

APPENDIX 5.2 PROVISION CASCADE – National Grid

Issue to be addressed	Objective	Policies	Rules	Conditions / Assessment Criteria
Enabling National Grid activities.	<p>6.2.1 Objective – National Grid The national significance of the National Grid is recognised, and protected and provided for.</p>	<p>6.2.2 Policy – Recognise the needs and constraints of the National Grid (a) Recognise the operational, functional and technical needs and constraints of the National Grid, and the interconnectedness of networks.</p>	<p>Rule 14.4.2 RD1 Below ground transmission lines associated with the National Grid not located within identified areas</p>	<p>Discretion is restricted to:</p> <ul style="list-style-type: none"> (a) The functional and operational needs of, and benefits derived from, the infrastructure; (b) Visual, streetscape and amenity effects; (c) The risk of electrical hazards affecting public or individual safety, and risk of property damage.
		<p>6.2.3 Policy – Operation and development of the National Grid (a) Provide for the operation, upgrading and development of the National Grid.</p>	<p>Rule 14.4.2 RD2 Transformers, substations and switching stations associated with the National Grid not located within Identified Areas</p>	
		<p>6.2.4 Policy – Maintenance and minor upgrade the National Grid (a) Enable the repair, maintenance, replacement and minor upgrade of the National Grid.</p>	<p>Rule 14.4.3 D1 New above and below ground transmission lines associated with the National Grid within Identified Areas</p>	Nil
		<p>Rule 14.4.3 D2 New above-ground transmission lines associated with the National Grid not located within identified areas</p>	Nil	

		<p>6.2.5 Policy – Environmental effects</p> <p>(a) Manage the environmental effects of the development or upgrades (other than minor upgrades) of the National Grid, by:</p> <p>(i) Recognising and providing for the national, regional and local benefits of sustainable, secure and efficient electricity transmission;</p> <p>(ii) Considering the extent to which any Avoiding, remedying or mitigating adverse effects through consideration of have been avoided, remedied or mitigated by the route, site and method selection;</p> <p>(iii) Seeking to rReduce the existing adverse effects as part of any substantial upgrade;</p> <p>(iv) Considering the effects on urban amenity (including town centres), areas of high recreational or amenity value and existing sensitive land uses; and</p> <p>(v) Within urban environments, aAddressing the adverse effects on any heritage values, cultural values, outstanding natural landscapes, areas of high natural character, town centres, areas of high</p>	<p>Rule 14.4.4 NC2</p> <p>Transformers, Substations and switching stations associated with the National Grid located within Identified Areas identified areas</p>	<p>Nil</p>

		<p>recreation value and existing sensitive activities including the avoidance of adverse effects where practicable.</p> <p>(vi) <u>Within rural environments, seeking to avoid adverse effects on identified heritage values, cultural values, outstanding natural landscapes, areas of high natural character, areas of high recreation value and existing sensitive activities.</u></p> <p>6.2.6 Policy – Reverse sensitivity, <u>Adverse effects on Infrastructure</u>, and the National Grid</p> <p>(a) Manage subdivision, use and development <u>to the extent reasonably possible</u> so that the operation, maintenance, upgrading and development of the National Grid is not compromised by ensuring that:</p> <p>(i) The National Grid is identified on the planning maps and the National Grid Yard and National Grid <u>Subdivision</u> Corridor establish buffer distances for managing land use development and subdivision near the National Grid;</p> <p>(ii) <u>Land uses (including sSensitive land uses)</u> and structures that may compromise the National</p>		
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		<p>Grid, including intensive farming activities, are excluded from establishing within the National Grid Yard;</p> <p>(iii) Subdivision is managed within the National Grid <u>Subdivision</u> Corridor to avoid subsequent land use from compromising the operation, maintenance, upgrading and development of the National Grid; and</p> <p>(iv) Changes to existing activities within a National Grid Yard do not further restrict the operation, maintenance, upgrading and development of the National Grid.</p>		
<p>The need to maintain the efficiency of, and protect the National Grid from reverse sensitivity.</p>	<p>6.1.1 Objective – Development, operation and maintenance of infrastructure (a) Infrastructure is developed, operated and maintained <u>and upgraded</u> to <u>benefit the enhance</u> social, economic,</p>	<p>6.1.2 Policy - Development, operation and maintenance (a) Provide for the development, operation, maintenance, repair, replacement, upgrading and removal of infrastructure throughout the district by recognising:</p>	<p>Rule 14.3.1 P5 Trimming, maintenance or removal of vegetation or trees associated with infrastructure</p>	<p>14.3.1.4 (1) <u>Trimming and pruning of trees and vegetation, except for Notable trees in Schedule 30.2, necessary to protect all overhead electric lines or telecommunication lines;</u> (a) No tree identified in Schedule 30.2 is removed; (b) Any required trimming of a tree identified in Schedule 30.2 is either:</p>

