ASSET MANAGEMENT PLAN

1ST APRIL 2025 – 31ST MARCH 2035

Prepared by Buller Electricity Ltd

www.bullerelectricity.co.nz

March 2025

To Ensure Public Safety and Prudent Financial Management and control.

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1 SUMMARY

1.1 INTRODUCTORY REMARKS

Asset management to Buller Electricity Limited (BEL) means the systematic and coordinated activities and practices through which BEL optimally manages its physical assets and their associated performance, risks, safety and expenditures over their lifecycles for the purpose of achieving its organisational strategic plan.

This AMP describes BEL's asset policies, strategies, processes and systems that will be used to manage the electricity distribution system to meet the following:

- Consumer demand for capacity, security and reliability.
- Community expectations of safety and standards.
- Regulatory expectations of revenue, pricing, reliability and disclosure.

1.2 BACKGROUND AND OBJECTIVES

This AMP provides a systematic governance and management framework for managing BEL's assets and it assists compliance with the requirements of the Electricity Distribution Information Disclosure (amendments related to IM Review 2023) Amendment Determination 2024. All financial information is presented in constant price New Zealand dollars except where specified otherwise as per IDD requirements.

Section Two describes the linkages between BEL's various planning documents such as the Vision, Mission and Values of the company, Statement of Corporate Intent, Strategic Plan and Annual Business Plan. System processes and the accountabilities for implementing the various outcomes are also described.

1.3 SERVICE LEVELS

Section Three describes what BEL's service levels are such as SAIDI and SAIFI, the targets and consumer engagement results that was completed by an independent third-party professional survey firm in 2021. Overall satisfaction with Buller Electricity is presented (Figure 1).

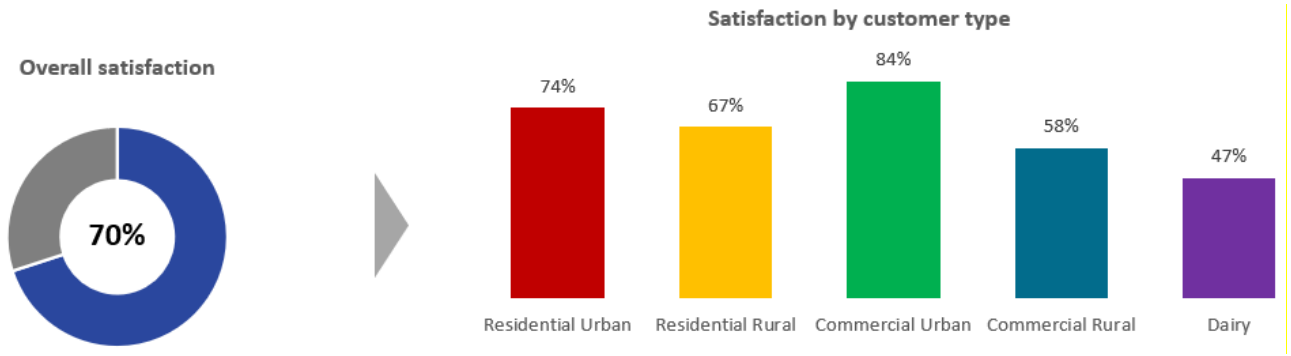


Figure 1. Customer Satisfaction per Customer Type

Overall, 70% of Buller Electricity customers are satisfied with the service. However, satisfaction is slightly lower among rural customers and businesses, likely due to their greater reliance on a consistent power supply.

The primary source of dissatisfaction among customers is the perceived overall value for money (38%). On the other hand, enquiry handling (7%) has the least impact on customer dissatisfaction.

