive fences regulated by NZECP34: 2001, including any activities that are otherwise permitted by the District Plan must comply with this legislation. Chapter 30 Energy and Utilities part 30.3.3.2.c has additional information in relation to activities and obligations under NZECP34:2001.

- **Add matter of discretion to Rules 21.5.2 and 21.7.1 as follows:**

d. Where Electricity Sub-transmission Infrastructure or Significant Electricity Distribution Infrastructure as shown on the Plan maps is located within the adjacent road, any adverse effects on that infrastructure.

- **Add standard and matter of discretion to Rule 21.8.1 as follows:**

Standard:

21.8.1.8 Farm Buildings must be located a minimum distance of 10m either side from Electricity Sub-transmission Infrastructure lines or 5m from Significant Electricity Distribution Infrastructure lines as shown on the Plan maps. The setback distance shall be measured from the centre of the support structure.

Matter of discretion (Non-compliance status):

v. Where non-compliance is pursuant to Rule 21.8.1.8, maintaining access to the infrastructure for operation, maintenance and minor upgrading.

CHAPTER 22 – RURAL RESIDENTIAL AND RURAL LIFESTYLE

- Include advice note in section 22.3.2 ‘Interpreting and Applying the Rules’ as follows:

22.3.2.10A Compliance with the New Zealand Electrical Code of Practice for Electrical Safe Distances (“NZECP34:2001”) is mandatory under the Electricity Act 1992. All activities, such as buildings, earthworks and conductive fences regulated by NZECP34: 2001, including any activities that are otherwise permitted by the District Plan must comply with this legislation. Chapter 30 Energy and Utilities part 30.3.3.2.c has additional information in relation to activities and obligations under NZECP34:2001.

CHAPTER 25 - EARTHWORKS

- Include new advice note at 25.3.4.5

25.3.4.5 Compliance with the New Zealand Electrical Code of Practice for Electrical Safe Distances (“NZECP34:2001”) is mandatory under the Electricity Act 1992. All activities, such as buildings, earthworks and conductive fences regulated by NZECP34: 2001, including any activities that are otherwise permitted by the District Plan must comply with this legislation. Chapter 30 Energy and Utilities part 30.3.3.2.c has additional information in relation to activities and obligations under NZECP34:2001.

CHAPTER 27 – SUBDIVISION

- Amend Assessment Matters by adding the following:

27.9.3.1 (Urban Subdivision Activities)

- ...
- i. whether effects on electricity and telecommunication networks are appropriately managed. Where the site contains, or is adjacent to road containing Electricity Sub-transmission Infrastructure or Significant Electricity Distribution Infrastructure as shown on the Plan maps, consideration shall also be had to:
 - a. the effects on the operation, maintenance or minor upgrading of that infrastructure;
 - a. Whether the network operator or suitably qualified engineer has provided confirmation that subdivision design would ensure that future development achieves NZECP34:2001.

27.9.3.2 (Rural Residential and Rural Lifestyle Subdivision Activities)

- ...
- I. whether effects on electricity and telecommunication networks are appropriately managed. Where the site contains, or is adjacent to road containing Electricity Sub-transmission Infrastructure or Significant Electricity Distribution Infrastructure as shown on the Plan maps, consideration shall also be had to:
 - a. the effects on the operation, maintenance or minor upgrading of that infrastructure;
 - b. Whether the network operator or suitably qualified engineer has provided confirmation that subdivision design would ensure that future development achieves NZECP34:2001:

CHAPTER 38 – OPEN SPACE ZONE

- **Add advice note at 38.3.3.5 as follows:**

21.3.3.4 Compliance with the New Zealand Electrical Code of Practice for Electrical Safe Distances (“NZECP34:2001”) is mandatory under the Electricity Act 1992. All activities, such as buildings, earthworks and conductive fences regulated by NZECP34: 2001, including any activities that are otherwise permitted by the District Plan must comply with this legislation. Chapter 30 Energy and Utilities part 30.3.3.2.c has additional information in relation to activities in relation to the NZECP34:2001.

CHAPTER 43 - MILLBROOK

- **Add matter of discretion to Rule 43.5.2. as follows:**

With respect to Rule 43.5.2(b), discretion is limited to the following:

The effects of the proposed building on the Electricity Sub-transmission Infrastructure as shown on the Plan Maps, including whether NZECP34:2001 can be complied with.

- **Add notification rule:**

43.6.2 Notwithstanding Rule 43.6.1 above, any application for resource consent where Rule 43.5.2(b) is relevant, Council will give specific consideration to Aurora Energy Limited as an affected person for the purposes of section 95E of the Resource Management Act 1991