	<p>cultural and environmental well-being of the district.</p> <p>6.2.1 Objective – National Grid The national significance of the National Grid is recognised, and protected <u>and provided for.</u></p> <p>6.1.6 Objective – Reverse sensitivity Adverse Effects on Infrastructure Infrastructure is protected from reverse sensitivity effects, and infrastructure (including the National Grid) its construction, operation, maintenance repair, replacement and upgrading is not compromised.</p>	<ul style="list-style-type: none"> (i) Functional and operational needs; (ii) Location, route and design needs and constraints; (iii) Locational constraints related to the need to access suitable resources or sites; (iv) The benefits of infrastructure to people and communities; (v) The need to quickly restore disrupted services; and (vi) Its role in servicing existing consented and planned development. (vii) <u>The need to access infrastructure.</u> <p>6.1.3 Policy - Technological advances</p> <p>(a) Provide flexibility for infrastructure operators to to use new technological advances adopt new technologies that:</p> <ul style="list-style-type: none"> (i) Improve access to, and enable the efficient use of, networks and services or development of infrastructure; (ii) Allow for the reuse of redundant services infrastructure and structures where appropriate; and (iii) Result in positive environmental and community outcomes-Increase resilience, 	<p></p> <p>Rule 14.3.3 RD3 Trimming, maintenance or removal of vegetation or trees that does not comply with one or more of the conditions of Rule 14.3.1.4</p>	<ul style="list-style-type: none"> (i) To remove dead, dying, or diseased branches and the tree work is undertaken by a works arborist; or (ii) The maximum branch diameter does not exceed 50mm at severance and no more than 10% of live foliage growth is removed over any consecutive 12 month time period. <p>(2) Any trimming, maintenance or removal of vegetation or trees associated with infrastructure, including access tracks, that meet all of the following conditions:</p> <p>(3) Any trimming, maintenance or removal of vegetation, where required for the safe operation or maintenance of the National Grid or to remove a potential fire risk associated with the National Grid.</p> <p>Note: Trimming, maintenance or removal of vegetation or non-notable trees in and around electrical assets are required to be <u>shall be managed</u> in accordance with the Electricity (Hazards from Trees) Regulations 2003.</p> <p>Discretion is restricted to:</p> <ul style="list-style-type: none"> (a) The extent of the works required; (b) Effects on the values, qualities and characteristics of any tree identified in Schedule 30.2; (c) Whether alternative methodologies avoiding the need to affect the tree(s)/vegetation have been adequately considered. (d) land transport network safety and efficiency
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- safety or reliability of networks and services;
 (iv) Result in environmental benefits and enhancements; or

Promote environmentally sustainable outcomes including green infrastructure and the increased utilisation of renewable resources.

6.1.7 Policy – Reverse sensitivity Adverse Effects on and infrastructure

(a) Avoid reverse sensitivity effects on infrastructure from subdivision, use and development as far as reasonably practicable, and ensure so that the its construction, operation, maintenance, repair, replacement and upgrading the ongoing and efficient operation of infrastructure is not compromised.

6.2.2 Policy – Recognise the needs and constraints of the nNational gGrid

(a) Recognise the operational, functional and technical needs and constraints of the National Grid, and the interconnectedness of networks.

