Section 32 Report – Part 2

Infrastructure

prepared for the

Proposed Waikato District Plan

July 2018

Waikato DISTRICT COUNCIL
Te Kaunihera aa Takiwaa o Waikato

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1 OVERVIEW AND PURPOSE

This Section 32 evaluation report addresses the Waikato Proposed District Plan (PDP) management of infrastructure.

This evaluation report pertains to the provisions managing the following infrastructure:

- Provisions applying to all infrastructure (Sections 14.2 and 14.3)
- Electrical distribution (Section 14.5)
- Liquid fuels and gas (Section 14.7)
- Meteorological (Section 14.8)
- Amateur radio (Section 14.9)
- Telecommunications and radiocommunications (Section 14.10)
- Raglan navigation beacon (Rural, Residential, Business, Business Town Centre and Reserves zones)
- Non-renewable energy resources (Objective 6.3.6 and Policy 6.3.7)

All other aspects of infrastructure are evaluated in the various Section 32 evaluation reports regarding the:

- National Grid;
- Renewable Electricity Generation;
- Transport; and
- Water Supply, Stormwater and Wastewater (three waters).

This evaluation report should be read in conjunction with Part 1 Section 32 Report – Introduction to the Evaluation Report, which provides the context and approach for the PDP as a whole.

1.1 Topic Description

Infrastructure comprises the physical services and facilities needed for a community to function. Infrastructure covers the services provided by the physical networks associated with energy, water supply, telecommunications, sanitation and waste facilities, and drainage. The energy and telecommunication infrastructure systems generally consist of a bulk supply installation connecting to a local distribution or collection network, while the remainder is largely regionally or locally based. The RMA provides a definition for infrastructure as follows:

(a) pipelines that distribute or transmit natural or manufactured gas, petroleum, biofuel, or geothermal energy:
(b) a network for the purpose of telecommunication as defined in section 5 of the Telecommunications Act 2001:
(c) a network for the purpose of radiocommunication as defined in section 2(1) of the Radiocommunications Act 1989:
(d) facilities for the generation of electricity, lines used or intended to be used to convey electricity, and support structures for lines used or intended to be used to convey electricity, excluding facilities, lines, and support structures if a person—

(i) uses them in connection with the generation of electricity for the person's use; and

(ii) does not use them to generate any electricity for supply to any other person:

(e) a water supply distribution system, including a system for irrigation:

(f) a drainage or sewerage system:

(g) structures for transport on land by cycleways, rail, roads, walkways, or any other means:

(h) facilities for the loading or unloading of cargo or passengers transported on land by any means:

(i) an airport as defined in section 2 of the Airport Authorities Act 1966:

(j) a navigation installation as defined in section 2 of the Civil Aviation Act 1990:

(k) facilities for the loading or unloading of cargo or passengers carried by sea, including a port related commercial undertaking as defined in section 2(1) of the Port Companies Act 1988:

(l) anything described as a network utility operation in regulations made for the purposes of the definition of network utility operator in section 166

The infrastructure covered by this section 32 evaluation report varies greatly in size and function – ranging from anemometers to cell phone towers. Structures can be in private ownership on private property or owned and managed by the Council, the Crown or a Requiring Authority. A large proportion of this infrastructure is located within the transport corridor. These corridors are significant areas of public space that are used in a variety of ways by the community. It is important that this diversity of uses is acknowledged and the values preserved.

The infrastructure provisions in the PDP are located in Chapter 6 (objectives and policies) and Chapter 14 (rules).

1.2 Significance of this Topic

Infrastructure is essential for the well-being and functioning of the District so in this respect it is highly significant. Infrastructure is needed to support existing communities as well as facilitate and support economic and population growth.

Infrastructure can be in two forms – linear such as electricity distribution lines and high pressure gas lines, or single structures such as cell phone towers and meteorological masts. The effects of each type of infrastructure (linear networks versus single structures) will be different in the scale and extent of environmental effects.

The ongoing maintenance and operation of all infrastructure is important; the value of the infrastructure is generally what is transmitted or transported through the network, the benefit is often not in the structure itself.

1.3 Resource Management Issues to be Addressed

In the context of the six types of infrastructure addressed in this Section 32 report, there are five main issues:

1. Integration of land use with infrastructure

Land use activities including subdivision and development need to be appropriately serviced for various infrastructure including telecommunications and electricity. Development in urban and rural areas will have different requirements, and different expectations by the communities.

There may be servicing constraints within parts of the District which may require development to be delayed until this infrastructure is funded and installed, or alternatively this infrastructure can be funded and constructed by the developer. Development must not progress until there is sufficient and appropriate infrastructure in place.

Traditionally electricity and telecommunications required a hard wired connection, which was often expensive in the rural areas where a line had to be extended some distance to service a single dwelling. There are considerably more options available now with advances in technology such as wireless and small-scale electricity generation.

2. The on-going operation and maintenance of infrastructure is essential for the well-being of the community.
   There are considerable benefits associated with the provision and operation of infrastructure. Infrastructure is the basic requirement of economic development. It does not directly produce goods and services but facilitates production in primary, secondary and tertiary economic activities by enabling these activities to be carried out. The level of economic development in any country directly depends on the development of infrastructure. Infrastructure is needed to bring people to and from home, work, shop and provide the utilities essential to business such as water, electricity and the internet. There is an enormous economic cost, if that infrastructure is clogged or inefficient. But there are also significant social costs if infrastructure is not working efficiently which is harder to quantify such as an inability to communicate, heat homes, cook etc.

   This issue is particularly relevant for the Raglan navigation beacon, where its continual operation will keep people out on the water safe.

3. New infrastructure can have adverse environmental effects
   New infrastructure is often required, particularly to support new development. This can be of varying scales – some can be underground lines, while others can be significant structures such as electricity substations. Depending on the size and location, there can be a variety of effects including adverse effects on landscape values, amenity and cultural sites of significance. The effects can also be short term such as construction and earthworks, or longer term in the case of significant structures in sensitive locations. There may also be health and safety effects associated with infrastructure such as electromagnetic emissions.

4. There is the potential for reverse sensitivity effects from infrastructure
   Because there may be effects generated by infrastructure such as noise, visual, or vibration there is the potential for reverse sensitivity effects to arise.

5. Electricity derived from non-renewable resources contributes to the National Grid
   Huntly Power Station generates 953 MW and is New Zealand's largest power station by capacity and is owned and operated by Genesis Energy. The power station currently has three units operating:
   - Unit 5 – 403MW which uses natural gas as a fuel source
   - Two Rankine units – Two 250MW units which are capable of using coal and gas to generate electricity.
   - Unit 6 – 50.8MW which burns gas or diesel to generate electricity

   While Genesis Energy is intending to phase out the coal-fired Rankine units, the Huntly site will continue to generate electricity from the two existing gas-fuelled units.

   In addition to the generation of electricity at Huntly, the gas transmission lines go through the Waikato District. There are two lines:
   - First Gas high pressure pipeline; and
   - Maui high pressure pipeline which services Huntly power station.

   The mining of coal is a significant activity for Huntly. The Rotowaro Coalfield and Opencast Mine is the second largest opencast coal mine in New Zealand. It is located 10 km west of Huntly township, and was first mined in 1915 after a branch railway and a bridge were constructed over the Waikato River. The present opencast mine opened in 1958.

   The majority of Rotowaro coal goes by overland conveyor to Genesis Power Ltd's Huntly Power Station and by rail to the New Zealand Steel Glenbrook steel mill. The remainder supplies North Island industrial and home heating markets.

   There are four other coal mines within Waikato District.

1.4 Current Objectives, Policies, Rules and Methods

The policy framework for infrastructure in the Waikato Section of the Operative District Plan is contained in three separate sections - the built environment (Chapter 6), energy (Chapter 7) and the land transport network (Chapter 8). These chapters contain the existing issues, objectives and policies for infrastructure.

The key themes of the objectives and policies are:

- Development that is connected or grouped around infrastructure;
- Growth occurs in towns and villages;
- Recognition that the location and scale of infrastructure can degrade the natural and physical qualities and characteristics of environments;
- Adverse effects of use and development are avoided by provision of wastewater and stormwater disposal, supply of water, energy and telecommunications.

The rules relating to infrastructure are contained within the chapters for each zone; however there are additional rules and development standards contained within appendices:

- Appendix A – Traffic
- Appendix B – Engineering Standards

Appendix B contains engineering standards relating to subdivision, use and development of land, covering the following topics:

- Wastewater;
- On-Site Wastewater Disposal;
- Trade Waste;
- Water;
- Stormwater;
- Earthworks;
- Road Standards;
- Other Utilities;
- Structure Plans - Te Kauwhata and Ohinewai Country Living Zones;
- System Development; and
- Construction Monitoring.

The standards are performance based (i.e. "shall meet these objectives") with an emphasis on outcomes and effects, with an advice note referring to the Hamilton Infrastructure Technical Specifications as an acceptable method to achieve compliance with the appendix.
In terms of the Franklin Section of the Operative District Plan, general district-wide rules relating to Network and Other Utilities and Essential Services are contained in Part 15. These apply unless an activity is specifically listed as permitted in the zone activity rules. The key themes in the objectives and policies are;

- Recognition of the importance to the economic and social well-being of the district and the essential nature of infrastructure
- Provide for their development, operation and maintenance while managing effects

Underground infrastructure is permitted in Part 15. Above ground structures are permitted if they comply with the standards for cross section dimension, otherwise they cascade to a controlled, restricted discretionary or discretionary activity status depending on the size.

1.5 Information and Analysis

A considerable amount of information has informed the development of the infrastructure and energy provisions in the PDP which is outlined in the following sections.

1.5.1 Waikato District Council discussion documents

As part of the District Plan Review process, Council prepared a discussion document entitled: "Discussion Document - Infrastructure".

This document generally summarises the relevant statutory drivers for the Project, the relevant iwi management plans and the current approaches to infrastructure within the Waikato and Franklin Sections of the Waikato District Plan.

The discussion document identifies gaps between these aforementioned documents and provides (with an appendix) the key Waikato Regional Policy Statement provisions which the Project team will consider.

The discussion document also highlights the relevance of the following statutory documents:

- National Environmental Standards for Telecommunication Facilities;
- National Environmental Standard for Electricity Transmission Activities;
- National Policy Statement for Electricity Transmission; and
- National Policy Statement for Renewable Electricity Generation.

1.5.2 Infrastructure Issues/Desired State document

This document/table, which was dated 29 April 2016, set out the following headings and structure:

Topic Specific Desired State/Outcomes:

- The positive and negative effects of the use and operation of infrastructure are recognised and provided for.
- A district where growth is coordinated and infrastructure is efficiently provided and utilised.
- The road network on the Hamilton Urban fringe is managed to ensure it does not compromise the city's future road network.
- Development such as land use and land use intensification including subdivision is well serviced by utilities to avoid the adverse effects on the environment.
- Regionally significant industry, infrastructure, primary production and research sites can develop and continue to operate through the provision of supporting infrastructure and resources and the careful consideration of adjacent land uses.
- The road network and land use development are designed and managed to ensure the efficient and effective operation of the Land Transport Network.

7.1 ISSUE: Development and Operation of Infrastructure
7.2 ISSUE: Coordinating Growth and Infrastructure
7.3 ISSUE: Urban Expansion
7.4 ISSUE: Managing Growth Pressures
7.5 ISSUE: Scattered Development
7.6 ISSUE: Provision of Utilities
7.7 ISSUE: Significant Industry and Primary Production
7.8 ISSUE: Significant Infrastructure
7.9 ISSUE: Land Transport Network

It is however noted that the desired state/outcomes, numbering and issue topics listed above appear to have been superseded in subsequent documentation prepared by WDC.

1.5.3 Objectives document

This document assesses the current objectives within the Waikato and Franklin sections to determine if new objectives are required. It is noted the infrastructure desired states and issues identified in this document differ from those listed above:

Infrastructure Desired States:

- Infrastructure is designed, developed, maintained, managed and utilised in a way that support a safe, connected, accessible, sustainable, resilient and integrated built environment and enhances community wellbeing and amenity values.
- Development of the built environment is focused in and around settlement nodes in an integrated manner.

ISSUE: Development and Operation of Infrastructure

- The development and operation of infrastructure has the potential to positively or negatively impact on our ability to sustainably manage natural and physical resources and to provide for community wellbeing

ISSUE: Provision of Utilities Avoids Adverse Effects

- Land uses and land use intensification, including subdivision, can have adverse effects on the environment if wastewater and stormwater disposal, water supply, energy supply and telecommunications are not adequately provided for or managed.

ISSUE: Significant Industry, Infrastructure, Primary Production and Research Sites

- Regionally significant industry and infrastructure, primary production and research sites are important for community wellbeing and provide significant social and economic benefits, yet the continued operation and development of these activities can be constrained by the inefficient access to supporting infrastructure, resources and incompatible adjacent landuse activities.

ISSUE: Operation of the Land Transport Network

- The integrated, safe, responsive and sustainable operation of the land transport network, particularly the road network, can be adversely affected by inappropriate design and construction, and connection between the network and adjoining land, as well as through the adverse effects of land use activities and subdivision.

ISSUE: Design, Construction, Maintenance and Operation

- Design, construction, maintenance and operation of the land transport network can adversely affect the environment through earthworks and structures, increases in sediment and stormwater run-off, and property and community severance.

ISSUE: Urban Expansion

- New roads on the Hamilton urban fringe may compromise the later future construction of an urban standard and density road network.

1.5.4 Designations discussion document

This document provides background on designations and how they are used under the RMA, details on time limits (lapse periods) for designations under the RMA, and outlines the link between the designating of land and the land acquisition processes under the Public Works Act.

The document provides the lists of the existing requiring authorities which have designations within both the Waikato and Franklin Sections of the Waikato District Plan. It is noted the names of two requiring authorities will require updating: Waikato Regional Council and KiwiRail Holdings Limited (currently listed as Environment Waikato and The New Zealand Railways Corporation respectively).

The document also outlines the engagement the Council has already had with the requiring authorities with regards to whether the existing designations within both the Waikato and Franklin Sections of the Waikato District Plan need to be rolled over. This section of the document notes that requiring authorities from the Franklin Section (Counties Power, Chorus NZ Ltd., Auckland Council and Watercare Services Ltd.) will need to be added to the existing list of requiring authorities within Chapter 30 of the Waikato Section as part of the District Plan Review process.

1.5.5 Issues and Options Report

MWH (now Stantec) prepared this report on behalf of Waikato District Council in November 2016. The report is attached as Appendix 2.

The Issues and Options Report was prepared to inform the future drafting of transport, utility and energy provisions for the PDP and the associated preparation of Section 32 evaluation reports. The purpose was to:

- Provide a comprehensive summary of the baseline situation;
- Help clearly define any key issues;
- Identify and assess the benefits and disadvantages of various options to address key issues;
- Determine whether any new issue statements need to be added; and
- Provide a critical comparison of the options.

This report is attached as Appendix 2.

1.6 Consultation Undertaken

The Council have been collating feedback from a range of stakeholders to inform the District Plan Review process since 2015. This feedback has been captured within a spreadsheet entitled the District Plan Issues Register and includes a tab for Infrastructure.

Development of the Infrastructure and Energy provisions were informed by two stakeholder groups:

1. infrastructure providers (which included Transpower NZ Limited) and surveyors; and
2. an internal Council group of planners and engineers.

Workshops were held with both groups to initially identify issues with the Operative Waikato District Plan, then subsequent workshops to look at the proposed provisions in more detail and provide feedback.

In addition, more targeted discussions were held with infrastructure providers including Counties Power, WEL Networks, Chorus, Spark, Incite and Ultra Fast Fibre. The main points of this consultation are set out in the tables below.

The development of a single chapter for managing infrastructure was guided by the feedback from the infrastructure providers. There are advantages and disadvantages of having a single infrastructure chapter, versus having infrastructure provisions inserted into each zone chapter.

Fundamental to consideration of the structure of the district plan with regards to infrastructure provisions is the principle of a district plan being intuitive, with things being where users of the plan intuitively expect them to be. Users of the plan must have some confidence that they have found all the relevant provisions and be able to answer the following questions with certainty:

- Have I found all the rules that apply to the activity?
- Have I got the right classification for the activity?
- Have I missed anything?
- Is there a clear link between the rules and the policy framework?

On balance, these factors are best achieved by containing as many of the provisions in one chapter as possible. This approach, based on the review of other relevant district plans and the feedback of key infrastructure stakeholders, appears to constitute best practice. This approach would likely help reduce the overall plan length. It is noted that condensing the text of the Proposed District Plan where possible was a very strong message provided by stakeholders at the external workshop.

Table 1: Feedback from infrastructure workshops

Date	Group	Subject Matter	Feedback
11 July 2016	Workshop with infrastructure providers and surveyors McCracken Surveys; Counties Power; Blue Wallace Surveyors; NZ Transport Agency; Watercare Services; Auckland Transport; Waipa Networks; Hamilton City Council; Spark; Vodafone; and BCD Group Ltd.	What is working well with the Operative District Plan, and areas where the structure or rules could be improved.	The participants of the workshop identified the following as being key matters in respect to transport and utility provisions: • Try not to be overly prescriptive on utility dimensions as there are industry standards; • Early consultation in re-zoning is required, particularly in rural areas; • Support for a stand-alone chapter for transport and utilities; • District Plan needs to anticipate future land uses; • Standardise the utility layouts within road corridors; • Increase permitted limits from current 110kV for electricity lines; • Remove the exclusion of lightning rods as part of the height requirements; • The need to futureproof and enable constant changes to best-practice due to technological advances; • Increase permitted limits for telecommunication mast heights; and • Alignment with Hamilton City Council Plan rules, particularly at the boundary.

