

WEL Networks Limited
Hearing Evidence
Proposed Waikato District Plan (Infrastructure Chapter)

1. Introduction

1.1 My name is Sara Brown and I am an Environmental Planner for WEL Networks Limited. I hold a Bachelor of Science degree and am an Associate Member of the New Zealand Planning Institute.

1.2 I have worked as a planner for ten years in the electricity distribution sector and as a consultant.

2. WEL Networks Limited

2.1 WEL Networks Limited is an Electricity Distributor operating under the Electricity Act 1992, which owns, operates and develops electricity distribution infrastructure in the Waikato Region to provide line function services to over 95,000 consumer connections. This includes the distribution of electricity to all residences and businesses within the Waikato District.

2.2 As an electricity distribution company, WEL owns, develops and maintains the electricity network of lines, poles, cables, substations and associated infrastructure. WEL is also an approved requiring authority pursuant to section 167 of the Resource Management Act 1991 ("RMA") for its lines network functions.

2.3 WEL is currently investigating sources of renewable energy to provide a source of low cost electricity to energy-impooverished customers in the Waikato region.

3. WEL's overall position on the Proposed Waikato District Plan

3.1 WEL's electricity and telecommunication infrastructure supports the sustainable management and efficient use of natural and physical resources as promoted in Part 2 of the RMA.

3.2 A fundamental part of enabling people and communities to provide for their social, economic and cultural wellbeing under section 5 of the RMA, is the provision of a secure and efficient supply of electricity.

3.3 The benefits of WEL's electricity infrastructure in achieving sustainable management are also enshrined in the RMA through section 7(b) and 7(ba) that, in achieving the purpose of the RMA, requires particular regard to be given to "the efficient use and development of natural and physical resources" and "the efficiency of the end use of energy".

3.4 Further, WEL has become involved in developing renewable energy projects and how these might benefit the people of the Waikato, thus achieving the purpose of the RMA through section (j), which requires particular regard to be given to "the benefits to be derived from the use and development of renewable energy".

3.4 WEL is generally supportive of the overall intent of the Proposed Waikato District Plan (PDP). However, WEL submits that amendments are required to enhance the provisions within the PDP to provide for the importance of electricity and telecommunication infrastructure as provided in Part 2 of the RMA.

4. Specific Network Utility provisions supported by WEL

4.1 WEL supports the network utility provisions of the PDP (as recommended in the section 42A report) set out in the table below.

Submission Point	Provision
692.43	Chapter 13: Definitions – Minor Infrastructure Structure
692.45	Chapter 13: Definitions – Minor Upgrading of Existing Infrastructure
692.46	Chapter 13: Definitions – Renewable Electricity Generation Activities
692.47	Chapter 13: Definitions – Self Contained Power Unit
692.48	Chapter 13: Definitions – Service Connection
692.3	Chapter 14: Permitted Activities – P1 New Infrastructure
692.63	Chapter 14: 14.2.1 Permitted Activities – P2 Construction Noise
692.64	Chapter 14: 14.2.1 Permitted Activities – P3 Any activity emitting electric and magnetic fields
692.65	Chapter 14: 14.2 Rules applying to all infrastructure - 14.2.1 Permitted Activities – P4 Any activity emitting radio frequency fields
692.5	Chapter 14: 14.3 General Infrastructure - 14.3.1 Permitted Activities – P1 The operation, maintenance, repair and removal of existing infrastructure
692.7	Chapter 14: 14.3 General Infrastructure - 14.3.1 Permitted Activities – P3 Temporary infrastructure
692.8	Chapter 14: 14.3 General Infrastructure - 14.3.1 Permitted Activities – P4 Earthworks activities associated with infrastructure