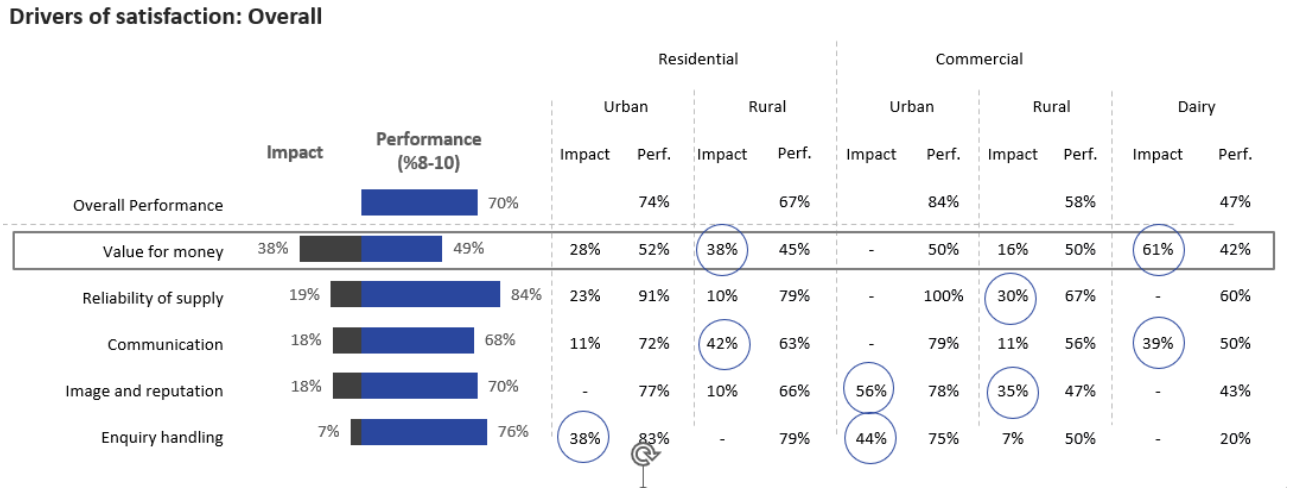


Figure 2. Drivers of Customer Satisfaction.

The targeted primary service levels for the next three years are outlined below. These unplanned service level targets now account for an increase in major weather events, which were previously considered rare occurrences. Over the past decade, Buller Electricity has experienced a growing frequency of significant weather events, including windstorms, cyclones, and flooding. As a result, the unplanned targets have been adjusted to reflect this changing climate reality.

Table 1. Primary Service Level Targets for Next Three Years.

Measure	2025/26	2026/27	2027/28
SAIDI Planned Interruptions	200	190	180
SAIDI Unplanned Interruptions	588.0	588.0	588.0
SAIFI Planned Interruptions	0.70	0.70	0.70
SAIFI Unplanned Interruptions	3.85	3.85	3.85

Five year forecast financial efficiency measures, network efficiency and utilisation are shown in the following tables.

Table 2. Forecast Financial Efficiency Measures (Next Five Years).

Measure	YE 31/3/26	YE 31/3/27	YE 31/3/28	YE 31/3/29	YE 31/3/30
Costs ($/km of line)	11,067	12,473	12,018	11,846	11,791
Costs ($/customer)	1,483	1,663	1,597	1,566	1,551

Table 3. Forecast Network Efficiency Measures (Next Five Years).

Measure	YE 31/3/26	YE 31/3/27	YE 31/3/28	YE 31/3/29	YE 31/3/30
Load Factor	59%	58%	56%	55%	55%
Loss Ratio	6.9%	7.06%	7.06%	5.6%	5.6%
Capacity Utilisation	24%	24%	25%	25%	25%

1.4 ASSETS COVERED

Section Four summarises Buller's assets and asset configurations, but begins by describing Buller's geographical coverage, what sort of activities the underlying community uses electricity for, and the issues arising from that use. The network physical assets general condition, loadings and age profiles are also described.