14 July 2016	Council engineers and planners from consents, compliance and monitoring and policy	What is working well with the Operative District Plan, and areas where the structure or rules could be improved.	The following were identified by the internal stakeholders in attendance as being key matters in respect to transport and utility provisions: • Waikato Section should be clear and easy to use; • Support the approach of rules by zone; • The structure of the Waikato Section is good – tables of activity, what is permitted etc.; • Keep cross-referencing minimal; • Low impact design currently within the Waikato Section is good – extend to whole plan; • Earthworks provisions need to link to the Regional Plan; • Activity statuses need to reflect importance/focus of objectives and policies; and • District Plan outcomes need to be direct and quantitative.
13 October 2016	Telecommunications providers: Spark, Chorus, Incite.		Infrastructure providers outlined the process and outcomes for infrastructure through the Auckland Unitary Plan process: • Good policy framework which acknowledges the benefits of infrastructure and does enable, where appropriate, infrastructure in overlay/identified areas. • Infrastructure chapter is very self-contained and all relevant provisions (with the exception of a few provisions). • The term 'regionally significant infrastructure' was removed through the process. Feedback on district plans in general • Reiterated support for standalone chapter for infrastructure and outlined the benefits. • If the plan is zone based approach is retained then it would be important to clearly identify any development standards which do not apply to infrastructure as they are often not relevant or it is not clear if they should apply. • Suggested circulating District Plan style guide to stakeholders for input • Involvement in MfE's draft district plan template (standalone chapter for infrastructure)

			NES for Telecommunications Facilities (NESTF) • Provided update on amendments • Whilst called 'amendments' to the NESTF 2008, given the scale of changes it will be presented as a completely new document. • All existing sites will be able to be upgraded by this 2016 version of NESTF. • NESTF is understood to be gazetted by end of November, and will likely take effect end of December 2016. • The provisions will need to reflect the 2016 version of NESTF. • Suggested WDC District Plan should make reference to NESTF rather than try to replicate in full. • Current WDC District Plan aerial rules are too restrictive in terms of cross section sizes of panel frames and support structures. • Issue raised document about over unnecessary landscaping requirements was more of a general comment; not a current issue with WDC District Plan.
18 November 2016	Counties Power, WEL Networks, BCD (for WEL Networks).	Electricity networks	• Get a better understanding of what the key issues to Counties Power and WEL Networks (WEL) are currently • Establish what the electricity distributors would like to see from the District Plan review process • Noted new overhead lines are not provided for as a permitted activity (PA) within the Waikato Section of the District Plan. • Height of structures in the Rural and Coastal zones • Management of the transport corridor zone - retain the current approach of road taking on the adjacent zone and that the intent is to have one living (residential) zone across the whole district, however this work is still to be done. • Issues in Pokeno where there were requirements for undergrounding, compounded by uncertainties in voltage/ratings for lines required due to new and previously unforeseen demand (e.g. new pumps for dairy factory were not originally envisaged

			and required additions). • Deep electrical lines creates operational issues and also makes it harder to identify any faults. • Separation distances between their lines and other utilities within the road corridor. • Need to be able to maintain and upgrade as required • Preference for grassed berm as easier to access and less complicated compared to reinstating concrete • Dedicated lots within subdivision for their infrastructure, as it is easier to utilise this space (if any further works are required) than seek approval to do it on private properties. • Questioned why Waikato Section does not allow for lines greater than 110kV as a PA. • Clarification as to whether the type of structure (i.e. pole) could be clarified within the rules. • Clarification of the 10m^2 PA standard for above ground structures was for individual structures or a cumulative total if one or more structures was being installed. • Electric car charging facilities/kiosks and management through the District Plan. • Clarification of overhead lines were within the living zone • The need the ability to extend existing overhead lines/facilities, including the pole structures • Management of infrastructure in paper roads • Upgrading rules need to allow for increase in voltage/ratings, as in some areas to cater for growth an increase is required. This can often be increased without the need for any noticeable physical changes to the facilities/poles (e.g. 12kV to 22kV). • Maintenance and upgrading rules need to allow for increases and be flexible as it is difficult to anticipate the level of demand. • Need to increase clearance heights for existing lines (if new land uses occur in the vicinity) given the requirements of the New Zealand Electrical Codes of Practice (NZECP).

			• A number of new overhead lines were going into rural areas to allow for various uses such as cell phone towers and milking sheds. • Increased cost (significant difference) of undergrounding lines in country living areas for example has to ultimately be passed onto the landowners. • Road corridor approach trying to align with Regional Integrated Technical Specifications (RITS). • WDC's drive to improve streetscapes through planting etc., but acknowledged the potential conflicts with utilities underground (rootzone growth). Also potentially more spaced needed for low impact design stormwater facilities. • Rules for maintenance and upgrading should have provision for associated vegetation management (trimming/removal) and earthworks. • Rules for utilities need to allow for associated earthworks that are not necessarily just a trench (i.e. launch pits for trenchless machinery).
26 January 2017	Ultra Fast Fibre		• Confirmed that UFF would be rolling out fibre to additional towns, which include Ngaruawahia (expected to be done first), Huntly and Raglan. • Provided an overview of UFF's general operations and approach: • Ducts and cables installed within road reserve (generally stopping to property boundary). • Within Hamilton the fibre cables connect to a large Central Office (CO). • In the case of smaller towns, such as Ngaruawahia, Huntly or Raglan, the CO would instead be a roadside cabinet which the fibre connects back to. • One cabinet, either 900mm or 1500mm in height, is required for approximately every 100 connections (homes). • Outlined an approach that UFF are proposing to take with the new roll out whereby the fibre would be installed (with property owner permission) up to the edge of houses.

			• This would mean the install is done all in one go and becoming as a customer would be more efficient as the fibre is already there to connect to. • Noted there are some less frequent instances where their operations may require: o New aerials to be installed (or connections off existing poles/structures); and o New above ground lines. • The District Plan does have specific rules relating to aerials • The District Plan does not currently provide for new overhead lines (and associated structures) as a permitted activity except for within the Rural and Coastal zones. • Fibre generally requires a 300mm separation from other underground assets when installed.
14 July 2017	Council engineers and planners from consents, compliance and monitoring and policy	Review of the draft Infrastructure and Energy provisions	• The definitions of infrastructure versus regionally significant infrastructure • Management of minor upgrading • Temporary infrastructure • Electric vehicle charging stations • The relationship of the New Zealand Electrical Code of Practice with the district plan • Overhead distribution lines and support structures
21 July 2017	Workshop with infrastructure providers and surveyors Madsen Lawrie Birch Surveyors McCracken Surveys; Counties Power; Blue Wallace Surveyors; NZ Transport Agency; Watercare Services; Auckland Transport; Waipa Networks; Hamilton City Council; Spark; Vodafone;	Review of the draft Infrastructure and Energy provisions	• Ensure consideration of scheduled areas, trees, heritage items, Maaori sites of significance. • Unintended problem with a definition – want to make sure that roads are not captured by the general infrastructure performance standard limiting above ground area • Performance standards need to be clear that roads are excluded from these (given the limits on above ground area). • Above-ground telecommunications structures shouldn't be required to comply with setbacks of zone (i.e. if it is a small structure then makes sense to have up alongside boundary (which is better than further into site)) • Support the single chapter. • Support alignment with neighbouring DPs. • Need row heading on the top of each page of the table.

	Ultrafast Broadband BCD Group Ltd		• Support identification of whole network, i.e. Regionally Significant Infrastructure + others. • Need to protect distribution network. • Tables work well. • Support for deployment of ultrafast fibre on existing structures. • Minor structures – need to cover minor utility structures for electricity cabinets for link pillars. • Definition covers transformers, need to cover pillar boxes, transformer boxes. • Look at HCC sizes rather than blanket term. • UP distribution substations different terms. • Switchgear found in road reserve, RoW, pole-mounted or ground-mounted. • Minor utility structure in unitary plan. • Like temporary infrastructure provisions, but questioned what happens if it is longer than 12 months. • Earthworks limits not workable for trenching, digging holes, near waterways. • NES contaminated land – does it apply to road? • Subdivision for substations - no preference on which chapter but need to know that normal subdivision requirements will apply and no financial contribution. • Why have minimum lot size for network utility subdivisions • Need to allow for installation of transformer on a pole, especially countryside living (C or RD?) • replacement is ok. • Subdivision and easements – clearance under s224 • Reference to tree regulations and trimming, pruning protected trees and works in the drip line for network utilities. • Drilling included in trenching? • Would prefer permitted drilling and trenching for network utilities • References to NZECP. • Minor upgrade definition – difficulty with 2m movement put in new pole while old one still there. 2m not enough, more practicable.

			• What if we are keeping the same number of transformers but needed to shift them? • Alterations and additions up to 33kV? • Difference in size of poles negligible. • Insulators larger @ 1.2m • What is the effect of limiting to 33kV? • Height of poles – 15m is too low for Counties Power due to rail corridors and topography. OK for WEL. • More than 1 circuit on a pole. • 25m in PAUP excessive, 20m fine in rural. • Watch narrowing of road width and decent grass berm (not under footpath) and sufficient separation between electricity and gas etc. • Transformers (green boxes) 8m x 4m easement • Earth mat included in easement. • Roadside equipment look at HCC. • Trees in road reserves need root guards as they are problematic for N/U. • Concern with layers e.g. Archaeological Alert Layers going into road reserves. • Need to specify which chapters will still apply for N/U, e.g. historic heritage, natural environment etc. • 12 – 15x more expensive for underground.

The Council released a draft proposed district plan in November 2017 and there were a number of comments made in respect of infrastructure. These are summarised below in Table 2.

Table 2: Summary of feedback associated with infrastructure on the draft Proposed District Plan

Topic / Issue	Feedback
Fire-fighting	Requests provisions in all zones for fire stations and fire-fighting facilities and training drills.
Non-renewable electricity resources	Requests amendment to issue, objective and policy to reference non-renewable electricity resources to explicitly enable the ongoing operation, maintenance and upgrade of Huntly Power Station as Regionally Significant Infrastructure (RSI).
Indicative Roads	Add wording to provide for context of when the road is built the line becomes obsolete.
Infrastructure chapter	Supportive of standalone Infrastructure chapter.

Definitions	Definition for 'infrastructure' needs to include other ancillary activities and facilities necessary for wind farms i.e.: equipment, buildings housing equipment and staff facilities, minor structure and access tracks. Definition of "minor infrastructure structure" does not capture ancillary structures or ancillary activities such as access tracks. Separate provisions for earthworks and meteorological buildings do not fully capture all ancillary activities of large scale wind farm. Suggest references to ancillary equipment, buildings, facilities and access tracks. Supports definition of "minor upgrading of existing infrastructure". No definition in Draft DP for 'network utility infrastructure' (that links with RMA definition of 'network utility'). Supports inclusion of radio communication in definition of "infrastructure" Supports the definitions of "Building", "Infrastructure" and "National Grid". Requests new definition: NZECP34:200,1 means the New Zealand Electrical Code of Practice for Electrical Safe Distances 34:2001 ISSN 0114-0663 Definition of 'sensitive activity' is not consistent with the NPSET definition and not sufficiently certain. Support definition of noise sensitive activities. Requests new definitions for "operational, functional and technical constraints" Questions whether flood schemes are considered to be infrastructure and therefore whether definition needs to accommodate these. Include definition for operational and functional needs Include definition of support structure Add generators (less than 10m^2 in area and 2.5m in height) to definition of minor infrastructure Want definition of Infrastructure, in terms of transport matters, amended as it covers a greater range of activities than included and can be both above and underground. Because definition of ancillary equipment excludes lightning rods (as per the NES), these are not specifically provided for - though implied. Notes definition of sign would result in temporary infrastructure and rules only provide for advertising. Want rule for signage in road. Note the Plan proposes a "service connection" definition but thinks it should align with NES definition of "customer connection"

	Request "Minor infrastructure structure" Wind energy facility - needs to allow for lines up to and including 110Kv.
Policy 1 in Infrastructure and Energy Policy chapter	Clause (b) in Policy 1 - suggest improvement to this clause or introduce a new clause that refers to "locational constraints related to the need to access suitable resources or sites" or similar wording.
Objective 'Infrastructure is provided in a manner that takes into account the qualities and characteristics of surrounding environments and community wellbeing' and Policy 1.	Supports this Objective and Policy 1.
Height limit	Considers that height limit (13 metres) is too restrictive and should be increased to allow for investigative meteorological measurement masts up to 80 metres, except within roads. Reference to Rangitikei and Ruapehu DP.
Earthworks ancillary to infrastructure	Supports the performance standard but seeks clarification that this overrides the earthworks provision in the Rural Zone. Meridian notes that infrastructure standard sets no limits on annual volume or area.
Provision for Operational Meteorological Measurement Masts	Proposed height limit of 12 metres is too restrictive. Masts may need to match turbine height of 80 metres. As above, reference to Rangitikei and Ruapehu DP.
Infrastructure, Affordable Housing, Business Town Centre	Council provide waste systems, water and power. Roads made wider to have carparks on both sides. Public transport growth. Whangarata west becomes town centre for both Pokeno and Tuakau.
Designation S1 and various provisions in Infrastructure chapter	Supports District wide rules subject to the inclusion of 'radiocommunications' (in heading before F1-F14), F2, F20, and in heading for 'Telecommunications - general' to clarify rules also apply to radio transmission activities.
Telecommunications - rule standards	Requests amendments to clarify that these standards do not apply if the works are existing or constitute replacements under the 'minor upgrading of existing infrastructure' rule
Policy 3 (Obj 1)	Supports Policy 3 (Infrastructure and Energy) subject to "lifeline services" being replaced with the term 'lifeline utility services'
Policy 5 (Obj 6)	Requests amendment to Policy 5 so that it refers only to the relevant NES (and not to national and international standards as specified in that NES)
Indicative Road - Redwood Grove.	Removed the Indicative road that is located off Redwood Grove

4.3.2 Trimming, maintenance or removal of vegetation associated with existing infrastructure	Provisions are not consistent with NESETA Regulations and the Electricity (Hazards from Tress) Regulations 2003. Requests that the provisions enable the trimming, felling or removal of any notable tree if safe, efficient and effective operation of the National Grid is compromised.
General support	General support for 4.1 Introduction and 4.2 Activity Tables
Flood and drainage schemes	Requests specific objectives and policies in Infrastructure & Energy section to support continued function of flood and drainage schemes. Requests inclusion of related infrastructure e.g.: pump sheds & transformers.
Sensitive areas	Concerned that rules in Infrastructure and Energy section are too permissive. Activities may have an effect on natural character, ONFL and SNA.
Rule new infrastructure	Note the AUP provides for above ground structures of up to 20m^2 in area, whereas draft Rule 1(1) only provides for up to 4m^2 as a permitted activity. Suggest increasing this area to reduce consenting requirements for construction of relatively minor structures
Rule new infrastructure	Suggest increasing this area to 6.5m^2 and height to 2.4m
Rule minor upgrading of infrastructure	Suggest amendments to performance standards (1) a) realignment from 5m to 10m, b) increase of height of poles from 15% to 25%, d) remove 15% pipe diameter requirement, e) change to refer to new permitted area rather than 15% increase.
Rule electric vehicle chargers	Suggested amendments to title of chargers, maximum height and requirements for parking and location on road
Table - access and road performance standards	Request 1.2m wide utility designated corridor in road for infrastructure.
3.1 - cross referencing	Any zone or overlay provisions that supersede rules in this chapter are clearly outlined
3.4 - coastal environment	Clarification as to how coastal environment overlay fits into this chapter (as not identified area)
4.2 - Rule new infrastructure	Increase height and area dimensions for assets.
5.4 - rule A7 trimming trees	Clarify if PA for trimming means notable tree rules don't apply
5.5 - NCA status for A13 and A14	Should remove this NCA activity status (exceeding for Radiation and RF guidelines) as it would require proving compliance for any work to avoid triggering this rule.
5.7-5.10 - Rule C4 transformers at substations	Seeks clarity that intent of Rule C4 was to capture large scale transformers associated with substations
6.9-6.11 - Notable trees / Tree works performance standards	Important to be able to maintain trees. Note the notable trees rules and appendix are not yet developed. Unclear if any of their assets are by these notable trees. Works on these trees should be able to be undertaken by an arborist. Footnote suggested about Regulations.