Rule 14.4.1 PI

Buildings, structures and sensitive land uses within the **National Grid Yard** in existing Residential or Village Zones as of 18 July 2018

14.4.1.1

- (1) Within the **National Grid Yard** in the Residential or Village Zone:
- (a) **Building** alterations and additions to an existing **building** or structure for a **sensitive land use** that does not involve an increase in the building **height** or footprint;
 - (b) New, or additions to existing buildings and-or structures that are not for a **sensitive land use**;
 - (c) **Infrastructure** (other than for the reticulation and storage of water for irrigation purposes) undertaken by a **network utility operator** as defined in the **Resource Management Act 1991**.
 - (d) Fences less than 2.5m in height
- (2) All buildings or structures permitted by **Rule 14.4.1.1(1)** must:
- (a) Comply with the **New Zealand Electrical Code of Practice for Electrical Safe Distances 34:2001 ISSN 0114-0663** under all **National Grid** transmission line operating conditions;
 - (b) Locate a minimum of 12m from the outer visible foundation of any National Grid support structure tower and a minimum 12m from any pole and associated stay wire, unless it is one of the following:
 - i. A **building** or structure where Transpower has given written approval in accordance with clause 2.4.1 of the **New Zealand Electrical Code of Practice for Electrical Safe**

<p>6.2.3 Policy – Operation and development of the National Grid (a) Provide for the operation, upgrading and development of the National Grid.</p> <p>6.2.4 Policy – Maintenance and minor upgrade the National Grid (a) Enable the repair, maintenance, replacement and minor upgrade of the National Grid.</p> <p>6.2.6 Policy – Reverse sensitivity, Adverse effects on Infrastructure, and the National Grid (a) Manage subdivision, use and development <u>to the extent reasonably possible</u> so that the operation, maintenance, upgrading and development of the National Grid is not compromised by ensuring that: (i) The National Grid is identified on the planning maps and the National Grid Yard and National Grid <u>Subdivision</u> Corridor establish buffer distances for managing land use development and subdivision near the National Grid;</p>		<p style="text-align: right;">Distances NZECP 34:2001 ISSN 0114-0663;</p> <p>(c) The maximum height of fences are 2.5m within 5m from the nearest National Grid Pole or 6m from the nearest National Grid Tower. ii. <u>Fences less than 2.5m in height and located a minimum of 5m from the nearest National Grid support structure foundation</u> iii. <u>Network utilities (other than for the reticulation and storage of water for irrigation purposes) or any part of electricity infrastructure undertaken by a network utility operator as defined in the Resource Management Act 1991, that connects to the National Grid.</u> (c) <u>Not permanently physically impede existing vehicular access to a National Grid support structure.</u></p>
	<p>Rule 14.4.1 P2 <u>Buildings</u>, structures and sensitive land use within the <u>National Grid Yard</u> in all other zones as of 18 July 2018</p>	<p>14.4.1.2 (1) Within <u>National Grid Yard</u> in the Business, Industrial, Country Living, Heavy Industrial, Rural, Town Centre Business, Hampton Downs Motorsport and Recreation, Tamahere Business, Te Kowhai Zone Airpark, or Reserves Zone or Coal Mining Area, <u>Aggregate Extraction Area or Aggregate Resource Area</u>: (a) <u>Building</u> alterations and additions to an existing <u>building</u> or structure that does not involve an increase in the <u>building</u> height or footprint; or (b) <u>Infrastructure</u> (other than for the reticulation and storage of water for irrigation purposes) undertaken by a <u>network utility operator</u> as defined in the <u>Resource Management Act 1991</u>; or</p>

- (ii) Land uses (including sSensitive land uses) and structures that may compromise the National Grid, including intensive farming activities, are excluded from establishing within the National Grid Yard;
- (iii) Subdivision is managed within the National Grid Subdivision Corridor to avoid subsequent land use from compromising the operation, maintenance, upgrading and development of the National Grid; and
- (iv) Changes to existing activities within a National Grid Yard do not further restrict the operation, maintenance, upgrading and development of the National Grid.