692.9	Chapter 14: 14.3 General Infrastructure - 14.3.1 Permitted Activities – P5 Trimming, maintenance or removal of vegetation or trees associated with infrastructure
692.10	Chapter 14: 14.3 General Infrastructure - 14.3.1 Permitted Activities – P6 Pipe and cable bridge structures for the conveyance of electricity, telecommunications, water, wastewater, stormwater and gas
692.12	Chapter 14: 14.3.1 Permitted Activities – P8 Service Connections
692.13	Chapter 14: 14.3 General Infrastructure - 14.3.1 Permitted Activities – P9 Minor infrastructure structure
692.14	Chapter 14: 14.3 General Infrastructure - 14.3.1 Permitted Activities – P11 Signage associated with infrastructure required for health and safety or asset identification purposes and/or required by legislation
692.15	Chapter 14: 14.3 General Infrastructure - 14.3.1 Permitted Activities – P12 Service connections for subdivision
692.16	Chapter 14: 14.3 General Infrastructure - 14.3.2 Controlled Activities – C1 Subdivision to create a utility allotment for accommodating infrastructure
692.17	Chapter 14: 14.5 Electrical distribution - 14.5.1 Permitted Activities – P1 Below ground distribution lines
692.66	Chapter 14: 14.5 Electrical distribution - 14.5.1 Permitted Activities – P2 Overhead distribution lines and support structures within the Rural Zone.
692.67	Chapter 14: 14.5 Electrical distribution - 14.5.1 Permitted Activities – P3 Overhead distribution lines and support structures within road or unformed road located adjacent to the Rural Zone
692.68	Chapter 14: 14.5 Electrical distribution - 14.5.1 Permitted Activities – P4 Substations and associated transformers and switching stations
692.69	Chapter 14: 14.5 Electrical distribution - 14.5.1 Permitted Activities – P5 Construction or alteration of a building for a sensitive land use
692.11	Chapter 14: 14.3 General Infrastructure - 14.3.1 Permitted Activities – P7 Electric vehicle chargers

692.21	Chapter 14: 14.6 Electricity generation - 14.6.1 Permitted Activities – P4 Temporary diesel fuelled electricity generation activities
692.73	Chapter 14: 14.10 Telecommunications and radiocommunications - 14.10.1 Permitted Activities – P5 Antennas attached to a building and/or structure
692.74	Chapter 14: 14.10 Telecommunications and radiocommunications - 14.10.1 Permitted Activities – P6 Antennas inside new or existing buildings
692.75	Chapter 14: 14.10 Telecommunications and radiocommunications - 14.10.1 Permitted Activities – P8 Small cell units exceeding the permitted volumetric dimension of 0.11m ² regulated in the NESTF
692.76	Chapter 14: 14.10 Telecommunications and radiocommunications - 14.10.1 Permitted Activities – P9 Poles, antennas and headframes
692.77	Chapter 14: 14.10 Telecommunications and radiocommunications - 14.10.1 Permitted Activities – P10 Externally-mounted telecommunication satellite dishes and ancillary components
692.79	Chapter 14: 14.10 Telecommunications and radiocommunications - 14.10.1 Permitted Activities – P14 Aerial telecommunication lines and associated support structures, including those not complying with regulations 41-42 of the NESTF
692.80	Chapter 14: 14.10 Telecommunications and radiocommunications - 14.10.1 Permitted Activities – P15 Lightning Rods
692.22	Chapter 14: 14.10.1 Permitted Activities – P1 Ancillary Equipment
692.70	Chapter 14: 14.10.1 Permitted Activities – P2 Below ground telecommunications and radiocommunications
692.71	Chapter 14: 14.10.1 Permitted Activities – P3 Cabinets
692.72	Chapter 14: 14.10.1 Permitted Activities – P4 Antennas and lines attached to retaining walls, tunnels, bridges and other structures located within the road
692.78	Chapter 14: 14.10.1 Permitted Activities – P13 Self Contained power units

692.20	Chapter 14: 14.6 Electricity generation - 14.6.1 Permitted Activities – P3 Research and exploratory-scale investigations for renewable electricity generation activities
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5. Amendments Sought by WEL