6.13-6.15 - Height of support structures for overhead lines	Considers permitted activity height of overhead distribution lines in Rural (20m) should be the same as those for telecommunications poles, antennae and headframes (25m/30m co-location) given same effect
6.19 - signs for health and safety	Note the signage rules only apply to advertising and signage (usually small) associated with infrastructure is required. Suggests addition to PA rule in signs chapter.
7.12 - Obj 3 and pols - reverse sensitivity	Want acknowledgement of regionally significant infrastructure in these provisions as too focused just on effects on National Grid.
7.13 - Obj 6/Policy 2	Considers that because the form and function of utilities (e.g. lines) will generally be consistent across zones etc, that the policy acknowledges this. Consider it is difficult to meet this objective and take into account the qualities of the surrounding environments.
7.15 - amendments to Indigenous biodiversity provisions	Amendments to recognise lines
7 - earthworks	Seek amendments to the general earthworks rules within zone chapters to acknowledge infrastructure and ensure stabilisation.
Activity tables	Wants explanatory note for Identified Areas and list identifying what areas are covered as Identified Areas to be amended as necessary to clarify which of these areas are considered to cover areas subject to Sub Part 5 of the NESTF to aid in interpreting where district plan rules apply instead of the NESTF. Further, clarification is required as to how Maaori Sites of Significance and NZAA Sites are interpreted for the purposes of applying the I Identified Area rules. These should apply to the particular extent of the identified feature, and not the full site on which the feature is located (e,g. this may be a large rural property).
Antennas attached to existing pole in road reserve - F5	Unclear what rule applies for how antennas attached to poles in unformed road are assessed
Antennas attached to structures - F7	Potential for confusion as a structure includes a pole - which is provided for by other rules. Suggested noting this
Antennas - F11	Seek introduction of a horizontal standard in F11 to reflect different types of antennas.
Small cell units - F12	The NES provides for small cell units which are defined in the regulations as having a volume up to 0.11m³. Above this size by definition they are not small cell units in terms of the NESTF. Accordingly, the Waikato District Plan will need to refine the activity description or include a definition to make it clear what activity is covered by this rule. A maximum volumetric dimension of 0.25m³ would be satisfactory. Above this size the equipment will need to be assessed as an antenna.
Telecommunications kiosk - F16	Telecommunications kiosks are a discretionary activity in all Identified Areas. These should be provided for as controlled activity if within Identified Areas but within the road reserve of a formed road. Formed roads are modified utility corridors even where within broader Identified Areas.
Overhead F19	Effects largely same as overhead electricity - align but make industrial controlled
Overall activity status - clause 3	Clarity required

Assessment of restricted discretionary, discretionary and non-complying activities - clause 3	Consideration of positive effects as part of consideration of applications is supported.
New infrastructure standards	Standard (2) – 1.8m height limit is too restrictive for telecommunications kiosks, and it is not practical to comply with height in relation to boundary controls where within a road.
Earthworks performance standards	Clause 5 should allow some allowance for trenchless earthworks such as directional drilling under the drip line of a notable tree. Clause 6(b) requires that any earthworks within Landscape and Natural Character Areas are not filled with soil. The definition of soil includes aggregate. Accordingly, if a telecommunications company seeks to add aggregate to a track or track upgrade within the allowable earthworks limits, the use of aggregate will infringe this standard. An equivalent restriction does not apply to rural farm tracks. The rule should be amended to allow for aggregate to be placed on tracks or to be used within a trench as part of laying cables/ducts/lines for underground infrastructure.
Notable trees	The standard not allowing removal of a scheduled notable tree without resource consent is supported. No standards have been developed for trimming of trees. The telecommunications companies are experienced with infrastructure projects requiring trimming of notable trees. It would be appreciated if this stakeholder group can be consulted over any draft standard developed before they are notified to ensure they are practical and workable.
Subdivision	Reserving control over the applicability of financial contributions and reserve contributions is not supported, as infrastructure does not create demand for council services or reserves. The ability to use the utility allotment provisions should also be limited to network utility operators as defined under s166 of the RMA.
Electric vehicle chargers	Amend clause (4) such that the requirement for one formed car park only applies to EVC stations outside of roads. Delete Clause (5).
Telecommunications general rule	Amend the allowable area limits as follows: - Increase residential and Country Living Zones to 20m^2. - Increase the all other zones area limit to 30m^2 or the zone building envelope control, whichever is the greater. - Amend the height in relation to boundary rule to make it clear that this does not apply to structures in roads/unformed roads, or any lines and support poles.
Antennas, poles and ancillary	Amend the height limit exemption for omni antennas to omni directional 'whip' antennas to improve clarity of what this term covers. Increase the height limit for the Country Living Zone to 25m (NES allows for this) Limit the headframe diameter in Residential Zones to 1m (4m not needed) Increase the Coastal Zone height limit to 25m. Add a height in relation to boundary control from the boundary of any site in a Residential Zone.

Obj 2, pol 1 - natural hazards	There is some concern that this policy as drafted may result in a rules framework or resource consent outcomes that do not allow for infrastructure in hazard zones. Telecommunications infrastructure in particular may need to be located in hazard areas (such as areas subject to flooding) to follow road corridors and connect to customers located within these areas. Amend policy 1 as follows (or a change of like effect): 'The design and location of infrastructure appropriately takes account of natural hazards and the effects of climate change.'
Obj 5, Pol 3	Whilst Policy 3(c) requires consideration of significant operational, functional, technical or economic reasons in determining if infrastructure should be placed underground, the preference would be to limit this consideration to new infrastructure and not upgrading of existing infrastructure.
Activity table - Rule A2/performance standards for minor upgrading	PA standard (1) relocate within 5m, INCREASE height 15%, diam 50%; (2) ADD midspan pole, conductors, longer insulators, earthwires; INCREASE voltage, re-conductor; ADD /REPLACE/RELOCATE Tx (& other similar o/h gear?), circuits, fibre; REPLACE x-arms (3) ADD/REPLACE/RELOCATE aerials area & height 20% inc. If can ADD midspan pole then do. New Infrastructure Rules apply re height of pole/for zone & to bdy?; & if can ADD Tx do rules apply re noise (?) of aerial Tx ? - note new infrastructure rules don't allow for pole heights Above ground structures (Assuming this includes pad mounted equipment). – PA standard (1) relocate within 5m, INCREASE area 15% This could be an issue – 25% would be better; No mention of adding/replacing/relocating pad mounted equipment associated with u/g lines Earthworks – not within dripline Does this include drilling (not included in definition of earthworks)
Activity table - Rule A6	Earthworks – Does this include drilling (not included in definition of earthworks)
Activity table - Rule A9	Notes electric vehicle chargers are 2m high
Activity table - Rule A11 - Activities and permanent structures or facilities within road not covered within this chapter as road network activities	Confirm other structures such as voltage regulators are covered under minor infrastructure. Don't really want to be prescriptive in terms of exact equipment & dimensions as need to allow for development/change of industry standards which might mean new equipment not previously used or standard equipment of modified dimension
Activity table - Rule C3	Remove – lines operating above 110kV are not classed as distribution lines – more like Transpower infrastructure which is dealt with separately. Distribution is covered by C1 & C2
Activity table - Rule C4	Clarify use of "transformer"
Activity table - Rule D4 - large scale wind farms	Need to allow for lines up to 110kV – need to amend definitions

Pols for Obj 2	Suggests this policy is removed: (2) Infrastructure around the district boundary, where practicable, is to be compatible with, and capable of connection to, the same infrastructure in the adjoining district or city. Suggests this policy is applied to electricity infrastructure: (6) Structures, lighting, signage and vegetation must be located and designed so as to not compromise the safe and efficient operation of the land transport network, or obscure RAPID numbers.
Obj 4 / planning maps	Based on the national grid obj and pols (require showing on maps) - consider other critical electricity lines should be shown on maps. Can provide information

1.7 Iwi Authority Consultation and Advice

1.7.1 Consultation

Clause 3 of Schedule 1 of the RMA sets out the requirements for local authorities to consult with tangata whenua through and iwi authorities. Clause 3 also requires Local Authorities to consult with any person, group or ministry that may be affected by changes made to the District Plan.

Council used the following methods to create an Iwi Reference Group.

- Joint Management Agreement
- Tai Tumu Tai Pari Tai Ao (Waikato Tainui Environmental Plan)
- Partnerships
- Collaboration

The purpose of the Iwi Reference Group was to provide Council with a single forum to socialise the proposed changes to the Operative District Plan.

The Iwi Reference group was made up of all iwi and hapuu within the district that council currently consults with via the Resource Consent Process.

Engagement and consultation with the Iwi Reference group took place between December 2014 and December 2017. (See Part 1 Section 32 Report – Introduction to the Evaluation Report)

1.7.2 Advice

Clause 4A of Schedule 1 of the RMA sets out the requirements for local authorities to consult with iwi authorities before notifying a proposed plan. Clause 4A(1)(b) requires Council to have particular regard to any advice received on a draft proposed policy statement or plan from those iwi authorities.

Council held discussions with the relevant Iwi and Hapuu and through Te Kahui Mangai website:

Iwi authorities within Waikato District:

- Waikato Tainui
- Ngaati Tamaoho

Iwi for the purpose of RMA list on Te Kahui Mangai
- Tainui o Tainui

Iwi that have relationship from other districts
- Hauraki
- Ngaati Maniapoto
- Ngaati Paoa - Hauraki

The above Iwi groups were consulted with and a summary of their comments issues and Council's consideration are listed in Part 1 Section 32 Report – Introduction to the Evaluation Report.

The following amendments are made in response to the advice received with regards to infrastructure (additions are underlined):

1.5.5 Services and General Infrastructure
(e)In considering cross-boundary issues, Council will encourage consultation between the organisations responsible for the infrastructure, developers, the adjoining landowners, and iwi and the adjoining consent authorities

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1.8 Decision-making

Although the Infrastructure and Energy provisions were not presented to Councillors for a formal resolution, three workshops were held with Councillors to provide information and discuss the issues that the Infrastructure and Energy provisions address.

Table 3 Summary of decision-making processes

Meeting / Feedback	Document	Decision/direction
23 August 2016 Presentation to Councillors	• The infrastructure chapter will include what was previously the utilities and land transport network provisions; • The infrastructure provisions are required to address a number of higher order planning documents; • New provisions relating to 'essential infrastructure' are proposed as well as amendments to the existing infrastructure objectives; • The significant industry, infrastructure, primary production and research sites issue requires further refining; • A new issue and objective relating to reverse sensitivity of land use with regionally significant infrastructure is proposed; • The existing Urban Expansion issue and objective within the Waikato Section is no longer required specifically for the Infrastructure chapter; and • The existing objectives contained within in Appendix B of the Waikato Section are either covered by the other objectives or they can be developed as policies.	Support for the stand alone infrastructure chapter An understanding of the directives of the RPS, national policy statements and national environmental standards.
7 August 2017 Presentation to Councillors	• Update on progress • Feedback from the stakeholder workshops • Findings from the Issues and Options Report • Principles to guide development of the chapter • Statutory considerations including the RPS, NPS, NES, NZCPS • Broad approach of objectives • The draft issues, objectives and policies • Draft definitions	
15 August 2017 Presentation to the Councillors	• Structure of the rules • Organisation of chapter by the type of infrastructure • Approach to the chapter • General themes	

	• Rules associated with general infrastructure • Rules associated with National Grid • Electricity distribution • Electricity generation • Small-scale renewable electricity • Wastewater, water supply and stormwater • Infrastructure standards • Development standards • Telecommunications • Transportation • Parking and access • Liquid fuels and gas • Meteorological • Matters that were still being worked on	

1.9 Reference to Other Relevant Evaluations

This Section 32 topic report should be read in conjunction with the Section 32 evaluations for:

- National Grid
- Renewable Electricity Generation;
- Transport;
- Water Supply, Stormwater and Wastewater;
- Historic Heritage;
- Tanagata whenua;
- Biodiversity; and
- Landscapes and Natural Character.

2 ISSUES, OBJECTIVES, POLICIES AND RULES

2.1 Higher Level Planning Documents and Legislation

Under section 75(3) of the RMA, a district plan must give effect to the following:
(a) any national policy statement; and
(b) any New Zealand coastal policy statement; and
(c) any regional policy statement.

In respect to infrastructure provisions, these statutory documents are discussed in terms of their relevance to the Project.

2.1.1 New Zealand Coastal Policy Statement

The purpose of the New Zealand Coastal Policy Statement (NZCPS) is to state objectives and policies in order to achieve the purpose of the RMA in relation to the coastal environment of New Zealand. The NZCPS 2010 took effect on 3 December 2010.

The NZCPS has relevance to infrastructure; recognising the provision of infrastructure and energy generation within the coastal environment is important to the social, economic and cultural well-being of people and communities, and addressing issues such as the risk to existing infrastructure from coastal erosion and coastal hazards.

The provisions of the NZCPS which are considered to be applicable are outlined below. The identification of the extent of the coastal environment (as required by Policy 1 of the NZCPS) will be critical for application of the NZCPS. Indeed, Objective 1(2)(i) recognises that the coastal environment contains physical resources and built facilities, including infrastructure, that have modified the coastal environment.

The King Salmon Supreme Court decision has had wide ranging consequences and has changed the way policies are interpreted. This decision has set a precedent that applying an overall judgment is not appropriate when giving effect to provisions in higher order planning documents and prescriptive policies are likely to be awarded more weight than flexible ones (e.g. highly directive verbs such as avoid, protect etc). The decision has indicated that the use of the word "avoid" adverse effects is an absolute for the matters listed. This is of particular relevance to policies which require adverse effects to be *avoided* (Policies 5, 11, 13 and 15). What this means for the National Grid is that infrastructure activities in the following areas in the coastal environment will need to be managed differently from the rest of the district:

- land or waters in the coastal environment held or managed under the Conservation Act 1987 and any Act listed in the 1st Schedule to that Act; or other Acts for conservation or protection purposes (Policy 5)
- areas of outstanding natural character (Policy 13(1)(a))
- outstanding natural features and outstanding natural landscapes in the coastal environment (Policy 15(a))

In order to protect indigenous biological diversity in the coastal environment, Policy 11 requires activities avoid adverse effects on:

> *(i) indigenous taxa* that are listed as threatened** or at risk in the New Zealand Threat Classification System lists;*
> *(ii) taxa that are listed by the International Union for Conservation of Nature and Natural Resources as threatened;*
> *(iii) indigenous ecosystems and vegetation types that are threatened in the coastal environment, or are naturally rare***;*
> *(iv) habitats of indigenous species where the species are at the limit of their natural range, or are naturally rare;*
> *(v) areas containing nationally significant examples of indigenous community types; and*

(vi) areas set aside for full or partial protection of indigenous biological diversity under other legislation; and

(b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on:

(i) areas of predominantly indigenous vegetation in the coastal environment;
(ii) habitats in the coastal environment that are important during the vulnerable life stages of indigenous species;
(iii) indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, dunelands, intertidal zones, rocky reef systems, eelgrass and saltmarsh;
(iv) habitats of indigenous species in the coastal environment that are important for recreational, commercial, traditional or cultural purposes;
(v) habitats, including areas and routes, important to migratory species; and
(vi) ecological corridors, and areas important for linking or maintaining biological values identified under this policy.

All of the NZCPS policies referring to activities or use and development are relevant to infrastructure. However the policies specific to infrastructure include:

- Policy 6(1)(a) and (b) – which recognises the provision of infrastructure, including the generation and transmission of energy, are important activities; and considers the rate at which infrastructure should be enabled to provide for the reasonably foreseeable needs of population growth without compromising the other values of the coastal environment;
- Policy 25(d) – where practicable, encourage the location of infrastructure away from areas potentially affected by coastal hazards over at least the next 100 years.

2.1.2 Waikato Regional Policy Statement

The Operative Waikato Regional Policy Statement (RPS) provides an overview of the resource management issues in the Waikato region, and the ways in which integrated management of the region's natural and physical resources will be achieved.

The RPS identifies providing for energy demand and managing the built environment as key issues for the Waikato Region.

A large number of the issues, objectives and policies of the RPS are relevant to the management of infrastructure to some degree, but the most relevant are oultined below.