- (c) Non-habitable buildings or structures for farming activities in rural zones including accessory structures and yards for milking/dairy sheds (but not including any intensive farming buildings, commercial greenhouses and milking/dairy sheds); or
 - (d) ~~Yards for milking/dairy sheds~~ Non-habitable horticultural buildings; or
 - (e) Artificial crop protection and support structures (excluding commercial greenhouses and Pseudomonas syringae pv. Actinidiae (Psa) disease control structures);
 - ~~(f) Fences less than 2.5m in height.~~
 - ~~(g) Minor structures associated with farming activity that are not situated within 12m of the outer visible foundation of any National Grid tower or 10m of the outer visible foundation of a National Grid tower, including: fences, gates, stock exclusion structures, cattle-stops, stock underpasses, stock bridges and culvert crossings, and drinking water supply pipelines, troughs, and water storage tanks.~~
- (2) All buildings or structures permitted by Rule 14.4.1.2(1) must:
- (a) Comply with the New Zealand Electrical Code of Practice for Electrical Safe Distances 34:2001 ISSN 0114-0663 under all National Grid transmission line operating conditions; and
 - (b) Locate a minimum 12m from the outer visible foundation of any National Grid support structure foundation tower and locate a minimum 12m from any pole and associated stay wire, unless it is:

			<ul style="list-style-type: none"> i. A building or structure where Transpower has given written approval in accordance with clause 2.4.1 of the New Zealand Electrical Code of Practice for Electrical Safe Distances NZECP; or ii. Fences <u>less than 2.5m in height and located a minimum of 5m from the nearest National Grid support structure foundation</u>; or iii. Artificial crop protection. Network utilities (other than for the reticulation and storage of water for irrigation purposes) or any part of electricity infrastructure undertaken by a network utility operator as defined in the Resource Management Act 1991, that connects to the National Grid; and <p><u>(c) Not permanently physically impede existing vehicular access to a National Grid support structure</u></p> <p>(3) Artificial crop protection <u>structures</u> and support structures between 8m and 12m from a <u>single-pole support structure but not a tower</u> and any associated guy wire (but not tower) must that:</p> <ul style="list-style-type: none"> (a) Meet the requirements of the New Zealand Electrical Code of Practice for Electrical Safe Distances NZECP 34:2001 ISSN 0114-0663 for separation distances from the conductor; (b) Be<u>Are no higher than maximum</u> 2.5m high;
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				<p>(c) BeAre removable or temporary, to allow a clear working space of at least 12 metres from the pole when necessary for maintenance and emergency repair purposes;</p> <p>(d) Allow all-weather access to the pole and a sufficient area for maintenance equipment, including a crane.</p>
		<p>Rule 14.4.1 P3 Earthworks activities within the National Grid Yard</p>	<p>14.4.1.3</p> <p>(1) Earthworks within the National Grid Yard support poles and any stay wires that comply with all of the following conditions:</p> <p>(a) Do not exceed a depth (measured vertically) of 300mm within 12m of the outer visible edge of any National Grid support structure foundation, 2.2m of the pole or stay wire; and</p> <p>(b) Do not exceed a depth of 750mm between 2.2m and 5m of the pole or stay wire.</p> <p>(2) Earthworks for National Grid support towers (including any tubular steel tower that replaces a steel lattice tower) that comply with all of the following conditions:</p> <p>(a) Do not exceed 300mm depth within 6m of the outer edge of the visible foundation of the tower;</p> <p>(b) Do not exceed 3m between 6m and 12m of the outer edge of the visible foundation of the tower;</p> <p>(b) Are not located within an Identified Area;</p> <p>(c) Do not compromise the stability of a National Grid support structure;</p> <p>(d) Do not result in the loss of access to any National Grid support structure; and</p>	

(e) Do not result in a reduction in the ground to conductor clearance distances of less than 6.5m (measured vertically) from a 110kV National Grid transmission line, or 7.5m (measured vertically) from a 220kV National Grid transmission line. Must be less than the minimum ground to conductor clearance distances in Table 4 of the New Zealand Electrical Code of Practice for Electrical Safe Distances 34:2001 ISSN 0114-0663.

- (3) (2) The following earthworks activities are exempt from Rules 14.4.1.3(1)(a) and (2):
- (a) Earthworks that are undertaken by a network utility operator (other than for the reticulation and storage of water for irrigation purposes) as defined by the Resource Management Act 1991;
 - (b) Earthworks undertaken as part of agricultural or domestic cultivation, or repair, sealing or resealing of a road, footpath, driveway or farm track;
 - (c) Vertical holes not exceeding 500mm in diameter that:
 - i. are more than 1.5m from the outer edge of the pole support structure or stay wire, or
 - ii. are a post hole for a farm fence or horticulture structure more than 6m from the visible outer edge of a tower support structure foundation;

~~(d) Earthworks for which a dispensation has been granted by Transpower under New~~