5.1 WEL does not support the following recommendations contained within the section 42A report.

Submission Point	Provision
692.4	Chapter 14.2 Rules applying to all infrastructure - 14.2.1 Permitted Activities – New Rule Chapter 14.2 Rules applying to all infrastructure - 14.2.3 Discretionary Activities – New Rule
692.6	Chapter 14.3 General Infrastructure - 14.3.1 Permitted Activities – P2 Minor upgrading of existing infrastructure
692.18	Chapter 14.6 Electricity generation - 14.6.1 Permitted Activities – P1 Small scale electricity generation
692.19	Chapter 14.6 Electricity generation - 14.6.1 Permitted Activities – P2 Community-scale electricity generation

Submission Point 692.4 – New Rule

5.2 Through its submissions WEL requested that a new rule is included that applies to the design and location of infrastructure services, as follows:

P5 Design and location of infrastructure services 14.2.1.5

Within all Zones new subdivision and development shall provide utilities corridors in the road reserve free of tree plantings and in accordance with Tables 14.12.5.14 and 14.12.5.15.

5.3 The reasoning provided for the new rule was to ensure sufficient space is available for WEL to install its network utility equipment. Ensuring adequate berm space will ensure greater urban planning and provide sufficient areas for footpaths and landscaping along the road exclusive of each other which will enhance the amenity of any subdivision or development.

5.4 Further, WEL requested that a new rule is included that applies where the activity cannot comply with P5 - the design and location of infrastructure services, as follows:

D2 Any infrastructure development that cannot comply with 14.2.1.5.

5.5 The planner's report rejected WEL's submission on the basis that *“there is no intention to provide a utilities corridor completely free of trees. I accept that in some cases armouring of cables and pipes may be needed to protect against tree roots, and that some infrastructure work may need to be trench-less to avoid trenching damaging the roots of mature trees.”*

5.6 The intention of WEL’s submission is to ensure that, at the time of subdivision, a sufficient berm width is provided by the developer to ensure sufficient areas for utilities (WEL requires a

minimum of 1.5m for electricity equipment). A sufficient berm width will enable separate space for vegetation and utilities so that these can co-locate without damaging each other.

- 5.7 Armouring cables is expensive and does not necessarily work in all instances as tree roots apply significant amounts of pressure on solid structures (as demonstrated by their ability to lift roads and crack concrete). If armouring cables in a subdivision scenario became a standard design requirement, such cost would be passed onto the developer (noting that the cost of armoured cable per metre is considerably more expensive than standard cable (an additional 150% per metre). As underground cables have a 50 year life expectancy, WEL considers that providing adequate berm space is a more enduring solution to enable the efficient functioning of the cables.
- 5.8 WEL requests that this new rule is included as per submission point 692.4.

Submission Point 692.6 – 14.3.1 Permitted Activities – P2 Minor upgrading of existing infrastructure

- 5.9 WEL requested an amendment to Rule 14.3.1.1 P2 Permitted Activities, relating to conditions (a), (b), (c), (d) and (e) of P2 Minor upgrading of existing infrastructure.
- 5.10 The reasoning for this amendment is to enable continuation of maintenance activities that allow flexibility when relocating poles, enable an increase in pole height, and permit more flexibility with respect to the size of cables running up poles where underground infrastructure meets overhead infrastructure.
- 5.11 The planner's report agreed that the Minor Upgrading of Existing Infrastructure provisions are overly restrictive and recommended amendments to conditions (b), (c), (d) and (e). However, the planner's report recommended rejecting condition (a) which enabled poles to be relocated within 10m of the existing alignment or location, instead of 5m, as proposed. The planner's report states that *"there should be limits where a potential effect may require resource consent assessment or a landowner may be affected, particularly for moving the location of infrastructure or increasing the area of a structure."*
- 5.12 WEL will generally only move poles if there is an ongoing occurrence of car versus poles or the ground is found unstable or unsuitable for such infrastructure. In both instances, a restriction of 5m is unlikely enough and has the potential to delay necessary safety works. These instances would relate only to equipment in road reserve.
- 5.13 WEL supports the changes made to (b), (c), (d) and (e) as included in the planner's report. However, WEL requests that condition (a) be amended, as per submission point 692.6.