Table 4: RPS provisions relevant to infrastructure

Provision	Relevance
Objective 3.6 Adapting to climate change	*Land use is managed to avoid the potential adverse effects of climate change induced weather variability and sea level rise on:* *b) the built environment, including infrastructure;*
Objective 3.12 Built	*3.12 Built environment*

Environment	*Development of the built environment (including transport and other infrastructure) and associated land use occurs in an integrated, sustainable and planned manner which enables positive environmental, social, cultural and economic outcomes, including by:* *a) promoting positive indigenous biodiversity outcomes;* *b) preserving and protecting natural character, and protecting outstanding natural features and landscapes from inappropriate subdivision, use, and development;* *c) integrating land use and infrastructure planning, including by ensuring that development of the built environment does not compromise the safe, efficient and effective operation of infrastructure corridors;* *e) recognising and protecting the value and long-term benefits of regionally significant infrastructure;* *g) minimising land use conflicts, including minimising potential for reverse sensitivity;* *h) anticipating and responding to changing land use pressures outside the Waikato region which may impact on the built environment within the region.*
Policy 4.4 Regionally significant industry and primary production	*The management of natural and physical resources provides for the continued operation and development of regionally significant industry and primary production activities by:* *d) co-ordinating infrastructure and service provision at a scale appropriate to the activities likely to be undertaken;*
Method 4.4.1 Plan provisions	*4.4.1 Plan provisions* *District and regional plans should provide for regionally significant industry and primary production by:* *e) recognising the need to ensure regionally significant industry is supported by infrastructure networks of appropriate capacity;*
Method 6.1.6 Growth Strategies	*6.1.6 Growth strategies* *In areas where significant growth is occurring or anticipated, territorial authorities should develop and maintain growth strategies which identify a spatial pattern of land use and infrastructure development and staging for at least a 30-year period.*
Method 6.1.8 Information to support new urban development and subdivision	*District plan zoning for new urban development (and redevelopment where applicable), and subdivision and consent decisions for urban development, shall be supported by information which identifies, as appropriate to the scale and potential effects of development, the following:* *b) the location, type, scale, funding and staging of infrastructure required to service the area;* *c) and how the safe and efficient functioning of existing and planned transport and other regionally significant infrastructure will be protected and enhanced;*

Policy 6.3 Co-ordinating growth and infrastructure	*Management of the built environment ensures:* *a) the nature, timing and sequencing of new development is co-ordinated with the development, funding, implementation and operation of transport and other infrastructure, in order to:* *i) optimise the efficient and affordable provision of both the development and the infrastructure;* *ii) maintain or enhance the operational effectiveness, viability and safety of existing and planned infrastructure;* *iii) protect investment in existing infrastructure; and* *iv) ensure new development does not occur until provision for appropriate infrastructure necessary to service the development is in place;* *d) a co-ordinated and integrated approach across regional and district boundaries and between agencies; and* *e) that where new infrastructure is provided by the private sector, it does not compromise the function of existing, or the planned provision of, infrastructure provided by central, regional and local government agencies.*
Method 6.3.1 Plan provisions	*Regional and district plans shall include provisions that provide for a long-term strategic approach to the integration of land use and infrastructure and that give effect to Policy 6.3, including by ensuring as appropriate that:* *e) development maintains and enhances the safe, efficient and effective use of existing infrastructure and can be integrated with future infrastructure needs where these can be determined;* *g) development does not unnecessarily prevent likely future network infrastructure improvements and upgrades;*
6.3.2 Aligning infrastructure and land use planning	*Territorial authorities should, in association with Waikato Regional Council, the NZ Transport Agency and other infrastructure providers, ensure infrastructure planning and land use planning initiatives are aligned, and should co-ordinate the provision of appropriate infrastructure and services for new development prior to development occurring.*
Method 6.4.2 Sustainability of marae and papakāinga	*Territorial authorities should support the sustainable development, restoration or enhancement of marae and papakāinga, including by taking into account the need to address the following when preparing district plans:* *a) infrastructure and utilities requirements;*
Policy 6.6 Significant infrastructure and energy resources	*Management of the built environment ensures particular regard is given to:* *a) that the effectiveness and efficiency of existing and planned regionally significant infrastructure is protected;* *b) the benefits that can be gained from the development and use of*

	regionally significant infrastructure and energy resources
Method 6.6.1 Plan provisions	*Regional and district plans shall include provisions that give effect to Policy 6.6, and in particular, that management of the built environment:* *f) provides for infrastructure in a manner that:* *i) recognises that infrastructure development can adversely affect people and communities;* *iii) does not result in land uses that adversely affect the effective and efficient operation of existing and planned regionally significant infrastructure.*
Method 6.6.5	*6.6.5 Measures to avoid adverse effects* *Local authorities should ensure that appropriate measures are implemented to avoid adverse effects of development of the built environment on the safe, efficient and effective operation of regionally significant infrastructure.*
6A Development Principles	*New development should:* *d) not compromise the safe, efficient and effective operation and use of existing and planned infrastructure, including transport infrastructure, and should allow for future infrastructure needs, including maintenance and upgrading, where these can be anticipated;* *e) connect well with existing and planned development and infrastructure;* *o) not result in incompatible adjacent land uses (including those that may result in reverse sensitivity effects), such as industry, rural activities and existing or planned infrastructure;*
11.1.4 Recognition of activities having minor adverse effects on indigenous biodiversity	*Regional and district plans should include permitted activities where they will have minor adverse effects in relation to the maintenance or protection of indigenous biodiversity. They may include:* *a) the maintenance, operation and upgrading of lawfully established infrastructure, regionally significant infrastructure and lawfully established activities using natural and physical resources of regional or national importance;*

The main focus of the RPS in relation to infrastructure is:

- Protect regionally significant infrastructure which includes (for the purposes of this Section 32 report):

  a) pipelines for the distribution or transmission of natural or manufactured gas or petroleum;

  b) infrastructure required to permit telecommunication as defined in the Telecommunications Act 2001;

  c) radio apparatus as defined in section 2(1) of the Radio Communications Act 1989;

e) a network (as defined in the Electricity Industry Act 2010);

- Ensure growth is co-ordinated with appropriate infrastructure;
- New development should not compromise the safe, efficient and effective operation and use of existing and planned infrastructure;
- Recognition that infrastructure development can adversely affect people and communities; and
- Recognition that infrastructure is essential for people's well-being.

While the RPS does not specifically refer to electricity generation from non-renewable sources, there are a number of references to energy in the RPS. In addition, the Huntly power station would likely be classified as a "regionally significant industry", which is defined as:

means an economic activity based on the use of natural and physical resources in the region and is identified in regional or district plans, which has been shown to have benefits that are significant at a regional or national scale. These may include social, economic or cultural benefits.

Table 5: RPS provisions that address regionally significant industry

Objective 3.2 Resource use and development	*Recognise and provide for the role of sustainable resource use and development and its benefits in enabling people and communities to provide for their economic, social and cultural wellbeing, including by maintaining and where appropriate enhancing:* *a) access to natural and physical resources to provide for regionally significant industry and primary production activities that support such industry;*
Policy 4.4 Regionally significant industry and primary production	*The management of natural and physical resources provides for the continued operation and development of regionally significant industry and primary production activities by:* *a) recognising the value and long term benefits of regionally significant industry to economic, social and cultural wellbeing;* *b) recognising the value and long term benefits of primary production activities which support regionally significant industry;* *c) ensuring the adverse effects of regionally significant industry and primary production are avoided, remedied or mitigated;* *d) co-ordinating infrastructure and service provision at a scale appropriate to the activities likely to be undertaken;* *e) maintaining and where appropriate enhancing access to natural and physical resources, while balancing the competing demand for these resources;* *f) avoiding or minimising the potential for reverse sensitivity; and* *g) promoting positive environmental outcomes.*
4.4.1 Plan provisions	*District and regional plans should provide for regionally significant industry and primary production by:* *a) identifying appropriate provisions, including zones, to enable the operation and development of regionally significant industry, which for new development is consistent with Policy 6.14 and Table 6-2;* *d) recognising the potential for regionally significant industry and primary production activities to have adverse effects beyond its boundaries and the need to avoid or minimise the potential for reverse sensitivity effects;* *e) recognising the need to ensure regionally significant industry is supported by infrastructure networks of appropriate capacity;*

	f) recognising the benefits of enabling the co-location of regionally significant industry to support efficient use of infrastructure, and minimise transportation requirements; *g) recognising and balancing the competing demands for resources between regionally significant industry, primary production and other activities;* *h) ensuring the adverse effects of regionally significant industry and primary production are avoided, remedied or mitigated; and* *i) promoting positive environmental outcomes.*
6A Development principles	*h) be directed away from… energy and transmission corridors, … regionally significant industry…;*

2.1.3 National Policy Statement for Urban Development Capacity

The National Policy Statement for Urban Development Capacity (NPS-UDC) recognises the national significance of well-functioning urban environments, with particular focus on ensuring that local authorities, through:

enabling urban environments to grow and change in response to the changing needs of the communities, and future generations; and

providing enough space for their populations to happily live and work. This can be both through allowing development to go "up" by intensifying existing urban areas, and "out" by releasing land in greenfield areas.

This national policy statement covers development capacity for both housing and businesses; it is up to local authorities to make decisions about what sort of urban form is appropriate for their District.

This national policy statement recognises that the benefits of the statement are greatest in urban areas experiencing the highest levels of growth. It takes a tiered approach to the application of policies using the Statistics New Zealand urban areas classification, and population projections to target different policies to different local authorities. This classification also informs local authorities that they must work together. The boundaries of the urban areas do not restrict the area in which the local authorities apply the policies.

Local authorities that have a high-growth urban area within their jurisdiction are expected to meet all of the requirements of policies in this national policy statement, while local authorities with medium-growth urban areas in their jurisdiction, and all other local authorities, have lesser requirements, as per the table below.

Waikato District Council is identified as a high growth Council in relation to the NPS-UDC. There is strong objective and policy support in the NPS-UDC for land use and infrastructure to be coordinated, and for growth to be serviced by appropriate infrastructure. "Development infrastructure" is defined as:

Development infrastructure means network infrastructure for water supply, wastewater, stormwater, and land transport as defined in the Land Transport Management Act 2003, to the extent that it is controlled by local authorities.

While there are references in the NPS-UDC to "development infrastructure", there is also acknowledgement of the need for other infrastructure. The most relevant provisions in relation to infrastructure are:

OD1: Urban environments where land use, development, development infrastructure and ***other infrastructure*** *are integrated with each other.*

PA3: When making planning decisions that affect the way and the rate at which development capacity is provided, decision-makers shall provide for the social, economic, cultural and environmental wellbeing of people and communities and future generations, whilst having particular regard to:
b) Promoting the efficient use of urban land and development infrastructure and ***other infrastructure****;*

PD4: Local authorities shall work with providers of development infrastructure, and ***other infrastructure****, in preparing a future development strategy under policy PC12.*

2.1.4 National Environmental Standard for Telecommunications Facilities

The National Environmental Standard for Telecommunication Facilities 2016 (NES-TF) provides national consistency in the rules surrounding the deployment of telecommunications infrastructure across New Zealand while ensuring the effects on the environment are minimised and managed appropriately.

The NESTF regulates the following activities as permitted activities, provided the prescribed standards are met:

- cabinets:
  – in the road reserve
  – outside the road reserve
  – servicing antenna on buildings
- antennas on existing poles in the road reserve
- antennas on new poles in the road reserve
- replacement, upgrading and co-location of existing poles and antennas outside road reserve (with different conditions in residential and non-residential areas)
- new poles and antennas in rural areas
- antennas on buildings (above a permitted height in residential areas)
- small-cell units on existing structures
- telecommunications lines (underground, surface mounted, and overhead).

Telecommunication facilities and activities that are not regulated under the NES-TF need to be managed through the relevant district and regional plans. These may include:

- new poles and antennas that are not located in the road reserve or rural zones
- the installation, operation and maintenance of a self-contained power unit to generate power for the facility and any associated earthworks
- the establishment, operation and maintenance of an access track to a telecommunication facility and any associated earthworks

- new telecommunication lines and associated support structures
- telecommunication exchanges.

2.1.5 Vision and Strategy

As set out in Section 2 of the WRPS, the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010 (the Settlement Act) gives effect to the Deed of Settlement signed by the Crown and Waikato-Tainui on the 17 December 2009.

The Settlement Act has an overarching purpose to restore and protect the health and wellbeing of the Waikato River for future generations. Section 9(2) of the Settlement Act confirms that the vision and strategy for Waikato River (Te Ture Whaimana o Te Awa o Waikato) applies to the Waikato River and activities within its catchment affecting the Waikato River.

The Vision and Strategy addresses infrastructure in Section 26. The Vision and Strategy recognises that infrastructure development often neglected to consider the principles of sustainability and has been based on the best "engineering" solution rather than a more balanced approach involving the consideration of cultural, spiritual, social, economic and environmental drivers or the use of enhancement principles. Waikato-Tainui acknowledges and accepts the reality of the need for infrastructure provided that the effects on environmental, social, cultural, and

spiritual values are appropriately managed. Waikato-Tainui does not accept that a regional or national benefit should create a local burden. The most relevant objectives and policies are outlined below in Table 5.

Table 6: Objectives and policies relevant to infrastructure in the Waikato Tainui Vision and Strategy

Objective – Waikato-Tainui engagement	*26.3.1 Infrastructure development, upgrade, and maintenance within the Waikato-Tainui rohe occurs in partnership with Waikato-Tainui.*
Policy – Waikato-Tainui engagement	*26.3.1.1 To ensure that infrastructure development, upgrade and maintenance within the Waikato-Tainui rohe occurs in partnership with Waikato-Tainui.* *Methods* *(a) New infrastructure shall be developed in consultation with Waikato-Tainui to ensure infrastructural development is in alignment with this Plan and any relevant Joint Management Agreements (JMA's) in order to manage adverse environmental, cultural, spiritual, and social effects. As a minimum, the consultation and engagement process outlined in Chapter 6, 'Te koorero tahi me Waikato-Tainui – consultation and engagement with Waikato-Tainui', shall apply.* *(b) In the development of new infrastructure, upgrading or maintenance of old infrastructure, Waikato-Tainui are engaged at the very early stages of scoping and that Waikato-Tainui remain engaged during the process.* *(d) Resource consent and designation processes under the RMA, relevant*

	rules and conditions shall be developed by the applicant, regulator, and/or local authority in partnership with Waikato-Tainui that take into account kaitiakitanga and maatauranga Maaori. *(e) Waikato-Tainui may consider infrastructural partnerships where the provision of infrastructure meets the aspirations of Waikato-Tainui.*
Objective – infrastructure development, upgrade, and maintenance	*26.3.2 Infrastructure development, upgrade, and maintenance manages economic, social, cultural, spiritual, and environmental effects.*
Policy – infrastructure development, upgrade and maintenance	*26.3.2.1 To ensure that infrastructure development, upgrade, and maintenance manages economic, social, cultural, spiritual, and environmental effects.* *Methods* *(a) Infrastructure development shall avoid land in Maaori ownership except with the agreement of the Maaori owners.* *(b) New infrastructure development shall take into account the enhancement principles contained in Chapter 7 "Te Whakapakari i Te Taiao - Towards environmental enhancement". As a minimum all existing infrastructure shall be managed to sustain the ability of the environment to provide for future generations.* *(c) Ensure that, in the development of new infrastructure, best practice approaches and appropriate environmentally sustainable and enhancing technologies are applied to ensure, as far as practicable, any adverse impacts on the environment or cultural and/or spiritual resources are avoided.* *(e) The cumulative effect of infrastructure provision shall be considered as well as the effect of a single piece of infrastructure.* *(f) When assessing infrastructure needs or making decisions on designations or consents regarding infrastructure, the adverse effects should be managed so as to achieve the objectives in this Plan. In particular adverse effects should be avoided on:* *i. Land held in Maaori title or in the ownership of Waikato-Tainui;* *ii. Waahi tapu and other sites of significance to Waikato-Tainui;* *iii. Oceans, rivers, lakes, and wetlands that would hinder achieving the objectives and policies contained in the water management, fisheries and cultural chapters of the Plan;* *iv. Areas of significant indigenous vegetation or habitats of taonga species;* *v. Customary activities or fisheries;* *vi. Natural hazards; and* *vii. Culturally and/or spiritually significant landscapes and view shafts.* *(g) In the event that adverse effects cannot be avoided, discussions shall be held with Waikato-Tainui to agree if the effects can be managed.* *(h) Any local adverse effects of infrastructure that cannot be avoided, remedied, or minimised should be discussed with Waikato-Tainui to discuss whether the effect can be mitigated and compensated near the locality where the adverse effects occur, or elsewhere as agreed with Waikato-Tainui.*

2.1.6 Maniapoto Environmental Management Plan

The Maniapoto Environmental Management Plan was prepared by Maniapoto M āori Trust Boar direction setting document and describes issues, objectives, policies and actions to protect, restore and enhance the relationship of Maniapoto with the environment including their economic, social, cultural and spiritual relationships. The objectives and policies most relevant to infrastructure are outlined in Table 6.

Table 7: Provisions in the Maniapoto Environmental Management Plan most relevant to infrastructure

22.3.1 Objective: Relationship	*To avoid adverse effects of infrastructure on the relationship of Maniapoto with significant sites and resources*
22.3.1.1 Policy	*Maniapoto participate at the highest level of decision-making for infrastructure development to enhance the relationship of Maniapoto with significant sites and resources* *Actions* *(a) Establish co-operative and constructive relationships between Maniapoto and developers to facilitate the consideration of effects that infrastructure options have on Maniapoto values, interests, and significant sites* *(b) Maniapoto values, interests and perspectives are appropriately considered and incorporated in the planning and development of all infrastructure, and in the on-going maintenance of existing infrastructure.* *(c) Maniapoto are involved, and adequately resourced to be involved, in the planning and development of all infrastructure.* *(d) Avoid infrastructure development and associated effects on land owned by Maniapoto unless agreement is reached with those owners*
22.3.7 Objective: Telecommunications	*To provide telecommunications and ultrafast broadband access to Maniapoto to support them to engage with digital media for work, education and business*
22.3.7.1 Policy	*Telecommunications connect Maniapoto homes, schools, recreation facilities and businesses.* *Actions* *(a) Provide appropriate telecommunications access that avoids negative impacts on Maniapoto values and interests* *(b) Ensure access to high-speed, high-capacity broadband infrastructure is available* *(c) Support delivery of faster, better internet through the ultra-fast broadband (UFB) initiative and the rural broadband initiative (RBI).* *(d) Maniapoto are engaged and consulted on transport infrastructure development proposals with councils, resource users and developers to ensure Maniapoto cultural interests and values are recognised and acknowledged in plans, policies, strategies and developments*
22.3.3 Objective: Energy generation and transmission	*Maniapoto has access to reliable, sustainable and efficient energy sources*

22.3.3.1 Policy	*To ensure Maniapoto has access to reliable, sustainable and efficient energy sources*

2.1.7 Future Proof

Future Proof recognises the need for infrastructure to support growth and contains key approaches in Section 8.25.3:

- Encourage and promote compact forms of development that lead to more efficient infrastructure utilisation and investment.
- Ensure new infrastructure development takes into account potential future climate change effects.
- Ensure the settlement pattern and development decisions allow for expansion and upgrading of infrastructure.
- Advocate for long-term strategic infrastructure planning by network utility managers.
- New urban and rural-residential development should aim to maximise the use of existing infrastructure where this is an efficient and viable approach.
- The security, safety, affordability and reliability of infrastructure are accorded priority in the assessment of development.
- Corridors are provided for protection of pipes routes and cables.
- Services are co-sited where feasible and practical.