	<p>Zealand Electrical Code of Practice for Electrical Safe Distances 34:2001 ISSN 0114-0663</p>
<p>Rule 14.4.2 RD3 Earthworks within the National Grid Yard that does not comply with one or more of the conditions (a) of Rule 14.4.1.3(1) or and Rule 14.4.1.3(2) but complies with conditions (b) (c) (d) and (e) of Rule 14.4.1.3(2)</p>	<p>Discretion is restricted to:</p> <ul style="list-style-type: none"> (a) Impacts on the operation, maintenance, upgrading and development of the National Grid; (b) The risk to the structural integrity of the affected National Grid support structure(s); (c) Any impact on the ability of the National Grid owner (Transpower) to access the National Grid; (d) The risk of electrical hazards affecting public or individual safety, and the risk of property damage. (e) <u>Technical advice provided by the National Grid owner (Transpower);</u> (f) <u>Any effects on National Grid support structures including the creation of an unstable batter.</u>
<p>Rule 14.4.2 RD4 The subdivision of land in any zone within the National Grid Subdivision Corridor that complies with all of the following conditions: (a) All resulting allotments intended to contain a sensitive land use must provide be able to demonstrate that they are capable of accommodating a building platform for the</p>	<p>Discretion is restricted to:</p> <ul style="list-style-type: none"> (a) The subdivision layout and design in regard to how this may impact on the operation, maintenance, upgrading and development of, <u>including access to,</u> the National Grid; (b) The ability to provide a complying building platform outside of the National Grid Yard; (c) The risk of electrical hazards affecting public or individual safety, and the risk of property damage; (d) The nature and location of any vegetation to be planted in the vicinity

<p>likely principal building(s) and any building(s) for a sensitive land use to be located outside of the National Grid Yard, other than where the allotments are for roads, access ways or infrastructure; or and (b) The layout of allotments and any enabling earthworks must ensure that physical access is maintained to any National Grid support structures located on the allotments, including any balance area.</p>	<p>of National Grid transmission lines, and the how such landscaping will impact on the operation, maintenance, upgrade and development (including access) of the National Grid; <u>(e) The risk to the structural integrity of the National Grid;</u> <u>(f) The extent to which the subdivision design and consequential development will minimise the potential reverse sensitivity on and amenity and nuisance effects of the National Grid asset.</u></p>
<p>Rule 14.4.3 D3 <u>Buildings and structures for non-sensitive land uses and Earthworks within the National Grid Yard which are also within an Identified Area</u></p>	<p>Nil</p>
<p>Rule 14.4.4 NCI <u>Earthworks within the National Grid Yard that is not a permitted activity under Rule 14.4.1 PI or a restricted discretionary activity under Rule 14.4.2 RD3</u></p>	<p>Nil</p>
<p>Rule 14.4.4 NC3 Any activity within the National Grid Yard that</p>	<p>Nil</p>

does not comply with one or more of the conditions of Rule 14.4.1.1	
Rule 14.4.4 NC4 Any activity within the National Grid Yard that does not comply with one or more of the conditions of Rule 14.4.1.2	Nil
Rule 14.4.4 NC5 Any new building for a sensitive land use within the National Grid Yard	Nil
Rule 14.4.4 NC6 Any change of use of an existing building to a sensitive land use within the National Grid Yard	Nil
Rule 14.4.4 NC7 The establishment of any new sensitive land use within the National Grid Yard	Nil
Rule 14.4.4 NC8 Any new hazardous facility that involves the storage and handling of hazardous substances with explosive or flammable intrinsic properties within 12m of the centre line of a	Nil

			<p>National Grid Transmission Line</p>	
			<p>Rule 14.4.4 NC9 Dairy/milking sheds or buildings for intensive farming within the National Grid Yard</p>	Nil
			<p>Rule 14.4.4 NC10 Any subdivision of land in any zone within the National Grid Corridor that does not comply with one or more of the conditions of Rule 14.4.2.1</p>	Nil
			<p>Rule 14.4.4 NC11 <u>Earthworks within the National Grid Yard that is not a permitted activity under Rule 14.4.1 P3 or a restricted discretionary activity under Rule 14.4.2 RD3 or a discretionary activity under Rule 14.4.3 D4</u></p>	Nil