Submission Point 692.18 and 692.19 – 14.6.1 Permitted Activities – P1 and P2 Small Scale electricity generation and Community-scale electricity generation

- 5.14 Through its submission, WEL requested the deletion of a condition associated with rule P1 and P2 which provides for small scale and community-scale distributed renewable energy

generation as a permitted activity. Specifically, WEL requested the deletion of condition (b) which would require resource consent for all electricity generation activities within a road, or unformed road.

- 5.15 In addition, WEL requested the removal of a 20kW threshold with respect to community scale generation, where resource consent would be required if electricity generation exceeded 20kW in all instances.
- 5.16 WEL submitted that it was unclear why Council is proposing to restrict small scale and community-scale electricity generation within road reserve and unformed roads. The CAR process would ensure that any safety effects of the proposal are considered. The other conditions imposed would restrict the size of any structures installed.
- 5.17 Further, WEL submitted that the condition requiring energy generation to not exceed 20kW (without the need for resource consent) for community scale generation is impractical and unreasonable and would likely discourage this type of generation.
- 5.18 The planner's report rejected WEL's submission on the basis that *"The resource consent process is used to assess and manage a range of effects, not only safety. These effects could include streetscape and amenity, security, space taken up on the roadside, vegetation clearance and shadow flicker. The CAR process does not include management of those effects, with the possible exception of allocating reasonable space within the roadside. I anticipate that at least small-scale and possibly some community-scale renewable electricity generation would be able to locate on roads and unformed roads, and that their effects will be able to be managed by resource consents."*
- 5.19 The planner's report further stated that *"the 20kW limit for permitted activity wind turbines would serve as few as two dwellings if they were high power users and feeding any surplus into the grid. It could serve up to seven or eight dwellings, depending on wind conditions, if they were only average power consumers or a supplementary electricity supply, which could include connection to the grid"*.
- 5.20 With respect to generation activities within the road reserve, I note that the concerns such as streetscape amenity can be adequately regulated through the other conditions which limit size of any structures, such as the following:
- (e) Freestanding wind turbines must not exceed the building height limit of the zone in which they are located by more than 3m;*
- (f) Freestanding wind turbines have a maximum blade diameter of 2.5m;*
- (i) Any wind turbine on a site adjoining Residential, Rangitahi Peninsula or Village Zones must meet the height in relation to boundary limits on the boundary with that adjoining zone;*
- 5.21 It is not clear whether solar panels installed on lights poles or on other structures within the road reserve, such as bus stops, would be captured by this rule. Further, a wind turbine with a vertical blade has the same dimensions as a regular power pole located within the road reserve. Overall, WEL considers that imposing such as rule will add unnecessary costs to future

technologies that have the potential to generate electricity for roadside furniture and equipment, to a point that may make these types of projects financially unfeasible.

- 5.22 Generation activities within unformed road, provided the other conditions are complied with and Council approves through a CAR, would seem to be an efficient way to generate electricity to an otherwise area of land not utilised, such as a paper road.
- 5.23 With respect to removing the 20kW limit to generating activities, again I consider that other conditions of this rule, such as those mentioned in point 5.20 above, would ensure that any concerns of such effects on amenity or noise or other potential effects would be captured and then resource consent required. For generating activities such as solar on commercial roof tops, applying a 20kW restriction is unreasonable. The depot building at WEL's headquarters in Hamilton has solar panels on the rooftop where the electricity generated has the potential to exceed 20kW. Any potential effects of these solar panels are nil as they do not produce noise and solar panels are black and do not reflect light. Condition (j) requires solar panels on roofs of buildings not to exceed 1.5m in height above the existing roof which will capture any potential visual effects.
- 5.24 WEL requests that this new rule is included as per submission point 692.4.

6. Conclusion

- 6.1 WEL generally supports the planner's report to the Proposed District Plan subject to the amendments recommended by WEL in my evidence.
- 6.2 Overall, the Proposed District Plan, subject to WEL's amendments, reflects sound resource management principle and practice; and will achieve the purpose of the RMA.

Sara Brown
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