2.2 Issues

The evaluation of objectives and provisions in the following sections relate to the resource management issue stated below:

Issue statement	Integration of land use with infrastructure
Land use activities including subdivision and development need to be appropriately serviced for various infrastructure including telecommunications and electricity. Development in urban and rural areas will have different requirements, and different expectations. There may be servicing constraints within parts of the District which may require development to be delayed until this infrastructure is funded and installed, or alternatively this infrastructure can be funded and constructed by the developer. Development must not progress until there is sufficient and appropriate infrastructure in place. Traditionally electricity and telecommunications required a hard wired connection, which was often expensive in the rural areas where a line had to be extended some distance to service a single dwelling. There are considerably more options available now with advances in technology such as wireless and small-scale electricity generation.	
Issue statement	The on-going operation and maintenance of infrastructure is essential for the well-being of the community
There are considerable benefits associated with the provision and operation of infrastructure. Infrastructure is the basic requirement of economic development. It does not directly produce goods and services but facilitates production in primary, secondary and tertiary economic	

activities by enabling these activities to be carried out. The level of economic development in any country directly depends on the development of infrastructure. Infrastructure is needed to bring people to and from home, work, shop and provide the utilities essential to business – water, electricity, internet. There is an enormous economic cost, if that infrastructure is clogged or inefficient. But there are also significant social costs if infrastructure is not working efficiently which is harder to quantify such as an inability to communicate, heat homes, cook etc.

Issue statement	New infrastructure can have adverse environmental effects

New infrastructure is often required, particularly to support new development. This can be of varying scales – some can be underground lines, while others can be significant structures such as electricity substations. Depending on the size and location, there can be a variety of effects including adverse effects on landscape values, amenity and cultural sites of significance. The effects can also be short term such as construction and earthworks, or longer term in the case of significant structures in sensitive locations. There may also be health and safety effects associated with infrastructure such as electromagnetic emissions.

Issue statement	There is the potential for reverse sensitivity effects from infrastructure

Because there may be effects generated by infrastructure such as noise, visual, or vibration there is the potential for reverse sensitivity effects to arise. These reverse sensitivity effects have the potential to constrain the effective and efficient operation of the infrastructure.

Issue statement	Electricity derived from non-renewable resources contributes to the National Grid

The Huntly power station generates a significant proportion of electricity and feeds this into the National Grid. Although Genesis Energy is phasing out the use of coal, the power station still generates electricity from natural gas.

There are two gas transmission lines which traverse the District – the Maui high pressure gas line which supplies the Huntly power station, and the First Gas transmission line.

The mining of coal is a significant activity for Huntly. The Rotowaro Coalfield and Opencast Mine is the second largest opencast coal mine in New Zealand. The majority of Rotowaro coal goes by overland conveyor to Genesis Power Ltd's Huntly Power Station and by rail to the New Zealand Steel Glenbrook steel mill. The remainder supplies North Island industrial and home heating markets.

There are four other coal mines within Waikato District.

3 EVALUATION OF OBJECTIVES

Below is a summary of the objectives that have been identified as the most appropriate to address this resource management issue and achieve the purpose of the Resource Management Act 1991.

The following objectives are considered to be the most appropriate way to achieve the purpose of the Act. This table does not address objectives that are the focus of other section 32 reports such as those specific to the National Grid, transport or management of stormwater.

Table 8 Summary of objectives

Objective	Summary of evaluation
6.1.1 Objective – Development, Operation and Maintenance of Infrastructure Infrastructure is developed, operated and maintained to benefit the social, economic, cultural and environmental well-being of the district.	Infrastructure consists of the physical structures and networks that support and provide essential services to the communities of the district. The efficient use and management of infrastructure as a physical resource is critical to the District's economic productivity, environmental outcomes and wellbeing of the community. The benefits of infrastructure to the functioning of the district are therefore substantial. Connected and reliable infrastructure is vital to the functioning of the District. It enables people and communities to provide for their social, economic and cultural wellbeing in accordance with Section 5(2) of the Act. The efficient development, maintenance and operation of the physical resources of infrastructure is fundamental to both present and future communities. In this respect the Objective achieves Section 5(2)(a) of the Act. The continuing use of infrastructure through enabling the operation, maintenance and development enables people and communities to provide for their health and well-being in accordance with Section 5(2) of the Act. An example is the electric distribution network which enables people to stay warm and cook, and therefore stay healthy. The continual operation of some infrastructure such as the Raglan navigation beacon keeps people safe in accordance with Section 5(2). This is considered the most appropriate objective to meet the purpose of the Act.
6.1.6 Objective – Reverse Sensitivity Infrastructure is protected from reverse sensitivity effects, and infrastructure (including the National Grid) is not compromised.	The protection of the infrastructure from reverse sensitivity effects is critical to the District's economic productivity, environmental outcomes and wellbeing of the community. The benefits of this infrastructure to the functioning of the district are substantial. The matter of reverse sensitivity is not just relevant to the properties adjacent to the infrastructure; the mitigation of reverse sensitivity could have implications for the wider network. For example, the relocation of a sub-station due to reverse sensitivity issues can impact on the wider electricity distribution network. Reliable and well-functioning infrastructure is vital to the functioning of the District. It enables people and communities to provide for their social, economic and cultural wellbeing in accordance with Section 5(2) of the Act. In this respect the Objective achieves this part of Section 5

	(s5(2)(a)) sustain the potential of natural and physical resources to meet needs of future generations. Protecting infrastructure from reverse sensitivity issues also ensures the health and safety of people and communities in accordance with Section 5(2) of the Act. Activities such as building a dwelling too close to an electricity distribution line (for example) can adversely affect the health of the occupants. In addition it can compromise the integrity of the network with increased risk of flashovers. The potential for reverse sensitivity effects is recognised by the RPS. This Objective gives effect to this higher order planning documents. The RPS recognises the potential for reverse sensitivity in Objective 3.12(g) and Policy 6.1 / Method 6.6.1.
6.4.1 Objective – Integration of Infrastructure with Subdivision, Land Use and Development Infrastructure is provided for, and integrated with, subdivision, use and development.	The integration and co-ordination of land uses with infrastructure will enable people and communities to provide for their social, economic and cultural well-being in accordance with Section 5(2) of the Act. This objective ensures that the network is appropriate (both existing and future) to service the current and future land uses. It also ensures that development is in appropriate and accessible locations to be serviced. Available and appropriate infrastructure enables people and communities to provide for their health and well-being in accordance with Section 5(2) of the Act. Electricity provides warm and healthy home and telecommunications enables people to communicate and meet their social needs. The integration of infrastructure and land uses is addressed explicitly in the RPS. Policy 6.3 requires the nature, timing and sequencing of new development is co-ordinated with the development, funding, implementation and operation of transport and other infrastructure. Similarly Policy 6.1 requires subdivision, use and development of the built environment, including transport, to occur in a planned and coordinated manner. Method 6.3.2 is explicit in its requirements for territorial authorities – *Territorial authorities should, in association with Waikato Regional Council, the NZ Transport Agency and other infrastructure providers, ensure infrastructure planning and land use planning initiatives are aligned, and should co-ordinate the provision of appropriate infrastructure and services for new development prior to development occurring.* The PDP gives effect to the RPS and is considered the most appropriate objective to achieve the Purpose of the Act.

6.1.8 Objective – Infrastructure in the Community and Identified Areas Infrastructure takes into account the qualities and characteristics of surrounding environments and community well-being.	This objective supports Section 5(2) of the Act which promotes the supports the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being. Infrastructure (and in particular large above-ground structure such as sub-stations) can detract from the character of an area. The matters of national importance are listed in Section 6 of the Act, and this objective ensure infrastructure does not adversely affect the values of those areas. In addition, Section 7 of the Act identifies matters to be given particular regard to. This includes © the maintenance and enhancement of amenity values. This objective will assist in achieving these parts of the Act.
6.3.6 Objective – Non-renewable Energy Non-renewable energy resources are recognised within the district.	The purpose of the Act is to promote the sustainable management of natural and physical resources. The generation of power from non-renewable resources is a physical resource. The Huntly power station contributes a significant proportion of electricity into the National Grid. The generation of electricity enables people and communities to provide for their social, economic, and cultural well-being. Electricity is required to service both population and economic growth. The contribution of electricity generated from non-renewable resources enables the current communities to meet their energy requirements but also will ensure sufficient supply of energy to meet future energy demand in accordance with Section 5(2)(a) of the Act. Longer term benefits for economic well-being is through the on-going benefits of an increased security of electricity supply. Diversifying electricity generation may result in lower electricity prices for the end consumer. Electricity generation and gas as a fuel source also enables people to provide for their health and safety. The health and safety of people and communities is both directly and indirectly dependent on a reliable supply of electricity. People rely on electricity and gas to heat their homes, prepare and manage food, for hygiene and safety. In this regard, this Objective will enable communities to contribute to provide for their health and safety by increasing the generation of electricity and increasing the security of supply through different sources of electricity generation. It therefore achieves Section 5(2) of the RMA. This Objective also assists in achieving Section 7(b) – the efficient use and development of natural and physical resources and 7(ba) – the efficiency of the end use of energy. In conclusion, this Objective is considered the most appropriate for achieving the Purpose of the Act. It also is

	the most appropriate for giving effect to the RPS by recognising and providing for a regionally significant industry.

4 SCALE AND SIGNIFICANCE EVALUATION

The level of detail undertaken for the evaluation of the proposed District Plan provisions has been determined by an assessment of the scale and significance of the implementation of the proposed District Plan provisions. The scale and significance assessment considered the environmental, economic, social and cultural effects of the provisions. In making this assessment regard has been had to the following, namely whether the provisions:

(a) Are of regional or district wide significance;
(b) Have effects on resources that are considered to be a matter of national importance in terms of Section 6 of the Act;
(c) Adversely affect people's health and safety;
(d) Result in a significant change to the character and amenity of local communities;
(e) Adversely affect those with particular interests including Maori;
(f) Limit options for future generations to remedy effects;
(g) Whether the effects have been considered implicitly or explicitly by higher order documents; and
(h) Include regulations or other interventions that will impose significant costs on individuals or communities.

The evaluation has focused on those provisions that have changes from the Operative District Plan and are relevant to certain sections of Chapter 14:

- Provisions applying to all infrastructure (Sections 14.2 and 14.3)
- Electrical distribution (Section 14.5)
- Liquid fuels and gas (Section 14.7)
- Meteorological (Section 14.8)
- Amateur radio (Section 14.9)
- Telecommunications and radiocommunications (Section 14.10)
- Non-renewable energy (Section 14.7, Objective 6.3.6 and Policy 6.3.7)

Policies and rules have been evaluated as a package, as together they address a particular issue and seek to meet a specific objective.

The following table contains a summary of the policies and rules considered to be of a scale and significance to justify a more comprehensive evaluation of options.

Table 9 Scale and significance assessment

Issue	Provisions evaluated	Scale and Significance Reasoning
Integration of land use with infrastructure	6.4.1 Objective – Integration of Infrastructure with Subdivision, Land Use and Development 6.4.2 Policy – Provide Adequate Infrastructure 6.4.3 Policy – Infrastructure Location and Services 6.1.13 Policy – Future Growth Areas 4.1.4 Policy – Staging of development 4.7.5 Policy – Servicing requirements 4.7.6 Policy – Co-ordination between servicing and development and subdivision Standards and matters of control / discretion for subdivision and multi-unit residential development in all of the zones Rule 14.3.1 Service connections for subdivision (P1) Rule 14.3.4 Access and service connections for subdivision that do not comply with one or more of the conditions of Rule 14.3.1.8(D3)	This is a moderately significant matter for the District. It is moderately significant for the following reasons: (a) It is of regional or district wide significance; (b) Has the potential to adversely affect people's health and safety; (c) The effects have been considered implicitly or explicitly by higher order documents. This matter is explicitly addressed in the RPS; and (d) Include regulations or other interventions that will impose significant costs on individuals or communities. There can be significant costs associated with providing three waters infrastructure and servicing.
The on-going operation and maintenance of infrastructure is essential for the well-being of the community	6.1.1 Objective – Development, Operation and Maintenance of Infrastructure 6.1.2 Policy - Development, Operation and Maintenance 6.1.3 Policy - Technological Advances 6.1.4 Policy – Infrastructure Benefits 6.5.6 Policy – Network Utility Location 6.1.7 Policy – Reverse Sensitivity and Infrastructure 6.1.9 Policy - Environmental Effects, Community Health, Safety and Amenity 6.1.13 Policy –Future Growth Areas 6.1.15 Policy – Raglan Navigation Beacons Rule 14.2 Rules applying to all infrastructure	This matter has high significance due to the consequence of not enabling maintenance operation of the existing infrastructure. It is significant for the following reasons: (a) It is of district wide significance; (b) Adversely affect people's health and safety; (c) Adversely affect those with particular interests including Maori; (d) There are significant costs to the community if infrastructure cannot be operated and maintained.

	Rule 14.3 General Infrastructure Rule 14.5 Electrical Distribution Rule 14.7 Liquid fuels and gas Rule 14.8 Meteorological Rule 14.9 Amateur Radio Rule 14.10 Telecommunications and Radiocommunications Rules in the Zone chapters regarding structures, objects and vegetation around the Raglan navigation beacon	
New infrastructure can have adverse environmental effects	6.1.1 Objective – Development, Operation and Maintenance of Infrastructure 6.1.8 Objective – Infrastructure in the Community and Identified Areas 6.1.2 Policy - Development, Operation and Maintenance 6.1.3 Policy – Technological Advances 6.1.4 Policy – Infrastructure Benefits 6.1.5 Policy –Natural Hazards and Climate Change 6.5.6 Policy – Network Utility Location 6.1.9 Policy - Environmental Effects, Community Health, Safety and Amenity 6.1.11 Policy – Undergrounding New Infrastructure 6.1.12 Policy – Co-location of Compatible Facilities 6.1.13 Policy –Future Growth Areas 6.1.14 Policy – Electromagnetic and Radio Frequency Fields Rule 14.2 Rules applying to all infrastructure Rule 14.3 General Infrastructure Rule 14.5 Electrical Distribution Rule 14.7 Liquid fuels and gas Rule 14.8 Meteorological Rule 14.9 Amateur radio Rule 14.10 Telecommunications and radio-communications	This matter has moderate significance due to the consequence of not enabling new infrastructure, particularly that associated with growth. It is moderately significant for the following reasons: (a) It is of district wide significance; (b) Potential effects on resources that are considered to be a matter of national importance in terms of Section 6 of the Act if appropriate infrastructure is not constructed and installed; (c) Potential to adversely affect people's health and safety; (d) Adversely affect those with particular interests including Maori; (e) There may be significant costs to the community associated with new infrastructure.
There is the potential for	Objective 6.1.6 - Reverse Sensitivity	This matter has moderate significance due to

reverse sensitivity effects from infrastructure	6.1.7 Policy – Reverse Sensitivity and Infrastructure 6.1.2 Policy - Development, operation and maintenance 6.1.14 Policy – Electromagnetic and radio frequency fields Rule 14.2.1 Any activity emitting electric and magnetic fields (P3) Rule 14.2.1 Any activity emitting radio frequency fields (P4) Rule 14.2.3 Any activity that does not comply with the electric and magnetic field emissions standard in Rule 14.2.1.3 (NC1) Rule 14.2.3 Any activity that does not comply with the radio frequency fields standard in Rule 14.2.1.4 (NC2) Rule 14.3.1 The operation, maintenance, repair and removal of existing infrastructure (P1) Rule 14.3.1 Minor upgrading of existing infrastructure (P2)	the consequence of not enabling the operation of existing infrastructure. It is moderately significant for the following reasons: (a) It is of district wide significance; (b) Potential to adversely affect people's health and safety; (c) Adversely affect those with particular interests including Maori; (d) There may be significant costs to the community if infrastructure can not be operated.
Electricity derived from non-renewable resources contributes to the National Grid	6.3.6 Objective – Non-renewable Energy 6.3.7 Policy – Recognise Non-renewable Energy Resources 5.3.17 Policy – Specific area - Huntly Power Station – Coal and ash water 5.4.2 Policy – Access to minerals and extractive industries Rule 14.7 Liquid fuels and gas Rule 21.2.3 Noise 21.2.3.2 Noise – Huntly Power Station Rule 14.12.1 Traffic generation (P4) Rule 22.6 Specific Area - Huntly Power Station - Coal and Ash Water Rule 22.4.5 Subdivision of any land containing Coal Mining Area Specific Area - Huntly Power Station - Coal and Ash Water identified on the planning maps Gas transmission line identified on the planning maps	This matter is of moderate significance due to the linear nature of the gas transmission line and the discrete nature of the Huntly power station. However it does meet the following criteria: (a) It is of district wide significance due to the electricity input into the National Grid; and (b) Potential to adversely affect people's health and safety.

5 EVALUATION OF PROPOSED POLICIES, RULES AND METHODS

Section 32 (1)(b) requires an evaluation of whether the provisions are the most appropriate way to achieve the objectives by identifying other reasonably practicable options, assessing the efficiency and effectiveness of the provisions in achieving the objectives, and summarising the reasons for deciding on the provisions. The assessment must identify and assess the benefits and costs of environmental, economic, social and cultural effects that are anticipated from the implementation of the provisions, including opportunities for economic growth and employment. The assessment must if practicable quantify the benefits and costs and assess the risk of acting or not acting if there is uncertain or insufficient information available about the subject matter.

5.1 Identification of Reasonably Practicable Options – for Achieving Objectives

The following assessment consists of an examination of all reasonably practicable options for achieving the infrastructure objectives. This high-level screening process considers the effectiveness of each option. Only those options considered to be reasonably practicable will be evaluated in this section.

Table 10 Reasonably Practicable Options for Achieving the Objectives

Objective(s)	**6.4.1 Objective – Integration of Infrastructure with Subdivision, Land Use and Development** Infrastructure is provided for, and integrated with, subdivision, use and development.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
Option 1: Do nothing (remove all policies and associated methods)	This option would involve the district plan not addressing the matter of integration land use and infrastructure at all.	This approach would be highly ineffective in achieving the objective.	Council have a requirement under Section 31(1)(a) of the Act to achieve integrated management of the effects of the use, development or protection of land and associated natural and physical resources of the District. This approach would not fulfil this requirement. This approach would not achieve Council's responsibilities under Section	This approach could result in development being approved without the necessary servicing being available or in place. There could be serious health, safety and environmental consequences of this approach.	**Discard.** This option would not encourage the integration of land use and infrastructure as required by the RPS.

Objective(s)	**6.4.1 Objective – Integration of Infrastructure with Subdivision, Land Use and Development** Infrastructure is provided for, and integrated with, subdivision, use and development.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
			75(3)(a) and (c) which require district plans to give effect to national policy statements and regional policy statements. This approach would not give effect to the RPS which requires the integration of land use and infrastructure.		
Option 2: Status quo retain existing approach Operative District Plan	The policy framework for infrastructure in the Waikato Section of the Operative District Plan is contained in three separate sections -	Partially effective. This approach is not explicit in its expectation of integrating land use with infrastructure. Inconsistencies in having two separate	This approach partially meets Council's requirements under Section 31(1)(a) of the Act to achieve integrated management of the	This approach seems to be working well enough, but it would be more helpful to the processing of consents to be explicit about the need for integration	**Discard.**

Objective(s)	**6.4.1 Objective – Integration of Infrastructure with Subdivision, Land Use and Development** Infrastructure is provided for, and integrated with, subdivision, use and development.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
	the built environment (Chapter 6), energy (Chapter 7) and the land transport network (Chapter 8). The key themes of the objectives and policies are: • Development that is connected or grouped around infrastructure •Growth occurs in towns and villages •Adverse effects of use and development are avoided by provision of wastewater and	approaches for different parts of the District.	effects of the use, development or protection of land and associated natural and physical resources of the District. This approach would only partially achieve Council's responsibilities under Section 75(3)(a) and (c) which require district plans to give effect to regional policy statements. This approach would only partially give effect to the RPS which requires	of land use and infrastructure.	

Objective(s)	**6.4.1 Objective – Integration of Infrastructure with Subdivision, Land Use and Development** Infrastructure is provided for, and integrated with, subdivision, use and development.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
	stormwater disposal, supply of water, energy and telecommunications. The rules relating to infrastructure are contained within Appendix B – Engineering Standards The Franklin Section does not explicitly recognise the need for integration of land uses and infrastructure and instead it is a matter of control or discretion of subdivision. The Plan does recognise the		the integration and coordination of land use and infrastructure.		

Objective(s)	**6.4.1 Objective – Integration of Infrastructure with Subdivision, Land Use and Development** Infrastructure is provided for, and integrated with, subdivision, use and development.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
	importance to the economic and social well-being of the district and the essential nature of infrastructure as an objective.				
Option 3 – Develop policies and rules that ensure that development is appropriately serviced for telecommunications and electricity.	This option would involve establishing an explicit policy and rule framework to ensure that development was not approved unless there was sufficient appropriate servicing available for electricity and telecommunications. Also, areas would not be rezoned for	Very effective.	This approach is within Council's powers and would be an efficient and clear way to give effect to the RPS on this matter.	This approach would be acceptable to the community. There would be certainty when purchasing a property arising out of a subdivision that there is appropriate electricity and telecommunications infrastructure available.	**Retain.** This approach is the best way to give effect to the RPS.

Objective(s)	**6.4.1 Objective – Integration of Infrastructure with Subdivision, Land Use and Development** Infrastructure is provided for, and integrated with, subdivision, use and development.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
	growth unless there was adequate servicing available.				

Objective(s)	**6.1.1 Objective – Development, Operation and Maintenance of Infrastructure** Infrastructure is developed, operated and maintained to benefit the social, economic, cultural and environmental well-being of the district.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
Option 1: Do nothing (remove all policies and associated methods)	This option would mean that the PDP remained silent on the issue and would not recognise that development, operation and maintenance of infrastructure is required.	Highly ineffective.	While this is within Council's powers, this is not an effective way to give effect to RPS Policy 6.1 (and the associated methods).	This approach would be unacceptable to the community as they have expectations of a certain level of service. Infrastructure is essential to ensure the health and safety of the community.	**Discard.** This approach would not enable routine maintenance activities to be carried, nor the existing infrastructure to be upgraded to retain levels of service.
Option 2: Status quo – retain existing approach of the Operative District Plan	Both of the Franklin and Waikato Sections of the Operative District Plan allows the operation and maintenance of network utilities as a permitted activity	This is an effective approach to enabling the operation and maintenance of infrastructure.	This is within Council's power and would give effect to the RPS objectives and policies recognising the benefits of infrastructure.	This approach would be acceptable to the community. The community has certain expectations for a level of service and this approach would enable Council to maintain, operate	**Retain.** Recommend explicitly include development and upgrade of the existing network to avoid ambiguity as to whether the network can be

Objective(s)	**6.1.1 Objective – Development, Operation and Maintenance of Infrastructure** Infrastructure is developed, operated and maintained to benefit the social, economic, cultural and environmental well-being of the district.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
	subject to compliance with standards. The Franklin Section has standards specific for network utilities whereas the Waikato section uses the standards applicable for each zone.			and upgrade existing infrastructure without regulatory delay.	upgraded, setting reasonable parameters around this as standards.
Option 3 – Require consent for development, operation and maintenance activities	This option would require a resource consent for Council to undertake maintenance and upgrading of existing infrastructure. The existing structures themselves would be afforded existing use	Highly ineffective.	While this is within Council's powers, this is not an effective way to give effect to RPS Policy 6.1. The development, operation and maintenance of infrastructure must	This approach would be unacceptable to the community as they have expectations of a certain level of service. Infrastructure such as electricity is essential for the health and safety of	**Discard.**

Objective(s)	**6.1.1 Objective – Development, Operation and Maintenance of Infrastructure** Infrastructure is developed, operated and maintained to benefit the social, economic, cultural and environmental well-being of the district.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
	rights under Section 10 of the RMA. Infrastructure providers would realistically have to obtain global consents as it is not feasible or realistic to obtain a consent for each portion of the network.		be enabled for the infrastructure to continue serving the community.	the community. This would be a highly ineffective and inefficient approach. The resource consent would achieve nothing more in terms of managing effects that could not be achieved through a permitted activity status with conditions.	

Objective(s)	**6.1.8 Objective – Infrastructure in the Community and Identified Areas** Infrastructure takes into account the qualities and characteristics of surrounding environments and community well-being.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
Option1: Status quo – retain existing approach of the Operative District Plan	Both of the Franklin and Waikato Sections of the Operative District Plan allows network utilities as a permitted activity subject to compliance with standards. The Franklin Section has standards specific for network utilities whereas the Waikato section uses the standards applicable for each zone.	This is a partially effective approach. The Waikato approach does assume that the standards for each Zone are appropriate for structures such as sub-stations and masts.	This is within Council's power and responsibilities.	This approach would be acceptable to the community. It has the advantage of establishing an envelope of expected bulk and location standards within which structures could expected to be constructed.	**Discard.** The zone bulk and location standards are not going to be appropriate for large scale above-ground structures. It is more appropriate that the approach be tailored to the infrastructure rather than the zone standards be adopted.
Option 2 – Enable infrastructure throughout the	This option would enable new infrastructure as a	This approach would be ineffective at achieving the	While this is technically within Council's powers it	This approach would not be acceptable to the community. There	**Discard.** This option would not give effect to

Objective(s)	**6.1.8 Objective – Infrastructure in the Community and Identified Areas** Infrastructure takes into account the qualities and characteristics of surrounding environments and community well-being.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
District as permitted activities	permitted activity throughout the District, irrespective of size and location.	Objective. New lines and structures could be constructed without any consent process, but may have significant effects on the features, character and amenity of the surrounding environment.	arguably does not achieved the purpose of the RMA in Section 5(2)(c) which is "avoiding, remedying, or mitigating any adverse effects of activities on the environment." There are likely to be significant adverse effects from this approach. There could be potentially significant effect on Section 6 matters.	would be no certainty as to where structures may be located and the adverse effects from this approach are significant in terms of environmental, cultural, social and economic.	the RPS with regards to the protection of Section 6 matters.

Objective(s)	**6.1.8 Objective – Infrastructure in the Community and Identified Areas** Infrastructure takes into account the qualities and characteristics of surrounding environments and community well-being.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
Option 3 – Enable underground infrastructure as a permitted activity but require consents for larger activities and structures	This option would enable new lines as a permitted activity, but require above ground structures to be consented.	This approach would be highly effective at achieving the Objective. Above ground structures have greater visual effects than underground and this approach would allow the effects to be considered.	This approach would assist in achieving the purpose of the RMA in Section 5(2)(c) which is "avoiding, remedying, or mitigating any adverse effects of activities on the environment." This approach strikes a balance between enabling underground infrastructure which has very little effect and instead focusing on the larger and more obvious above-ground	This approach would be acceptable to the community. The environmental, cultural, social and economic effects of above ground structures could be assessed.	**Retain.**

Objective(s)	**6.1.8 Objective – Infrastructure in the Community and Identified Areas** Infrastructure takes into account the qualities and characteristics of surrounding environments and community well-being.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
			structures.		
Option 4 – Require consents for all new infrastructure irrespective of size and location	This option would require all new structures to be assessed by way of a resource consent, with a blanket activity status irrespective of whether the structures are above or underground, or their location / zone.	This approach would be effective in achieving the Objective. It would ensure that the effects of the new infrastructure were assessed, but is a rather blunt approach.	This approach is within Council's powers and responsibilities.	This approach would allow the adverse effects of the proposal to be assessed, and conditions could be placed to ensure that adverse effects are avoided, remedied or mitigated in accordance with Section 5 of the Act. inefficiencies could arise from having to assess every single infrastructure facility. From a transactional cost point of view would be administratively costly	**Discard.** This approach is blunt and does not set any particular direction for how new structures should be located or designed.

Objective(s)	**6.1.8 Objective – Infrastructure in the Community and Identified Areas** Infrastructure takes into account the qualities and characteristics of surrounding environments and community well-being.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
				and time consuming (bureaucratic processes).	
Option 5 – discourage new infrastructure in specific locations	This approach is tiered with different activity statuses for: • Above ground versus below ground • Within identified sensitive areas versus outside those areas	This approach would be effective in achieving the Objective. It would ensure that the effects of the new infrastructure were assessed, and sets a more restrictive approach for above-ground structures within specified identified areas.	This approach would achieve Council's responsibilities under Section 75(3)(a) and (c) which require district plans to give effect to regional policy statements.	This approach would allow the adverse effects of the proposal to be assessed, and conditions could be placed to ensure that adverse effects are avoided, remedied or mitigated in accordance with Section 5 of the Act.	**Retain** This approach efficiently gives effect to the RPS. It is considered to be the most appropriate way to achieve the objective.

Objective(s)	**6.1.6 Reverse Sensitivity** Infrastructure is protected from reverse sensitivity effects, and infrastructure (including the National Grid) is not compromised.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
Option1: Do nothing	This option would involve not acknowledging the importance of existing infrastructure, by policies and objectives and rules.	This would be highly ineffective. This approach would not achieve the objective at all. It would increase the risk to structures and people. This would be through additional buildings and people living and working in close proximity to infrastructure.	This approach would not achieve Council's responsibilities under Section 75(3)(a) and (c) which require district plans to give effect to regional policy statements. The regional policy statement recognises the potential for reverse sensitivity.	This approach would allow maximum flexibility for landowners in terms of activities and structures, but increase the risk to the operation and upgrade of infrastructure.	**Discard.** This option would be contrary to the Regional Policy Statement. It would not recognise the importance of infrastructure.
Option 2: Retain the current approach of the Waikato and Franklin Sections of the Operative	Neither the Waikato or Franklin Sections of the Operative District Plan effectively recognise	This would be highly ineffective. This approach would not achieve the objective at all.	This approach would not achieve Council's responsibilities under Section	This approach would allow maximum flexibility for landowners in terms of activities and	**Discard.** This option would be contrary to the Regional Policy Statement. It would

Objective(s)	**6.1.6 Reverse Sensitivity** Infrastructure is protected from reverse sensitivity effects, and infrastructure (including the National Grid) is not compromised.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
District Plan	or manage the potential for reverse sensitivity effects to arise associated with existing infrastructure.	It would increase the risk to structures and people. This would be through additional buildings and people living and working in close proximity to infrastructure.	75(3)(a) and (c) which require district plans to give effect to regional policy statements. The regional policy statement recognises the potential for reverse sensitivity.	structures, but increase the risk to the operation and upgrade of infrastructure.	not recognise the importance of infrastructure.
Option 3: Recognition of the potential for reverse sensitivity effects to constrain the effective operation and upgrading of infrastructure	This option entails an objective and policy which recognises the potential for reverse sensitivity effects to constrain the effective operation and upgrading of infrastructure. Operation and minor	Highly effective.	This approach would achieve Council's responsibilities under Section 75(3)(a) and (c) which require district plans to give effect to the regional policy	This approach may constrain the development of land surrounding infrastructure structures and activities, however the infrastructure is critical to the health and safety of the	**Retain.**

Objective(s)	**6.1.6 Reverse Sensitivity** Infrastructure is protected from reverse sensitivity effects, and infrastructure (including the National Grid) is not compromised.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
	upgrading could be a permitted activity to enable the continual operation of infrastructure.		statement.	wider community.	

Objective(s)	**6.3.6 Objective – Non-renewable Energy** Non-renewable energy resources are recognised within the district.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
Option1: Do nothing	This approach would not acknowledge the issue of non-renewable energy resources through the district plan	This approach would not achieve the objective at all.	While this approach is within Council's powers and responsibilities, it would not give effect to the RPS provisions regarding regionally significant industry.	This is likely to be unacceptable to the community. While renewable electricity generation is being encouraged, electricity generation from non-renewable resources still contributes significantly to the National Grid. The winning, processing and electricity generation from non-renewable resources creates a substantial number of jobs for communities such as Huntly and Taranaki.	**Discard.**
Option 2: Status	The Operative	This approach	This approach is	This approach is	**Retain**

Objective(s)	**6.3.6 Objective – Non-renewable Energy** Non-renewable energy resources are recognised within the district.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
Quo (retain the approach of the Operative District Plan: Waikato Section) with specific rules for the Huntly power station and coal mining area	District Plan: Waikato Section recognises the importance of non-renewable energy resources in maintaining social and economic well-being as both an objective (7.4A.1) and policy (7.5A.2). Schedule 25F sets out rules applicable to the energy surface facility areas identified on the planning maps.	would be effective.	within Council's powers and responsibilities, and it gives effect to the RPS provisions regarding regionally significant industry.	acceptable to the community as it was the approach in the Operative District Plan.	
Option 3: Adopt the normal zoning and rules for the Huntly power station and	This approach would involve applying the normal provisions of the Rural Zone to	This approach would not achieve the objective at all as it would not	While this approach is within Council's powers and responsibilities, it	This is likely to be unacceptable to the community. While renewable electricity	**Discard.**

Objective(s)	**6.3.6 Objective – Non-renewable Energy** Non-renewable energy resources are recognised within the district.				
Options Approach to achieve objective(s)	**Description (brief)** Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	**Relevance** How effective provisions are in achieving the objective(s).	**Feasibility** Within council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	**Acceptability** Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	**Recommendation** Discard or evaluate further (with brief explanation).
coal mines	the coal mining areas, and the Heavy Industrial rules to Huntly power station.	meaningfully recognise the importance of these structures and activities. This approach would not recognise the uniqueness of the activities and would result in a number of consent applications.	would not give effect to the RPS provisions regarding regionally significant industry.	generation is being encouraged, electricity generation from non-renewable resources still contributes significantly to the National Grid. The winning, processing and electricity generation from non-renewable resources creates a substantial number of jobs for communities such as Huntly and Taranaki.	

5.2 Evaluation of Selected Options

This section contains an evaluation of those options identified above for further evaluation. The short list of options has been developed further to include (where relevant) polices, rules and methods. In some instances, provisions have been bundled where they are expected to work together to achieve the objective(s). For efficiency, this second tier evaluation focuses on the approach and the policies and rules which implement that approach as a package, rather than a detailed analysis of every policy and every rule. How this section is approached in terms of level of detail depends to what extent the options are departing from the existing District Plans and the significance of the alternative options. The following table provides a summary of the evaluation results.

5.3 Objective: Integration of Infrastructure with Subdivision, Land Use and Development

The following provisions work as a package for achieving Objective 6.4.1:

- 6.4.2 Policy – Provide Adequate Infrastructure
- 6.4.3 Policy – Infrastructure Location and Services
- 6.1.13 Policy – Future Growth Areas
- 4.1.4 Policy – Staging of development
- 4.7.5 Policy – Servicing requirements
- 4.7.6 Policy – Co-ordination between servicing and development and subdivision
- Standards and matters of control / discretion for subdivision and multi-unit residential development in all of the zones
- Rule 14.3.1 Service connections for subdivision (P1)
- Rule 14.3.4 Access and service connections for subdivision that do not comply with one or more of the conditions of Rule 14.3.1.8(D3)

5.3.1 Identification of Options

In considering options for managing and enabling the operation and maintenance of infrastructure, a number of factors were taken into account including:

- The RPS
- Managing adverse effects
- Feedback from the infrastructure providers
- Ease of use and the most common users of the District Plan in terms of infrastructure
- Discussions with consenting staff as to whether requiring a hard connection for each newly created site was the most appropriate approach

Options considered for the integration of land use with infrastructure are outlined in Section 5.1 of this report, and included:

- Do nothing – (remove all policies and associated methods)
- Status quo – retain existing approach Operative District Plan
- Option 1 – Develop policies and rules that ensure that development is appropriately service for telecommunications and electricity.

5.3.2 Policy, Rule and Method Evaluation

This section assists to identify the provisions (i.e. policies, rules and methods) that are the most appropriate to achieve the objective.

Table 11 Evaluation of provisions

Provisions most appropriate to achieve Objective 6.4.1	Effectiveness and Efficiency	
	Benefits	Costs
6.4.2 Policy – Provide Adequate Infrastructure 6.4.3 Policy – Infrastructure Location and Services	Environmental:	Environmental: There may be adverse environmental effects associated with this infrastructure including visual effects where structure are above-ground
6.1.13 Policy – Future Growth Areas Standards and matters of control / discretion for subdivision and multi-unit residential development in all of the zones 4.1.4 Policy – Staging of development 4.7.5 Policy – Servicing requirements 4.7.6 Policy – Co-ordination between servicing and development and subdivision Rule 14.3.1 Service connections for subdivision (P1) Rule 14.3.4 Access and service connections for subdivision that do not comply with one or more of the conditions of Rule 14.3.1.8(D3)	Economic: Enables economic growth through ensuring each site created has adequate access to telecommunications and electricity Increased revenue for the infrastructure providers	Economic: There may be costs to the developer in providing connections to telecommunications and electricity Not all sites are easily accessible and there are some sites which are not economically viable to be serviced (i.e. remote rural sites) Costs may be passed onto home buyers
	Social: Enables people to be connected and able to communicate Electricity contributes to people's health and safety Access to telecommunications and electricity	Social: Not all people wish to connect to the grid May contribute to a more sedentary population through use of connected devices

	is an expectation of society Provides flexibility to consider alternative solutions to hard-wiring e.g. wireless	
	Cultural: Supports a connected community	Cultural: There may be adverse cultural effects depending on the location of the infrastructure (particularly above-ground)

Opportunities for economic growth and employment

This in itself will not lead to economic growth, but access to electricity and telecommunications is needed to support economic growth.

Options less or not as appropriate to achieve the objective

- Do nothing – (remove all policies and associated methods)
- Status quo – retain existing approach Operative District Plan

Appropriateness:
The options were disregarded as not being particularly effective in achieving the objective. The Operative District Plan pre-dates some of the higher order documents NPS, RPS, NZCPS, and the NES's required in respect to infrastructure, and so is less likely to be able to give effect to the higher order document and the RMA.

Risk of acting or not acting

Uncertainty or insufficiency of information:
The only uncertainty is unknown technical advances which mean different and potentially more efficient ways of doing things.

Risk of acting or not acting:
The risk of not acting is that sites are created without connections to electricity or telecommunications, which is a basic expectation of current communities.

Efficiency and effectiveness

How will the suite of provisions be efficient at achieving the objective?
The provisions will be efficient as they recognise the need for integration of land use and infrastructure. In terms of rules, the matters of discretion for subdivision or multi-unit development are the most efficient means for ensuring that each new site has telecommunications and electricity. The policies provide flexibility so that these services can be provided through alternatives to hard-wired networks such as wireless.

How will the suite of provisions be effective at achieving the objective?

The proposed policies are clear and directive and will be effective tools in directing how the objectives will be achieved with regard to servicing of new development. They will be effective in ensuring that every newly created site has appropriate level of servicing for telecommunications and electricity.

5.4 Objective: Development, Operation and Maintenance of Infrastructure

The following provisions work as a package for achieving Objective 6.1.1:

- 6.1.2 Policy - Development, Operation and Maintenance
- 6.1.3 Policy - Technological Advances
- 6.1.4 Policy – Infrastructure Benefits
- 6.5.6 Policy – Network Utility Location
- 6.1.7 Policy – Reverse Sensitivity and Infrastructure
- 6.1.9 Policy - Environmental Effects, Community Health, Safety and Amenity
- 6.1.13 Policy –Future Growth Areas
- 6.1.15 Policy – Raglan Navigation Beacons
- Rule 14.2 Rules applying to all infrastructure
- Rule 14.3 General Infrastructure
- Rule 14.5 Electrical Distribution
- Rule 14.7 Liquid fuels and gas
- Rule 14.8 Meteorological
- Rule 14.9 Amateur Radio
- Rule 14.10 Telecommunications and Radiocommunications
- Rules in the Zone chapters regarding structures, objects and vegetation around the Raglan navigation beacon

5.4.1 Identification of Options

In considering options for managing and enabling the operation and maintenance of infrastructure, a number of factors were taken into account including:

- The RPS
- Managing adverse effects
- Feedback from the infrastructure providers
- Ease of use and the most common users of the District Plan in terms of infrastructure
- Avoiding unnecessary consent processes

Options considered for managing the development, operation and maintenance of infrastructure are outlined in Section 5.1 of this report, and included:

- Option 1 Do nothing – (remove all policies and associated methods)
- Option 2 Status quo – retain existing approach of the Operative District Plan
- Option 3 – Require consent for development, operation and maintenance activities

The preferred option is the status quo approach whereby the operation, maintenance and upgrading of infrastructure is explicitly listed as a permitted activity. Minor upgrades, underground networks and small structures are also permitted, Larger structures and in sensitive locations will require consent. Consideration was also given to a less stringent activity status for structures, objects and vegetation around the Raglan navigation beacon.

5.4.2 Policy, Rule and Method Evaluation

This section assists to identify the provisions (i.e. policies, rules and methods) that are the most appropriate to achieve the objective.

Table 12 Evaluation of provisions

Provisions most appropriate to achieve Objective 6.1.1	Effectiveness and Efficiency	
	Benefits	Costs
6.1.2 Policy - Development, Operation and Maintenance 6.1.3 Policy - Technological Advances 6.1.4 Policy – Infrastructure Benefits 6.5.6 Policy – Network Utility Location 6.1.7 Policy – Reverse Sensitivity and Infrastructure 6.1.9 Policy - Environmental Effects, Community Health, Safety and Amenity 6.1.13 Policy –Future Growth Areas 6.1.15 Policy – Raglan Navigation Beacons Rule 14.2 Rules applying to all infrastructure Rule 14.3 General Infrastructure Rule 14.5 Electrical Distribution Rule 14.7 Liquid fuels and gas Rule 14.8 Meteorological Rule 14.9 Amateur Radio Rule 14.10 Telecommunications and Radiocommunications Rules in the Zone chapters regarding structures, objects and vegetation around the Raglan navigation beacon	Environmental: Ensures that infrastructure in more sensitive areas is assessed through a consent process Limits the effects on the environment by a tiered activity status. A more stringent activity status allows environmental effects to be assessed for the larger above-ground structures. Enables upgrades and maintenance which may reduce the environmental effects Protects the values and characteristics of: • Urban Expansion Area • Significant Natural Area • Outstanding Natural Feature • Outstanding Natural Landscape • Significant Amenity Landscape • Outstanding Natural Character • High Natural Character • Heritage Precinct • Heritage Items • Maaori Sites of Significance • Maaori Areas of Significance • Notable Trees Encouraging undergrounding of infrastructure with a more enabling activity status	Environmental: There will still be environmental effects associated with the operation and development of the infrastructure Recognises the potential for adverse effects to arise from the establishment, operation, maintenance and upgrading of infrastructure Avoiding one particular area for the location of infrastructure may increase the environmental effects of another location May result in routes or locations with significant environmental effects (e.g. substantially increased earthworks)

	Economic: Recognises the critical importance of infrastructure to the functioning of the district Development of infrastructure is essential for economic development Reduces the costs of undertaking maintenance by reducing consenting costs The ability to develop the network in response to demand	Economic: May place limitations on the infrastructure in terms of location and increase cost May result in alternative routes or alignments with greater cost Increased cost of maintenance with undergrounding More difficult to undertake maintenance with underground infrastructure
	Social: Enables quick maintenance to be undertaken without delay for a consent Protects sensitive areas Keeps people safe on the water by protecting the operation and visibility of the Raglan navigation beacon	Social: May constrain development around the Raglan navigation beacon
	Cultural: Supports a connected community Protects culturally significant areas Supports coastal activity	Cultural: There may be adverse cultural effects associated with the operation and development of the infrastructure
Opportunities for economic growth and employment		
This objective in itself will not lead to economic growth, but infrastructure is needed to support economic growth.		
Options less or not as appropriate to achieve the objective		
• Do nothing – (remove all policies and associated methods)		

- Require consent for development, operation and maintenance activities
- A less stringent activity status for objects, structures and vegetation around the raglan navigation beacon.

Appropriateness:
The above options were disregarded as not being effective in achieving the objective and created unnecessary consenting costs and time (in the case of Option 1).

Risk of acting or not acting

Uncertainty or insufficiency of information:
There are no uncertainties or insufficient information.

Risk of acting or not acting:
The risk of not acting is that regular and routine maintenance and operation of infrastructure would require consent. This is not an effective approach to enabling the continuous operation of essential infrastructure.

Efficiency and effectiveness

How will the suite of provisions be efficient at achieving the objective?
The approach efficiently enables operation and maintenance of infrastructure as a permitted activity, while establishing a framework for further development and new structure. The prohibited activity status for structures, objects and vegetation around the Raglan navigation beacon is considered the most efficient way to ensure the continued operation of this safety device. The consequence of structures, objects and vegetation blocking the visibility of the beacon is loss of life.

How will the suite of provisions be effective at achieving the objective?
The approach enables maintenance activities to be carried out without further regulation through consents. The standards set acceptable parameters within which the activities must be carried out. A policy and rule framework guides the development of the infrastructure and is an effective way of only requiring structures with unknown effects or those with a higher probability of effects to obtain resource consent.

The prohibited activity status for structures, objects and vegetation around the Raglan navigation beacon will be highly effective at achieving the objective, and ensure that the beacon can continue operating.

5.5 Objective: Infrastructure in the Community and Identified Areas

The following provisions work as a package for achieving Objective 6.1.8:

- 6.1.8 Policy - Development, Operation and Maintenance
- 6.1.3 Policy – Technological Advances
- 6.1.4 Policy – Infrastructure Benefits
- 6.1.5 Policy –Natural Hazards and Climate Change
- 6.5.6 Policy – Network Utility Location
- 6.1.9 Policy - Environmental Effects, Community Health, Safety and Amenity
- 6.1.11 Policy – Undergrounding New Infrastructure
- 6.1.12 Policy – Co-location of Compatible Facilities
- 6.1.13 Policy –Future Growth Areas
- 6.1.14 Policy – Electromagnetic and Radio Frequency Fields
- Rule 14.2 Rules applying to all infrastructure
- Rule 14.3 General Infrastructure
- Rule 14.5 Electrical Distribution
- Rule 14.7 Liquid fuels and gas
- Rule 14.8 Meteorological
- Rule 14.9 Amateur radio
- Rule 14.10 Telecommunications and radiocommunications

5.5.1 Identification of Options

In considering options for managing new infrastructure, a number of factors were taken into account including:

- The RPS
- Managing adverse effects
- Feedback from the infrastructure providers
- Ease of use and the most common users of the District Plan in terms of infrastructure
- Avoiding unnecessary consent processes
- Section 6 matters

Options considered for managing new infrastructure are outlined in Section 5.1 of this report, and included:

- Option 1 – Do nothing
- Option 2 Status quo – retain existing approach of the Operative District Plan
- Option 3 – Enable infrastructure throughout the District as permitted activities
- Option 4 – Enable underground infrastructure as a permitted activity but require consents for larger activities and structures
- Option 5 – Require consents for all new infrastructure irrespective of size and location

- Option 6 – Discourage new infrastructure in specific locations

5.5.2 Policy, Rule and Method Evaluation

This section assists to identify the provisions (i.e. policies, rules and methods) that are the most appropriate to achieve the objective.

Table 13 Evaluation of provisions

Provisions most appropriate to achieve Objective 6.1.8	Effectiveness and Efficiency	
	Benefits	Costs
6.1.8 Policy - Development, Operation and Maintenance 6.1.3 Policy – Technological Advances 6.1.4 Policy – Infrastructure Benefits 6.1.5 Policy –Natural Hazards and Climate Change 6.5.6 Policy – Network Utility Location 6.1.9 Policy - Environmental Effects, Community Health, Safety and Amenity 6.1.11 Policy – Undergrounding New Infrastructure 6.1.12 Policy – Co-location of Compatible Facilities 6.1.13 Policy –Future Growth Areas 6.1.14 Policy – Electromagnetic and Radio Frequency Fields Rule 14.2 Rules applying to all infrastructure Rule 14.3 General Infrastructure Rule 14.5 Electrical Distribution Rule 14.7 Liquid fuels and gas Rule 14.8 Meteorological Rule 14.9 Amateur radio Rule 14.10 Telecommunications and radiocommunications	Environmental: Protects the values and characteristics of: • Urban Expansion Area • Significant Natural Area • Outstanding Natural Feature • Outstanding Natural Landscape • Significant Amenity Landscape • Outstanding Natural Character • High Natural Character • Heritage Precinct • Heritage Items • Maaori Sites of Significance • Maaori Areas of Significance • Notable Trees Enable the effects of infrastructure in these areas to be assessed in terms of the effects on the feature Encouraging undergrounding of infrastructure with a more enabling activity status	Environmental: May result in routes or locations with significant environmental effects (e.g. substantially increased earthworks, visual effects, amenity effects)
	Economic: Co-location may reduce the costs to infrastructure providers	Economic: May increase the cost of infrastructure in these areas May result in alternative routes or alignments with greater cost Increased cost of maintenance with undergrounding More difficult to undertake maintenance

	Social: Protects sensitive areas Specific rules for area with a special character.	Social:
	Cultural: Protects culturally significant areas	Cultural: There may be adverse cultural effects associated with the operation and development of the infrastructure

Opportunities for economic growth and employment

This in itself will not lead to economic growth, but infrastructure is needed to support economic growth.

Options less or not as appropriate to achieve the objective

- Option 1 Do nothing
- Option 2 Status quo – retain existing approach of the Operative District Plan
- Option 3 – Enable infrastructure throughout the District as permitted activities
- Option 4 – Enable underground infrastructure as a permitted activity but require consents for larger activities and structures
- Option 5 – Require consents for all new infrastructure irrespective of size and location
- Option 6 – discourage new infrastructure in specific locations

Appropriateness:
The preferred option is a combination of Options 4 and 6. The other options were disregarded as not being effective in achieving the objective and would not manage the adverse environmental effects of new infrastructure.

Risk of acting or not acting

Uncertainty or insufficiency of information:
It is not known with any certainty as to what new infrastructure will be required through the life of this Plan.

Risk of acting or not acting:
The risk of not acting is that the value and characteristics of the identified areas are eroded or destroyed by insensitive location of infrastructure.

Efficiency and effectiveness

How will the suite of provisions be efficient at achieving the objective?
The policies generally provide an efficient way to achieve the Objective, as the benefits of providing for the efficient development of new infrastructure

outweighs the costs. The primary benefits from the policies and rules is that new infrastructure is guided away from the most sensitive parts of the District, and a more lenient and enabling rule framework for more appropriate locations and those forms with less adverse effects (such as underground).

The rules create a hierarchy of activity status. Underground infrastructure is a permitted activity while above-ground infrastructure are restricted discretionary activities, and those in identified areas have a more restrictive activity status of discretionary.

How will the suite of provisions be effective at achieving the objective?
The approach of the provisions is that a more lenient activity status applies to new infrastructure not located within Identified Areas, and a discretionary activity status within Identified Areas. This more stringent activity status indicates that these are not places where new infrastructure is appropriate. Identified Areas include those more sensitive environments that are sensitive to change and have certain values that need to be protected. They include:

- Urban Expansion Area
- Significant Natural Area
- Outstanding Natural Feature
- Outstanding Natural Landscape
- Significant Amenity Landscape
- Outstanding Natural Character
- High Natural Character
- Heritage Precinct
- Heritage Items
- Maaori Sites of Significance
- Maaori Areas of Significance
- Notable Trees

In conclusion, the recommended approach constitutes an effective way to give effect to protect Section 6 matters of the Act, by creating a policy and rule framework to guide the development of infrastructure into more appropriate locations.

5.6 Objective: Reverse Sensitivity

The following provisions work as a package to achieve Objective 6.1.6:

- 6.1.7 Policy – Reverse Sensitivity and Infrastructure
- 6.1.2 Policy - Development, operation and maintenance
- 6.1.14 Policy – Electromagnetic and radio frequency fields
- Rule 14.2.1 Any activity emitting electric and magnetic fields (P3)
- Rule 14.2.1 Any activity emitting radio frequency fields (P4)
- Rule 14.2.3 Any activity that does not comply with the electric and magnetic field emissions standard in Rule 14.2.1.3 (NC1)
- Rule 14.2.3 Any activity that does not comply with the radio frequency fields standard in Rule 14.2.1.4 (NC2)
- Rule 14.3.1 The operation, maintenance, repair and removal of existing infrastructure (P1)
- Rule 14.3.1 Minor upgrading of existing infrastructure (P2)

5.6.1 Identification of Options

In considering options for managing the potential for reverse sensitivity effects to arise from existing infrastructure, a number of factors were taken into account including:

- The RPS
- The importance of continued operation of infrastructure
- The acceptable level of upgrading
- National and international standards for electromagnetic or radio frequency fields

Options considered for managing the potential for reverse sensitivity effects included:

- Option 1 – Do nothing
- Option 2 Status quo – retain existing approach of the Operative District Plan
- Option 3 – Recognise the potential for reverse sensitivity effects through objectives and policies

5.6.2 Policy, Rule and Method Evaluation

This section assists to identify the provisions (i.e. policies, rules and methods) that are the most appropriate to achieve the objective.

Table 14 Evaluation of provisions

Provisions most appropriate to achieve Objective 6.1.6	Effectiveness and Efficiency	
	Benefits	Costs
6.1.7 Policy – Reverse Sensitivity and Infrastructure 6.1.2 Policy - Development, operation and maintenance 6.1.14 Policy – Electromagnetic and radio frequency fields Rule 14.2.1 Any activity emitting electric and magnetic fields (P3) Rule 14.2.1 Any activity emitting radio frequency fields (P4) Rule 14.2.3 Any activity that does not comply with the electric and magnetic field emissions standard in Rule 14.2.1.3 (NC1) Rule 14.2.3 Any activity that does not comply with the radio frequency fields standard in Rule 14.2.1.4 (NC2) Rule 14.3.1 The operation, maintenance, repair and removal of existing infrastructure (P1) Rule 14.3.1 Minor upgrading of existing infrastructure (P2)	Environmental: Serious adverse effects that have the potential to harm people including electric and magnetic fields have limits specified in the district plan.	Environmental: There may be adverse effects generated by the infrastructure
	Economic: Continuous provision of infrastructure is essential to economic activity and growth.	Economic: Limiting the upgrading of infrastructure to minor upgrades may not allow the level of upgrading needed to support growing communities and economies. The existence of infrastructure may limit development, eg location of a substation may reduce the development potential of surrounding sites.
	Social: The continual operation and upgrading of infrastructure ensures the health and safety of people.	Social: There may be significant adverse effects to people from infrastructure.
	Cultural: The continual operation and upgrading of infrastructure ensures the health and safety of people.	Cultural: There may be significant cultural effects from infrastructure.
Opportunities for economic growth and employment		
This objective itself will not lead to economic growth, but the continued operation and development of infrastructure is needed to support economic growth.		
Options less or not as appropriate to achieve the objective		
• Option 1 – Do nothing • Option 2 Status quo – retain existing approach of the Operative District Plan		

- Option 3 – Recognise the potential for reverse sensitivity effects to arise through objectives and policies

Appropriateness:
The preferred option is Option 3. The other options were disregarded as not being effective acknowledging and managing the potential for reverse sensitivity effects to constrain the operation and development of existing infrastructure.

Risk of acting or not acting

Uncertainty or insufficiency of information:
Some people are more sensitive to the effects of infrastructure than others.

Risk of acting or not acting:
The risk of not acting is that the continuous operation and upgrading of essential infrastructure is restrained by subsequent development.

Efficiency and effectiveness

How will the suite of provisions be efficient and effective at achieving the objective?
The package of provisions will ensure that existing infrastructure is considered when development tis proposed in close proximity. This matter is not something that can be easily managed by activities and standards; it is most appropriate managed through an objective and policy framework that ensures that development proposals that require a resource consent consider the location and effects of existing infrastructure.

5.7 Objective: Non-renewable Energy

The following provisions work as a package for achieving Objective 6.3.6:

- 6.3.7 Policy – Recognise Non-renewable Energy Resources
- 5.3.17 Policy – Specific area - Huntly Power Station – Coal and ash water
- 5.4.2 Policy – Access to minerals and extractive industries
- Rule 14.7 Liquid fuels and gas
- Rule 14.7 Liquid fuels and gas
- Rule 21.2.3 Noise
- 21.2.3.2 Noise – Huntly Power Station
- Rule 14.12.1 Traffic generation (P4)
- Rule 22.6 Specific Area - Huntly Power Station - Coal and Ash Water
- Rule 22.4.5 Subdivision of any land containing Coal Mining Area
- Specific Area - Huntly Power Station - Coal and Ash Water identified on the planning maps
- Gas transmission line identified on the planning maps

5.7.1 Identification of Options

In considering options for managing non-renewable energy resources, a number of factors were taken into account including:

- The RPS
- Managing adverse effects
- The contribution of electricity generation from Huntly power station to the National Grid
- The relationship between gas transmission lines and Huntly power station
- The partial designation over the Maui gas line and private easements which protect the gas transmission line
- Avoiding unnecessary consent processes

Options considered for the managing non-renewable energy resources included:

- Option 1 – Do nothing
- Option 2 Status quo – retain existing approach of the Operative District Plan
- Option 3 – Adopt the normal zoning and rules for the Huntly power station and coal mining areas

5.7.2 Policy, Rule and Method Evaluation

This section assists to identify the provisions (i.e. policies, rules and methods) that are the most appropriate to achieve Objective 6.3.6.

Table 15 Evaluation of provisions

Provisions most appropriate to achieve Objective 6.3.6	Effectiveness and Efficiency	
	Benefits	Costs
6.3.7 Policy – Recognise Non-renewable Energy Resources 5.3.17 Policy – Specific area - Huntly Power Station – Coal and ash water 5.4.2 Policy – Access to minerals and extractive industries Rule 14.7 Liquid fuels and gas Rule 21.2.3 Noise 21.2.3.2 Noise – Huntly Power Station Rule 14.12.1 Traffic generation (P4) Rule 22.6 Specific Area - Huntly Power Station - Coal and Ash Water Rule 22.4.5 Subdivision of any land containing Coal Mining Area Specific Area - Huntly Power Station - Coal and Ash Water identified on the planning maps Gas transmission line identified on the planning maps	Environmental: Recognises access to a finite resource	Environmental: Continued use of non-renewable energy resources contributes to greenhouse gas emissions Unsustainable use of finite resources May postpone / delay the investment in renewable electricity resources as there is sufficient electricity being generated
	Economic: Enables flexibility and resilience by generating electricity from a range of resources Assists in meeting the national electricity needs Huntly power station, the coal mines and the gas fields off Taranaki coast provide jobs.	Economic: May delay the investment in renewable electricity resources Non-renewable resources are more costly than non-renewable resources
	Social: Increases awareness of the gas transmission line by identifying it on the planning maps Small towns such as Huntly benefit from the jobs provided to locals.	Social: Risk that the Government's targets for renewable electricity generation will not be achieved.
	Cultural:	Cultural: There may be cultural effects to the mauri of the water from the use of Waikato River for the Huntly power station.
Opportunities for economic growth and employment		

This objective itself will not lead to economic growth, but electricity is needed to support economic growth.

Options less or not as appropriate to achieve the objective

- Option 1 – Do nothing
- Option 2 Status quo – retain existing approach of the Operative District Plan
- Option 3 – Adopt the normal zoning and rules for the Huntly power station and coal mining areas

Appropriateness:
The preferred option is Option 2. The other options were disregarded as not being effective in achieving the objective and would not appropriately recognise the contribution of non-renewable electricity generation to the National Grid.

Risk of acting or not acting

Uncertainty or insufficiency of information:
It is not known with any certainty as to what the future plans of Genesis Energy are, and whether the Huntly power station will continue to operate using non-renewable resources.

Risk of acting or not acting:
The risk of not acting is that the non-renewable energy resources are not recognised and the planning rules constrain the generation of electricity.

Efficiency and effectiveness

How will the suite of provisions be efficient and effective at achieving the objective?
The package of policy and rules will appropriately recognise the activities associated with non-renewable energy resources. Identifying the gas transmission lines on the planning maps will increase awareness and assist in preventing activities which may compromise or damage the pipelines.

The policies and rules recognise the contribution that the Huntly power station makes to the National Grid. While there is a move towards greater use of renewable electricity generation, Huntly still contributes a substantial amount of electricity. The rules recognise the unique transport requirements of the power station.

The rules in the Rural Chapter also recognise that the coal mines are an essential part of Huntly's economy, and introduce standards which enable stockpiling and mining activities to continue.

6 CONCLUSION

After undertaking an evaluation as required by Section 32 of the RMA, The Objective is considered the most appropriate way to achieve the Purpose of the RMA (Section 5) for addressing infrastructure.

It is considered that the recommended policies and methods outlined above are the most appropriate way for achieving the objectives, having considered:

(6) other reasonably practicable options for achieving the objective; and

(ii) assessing the efficiency and effectiveness of the provisions in achieving the objective.

APPENDIX 1 PROVISION CASCADE

Issue to be addressed	Objective	Policies	Rules	Standards / Assessment Criteria
Integration of land use with infrastructure	6.4.1 Objective – Integration of Infrastructure with Subdivision, Land Use and Development Infrastructure is provided for, and integrated with, subdivision, use and development.	6.4.2 Policy – Provide Adequate Infrastructure 6.4.3 Policy – Infrastructure Location and Services 6.1.13 Policy – Future Growth Areas 4.1.4 Policy – Staging of development 4.7.5 Policy – Servicing requirements 4.7.6 Policy – Co-ordination between servicing and development and subdivision	Standards and matters of control / discretion for subdivision and multi-unit residential development in all of the zones Rule 14.3.1 Service connections for subdivision (P1) Rule 14.3.4 Access and service connections for subdivision that do not comply with one or more of the conditions of Rule 14.3.1.8(D3)	
The on-going operation and maintenance of infrastructure is essential for the well-being of the community	6.1.14 Objective – Development, Operation and Maintenance of Infrastructure Infrastructure is developed, operated and maintained to	6.1.2 Policy – Development, Operation and Maintenance 6.1.3 Policy – Technological Advances 6.1.4 Policy – Infrastructure Benefits 6.5.6 Policy – Network Utility Location	Rule 14.2 Rules applying to all infrastructure Rule 14.3 General Infrastructure Rule 14.5 Electrical Distribution Rule 14.7 Liquid fuels and gas Rule 14.8 Meteorological	All the standards and assessment criteria associated with these rules

	benefit the social, economic, cultural and environmental well-being of the district.	6.1.7 Policy – Reverse Sensitivity and Infrastructure 6.1.9 Policy – Environmental Effects, Community Health, Safety and Amenity 6.1.13 Policy –Future Growth Areas 6.1.15 Policy – Raglan Navigation Beacons	Rule 14.9 Amateur Radio Rule 14.10 Telecommunications and Radiocommunications	
			Rule 14.3 General Infrastructure Prohibited activity status for structures, objects and vegetation around the Raglan navigation beacon in the Business, Rural, Residential, Reserves and Business Town Centre Zones	All the standards and assessment criteria associated with these rules
New infrastructure can have adverse effects	6.1.14 Objective – Development, Operation and Maintenance of Infrastructure Infrastructure is developed, operated and maintained to benefit the social, economic, cultural and	6.1.14 Objective – Development, Operation and Maintenance of Infrastructure 6.1.8 Objective – Infrastructure in the Community and Identified Areas 6.1.2 Policy – Development, Operation and Maintenance	Rule 14.2 Rules applying to all infrastructure	All the standards and assessment criteria associated with these rules
			Rule 14.3 General Infrastructure	All the standards and assessment criteria associated with these rules
			Rule 14.5 Electrical Distribution	All the standards and assessment criteria associated with these rules
			Rule 14.7 Liquid fuels and gas	All the standards and assessment criteria associated with these rules
			Rule 14.8 Meteorological	All the standards and assessment criteria associated with these rules
			Rule 14.9 Amateur radio	All the standards and assessment criteria associated with these rules

	environmental well-being of the district. 6.1.8 Objective – Infrastructure in the Community and Identified Areas Infrastructure takes into account the qualities and characteristics of surrounding environments and community well-being.	6.1.3 Policy – Technological Advances 6.1.4 Policy – Infrastructure Benefits 6.1.5 Policy –Natural Hazards and Climate Change 6.5.6 Policy – Network Utility Location 6.1.9 Policy – Environmental Effects, Community Health, Safety and Amenity 6.1.11 Policy – Undergrounding New Infrastructure 6.1.12 Policy – Co-location of Compatible Facilities 6.1.13 Policy –Future Growth Areas 6.1.14 Policy – Electromagnetic and Radio Frequency Fields	Rule 14.10 Telecommunications and radiocommunications	All the standards and assessment criteria associated with these rules

Reverse sensitivity effects can arise associated with existing infrastructure	Objective 6.1.6 Infrastructure is protected from reverse sensitivity effects, and infrastructure (including the National Grid) is not compromised.	6.1.7 Policy – Reverse Sensitivity and Infrastructure 6.1.2 Policy - Development, operation and maintenance 6.1.14 Policy – Electromagnetic and radio frequency fields	Rule 14.2.1 Any activity emitting electric and magnetic fields (P3) Rule 14.2.1 Any activity emitting radio frequency fields (P4) Rule 14.2.3 Any activity that does not comply with the electric and magnetic field emissions standard in Rule 14.2.1.3 (NC1) Rule 14.2.3 Any activity that does not comply with the radio frequency fields standard in Rule 14.2.1.4 (NC2) Rule 14.3.1 The operation, maintenance, repair and removal of existing infrastructure (P1) Rule 14.3.1 Minor upgrading of existing infrastructure (P2)	14.3.1.1 (1) The realignment, configuration, relocation or replacement of infrastructure and associated structures that meet all of the following conditions: (a) Are within 5m of the existing alignment or location; (b) Do not increase the height of any existing pole or support structure by more than 15%; (c) Do not increase the diameter (width) of any existing pole or support structure by more than 15%;

				(d) Do not increase the diameter of any existing above-ground pipe by more than 15%; and (e) Do not increase the area of any existing above-ground structure by more than 15%. (2) Alterations and additions to overhead electricity and telecommunication lines on existing poles or support structures involving any of the following: (a) The addition of conductors to form a twinned or duplex-pairing; (b) The reconductoring of the line with higher capacity conductors; (c) The resagging of conductors; (d) The addition of longer, more efficient insulators; (e) The addition of earth wires (which may contain telecommunication lines), earthpeaks and lightning rods; (f) The addition, replacement or relocation of transformers; (g) The addition, replacement or relocation of circuits and conductors; (h) The addition or replacement of telecommunication lines and fittings; (i) The replacement of existing crossarms with crossarms of an alternative design; (j) The increase in voltage of electric lines up to 110kV; or (k) The installation of mid-span electricity poles in existing networks to address clearances in New Zealand Electrical Code of Practice for Electrical Safe Distances 34:2001

				ISSN 0114-0663 (NZECP34:2001). (3) The addition, replacement or relocation of existing antennas where: (a) The antennas shall not increase in area by more than 20% of the relevant permitted standard for new antennas; and (b) The antennas shall not increase in height by more than 20% of the relevant permitted standard for new antennas. (4) Earthworks activities associated with the minor upgrading of existing infrastructure must comply with the conditions of Rule 14.3.1.3. (5) The minor upgrading of existing infrastructure must not remove any tree identified in Schedule 30.2. Any trimming of a tree identified in Schedule 30.2 associated with the minor upgrading of existing infrastructure must be undertaken in accordance with the conditions of Rule 14.3.1.4.
Electricity derived from non-renewable resources contributes to the National Grid	6.3.6 Objective – Non-renewable Energy Non-renewable energy resources are recognised within the district.	6.3.7 Policy – Recognise Non-renewable Energy Resources 5.3.17 Policy – Specific area - Huntly Power Station – Coal and ash water 5.4.2 Policy – Access to minerals and extractive industries	Rule 14.7 Liquid fuels and gas Rule 21.2.3 Noise 21.2.3.2 Noise – Huntly Power Station Rule 14.12.1 Traffic generation (P4) Rule 22.6 Specific Area - Huntly Power Station - Coal and Ash Water Specific Area - Huntly Power Station - Coal and Ash Water	

			identified on the planning maps Gas transmission line identified on the planning maps	

APPENDIX 2 ISSUES AND OPTIONS REPORT

APPENDIX 3 CONSULTATION FEEDBACK