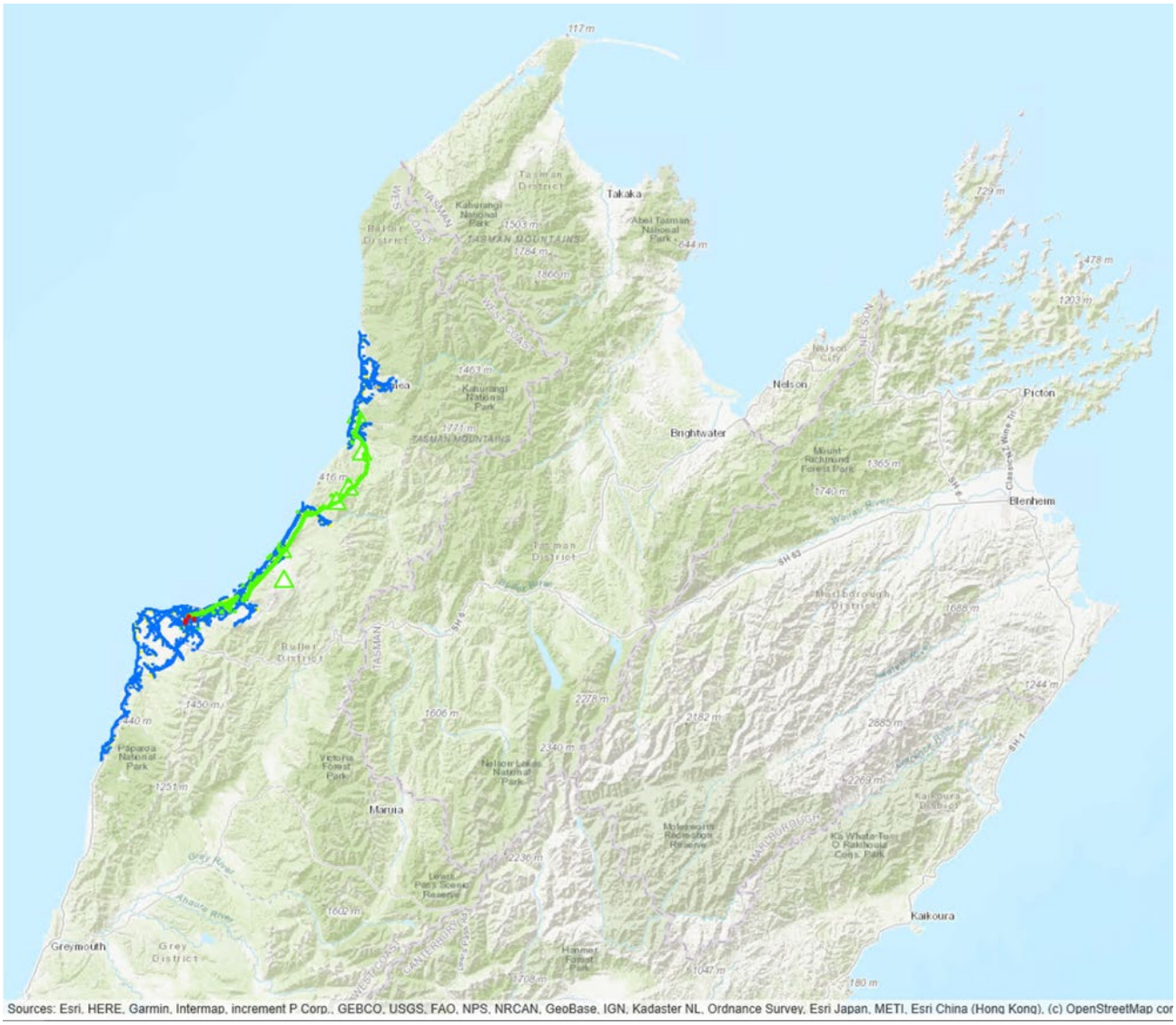


Figure 3. BEL Supply Region (Data source: Adapt Asset Management System).

1.5 MAINTENANCE AND RENEWAL PLANNING

BEL has a range of methods, policies and strategies for managing its existing assets, of which the core components are:

An asset database system that can provide asset attribute replacement reports including replacement year and replacement cost.

An inspection and condition assessment program which focuses on avoidance of in-service asset failure due to condition. This includes assessment of tree clearances.

A maintenance program based on the asset management database (AMD) reports and inspection program.

A tree trimming program focused on maintaining statutory clearances.

An asset renewal program based on avoidance of in-service asset failure due to declining condition.

An asset upsizing program based on avoidance of in-service asset failure due to insufficient capacity.

Section Five describes the maintenance and renewal strategies with a breakdown of 10-year forecast budgets.

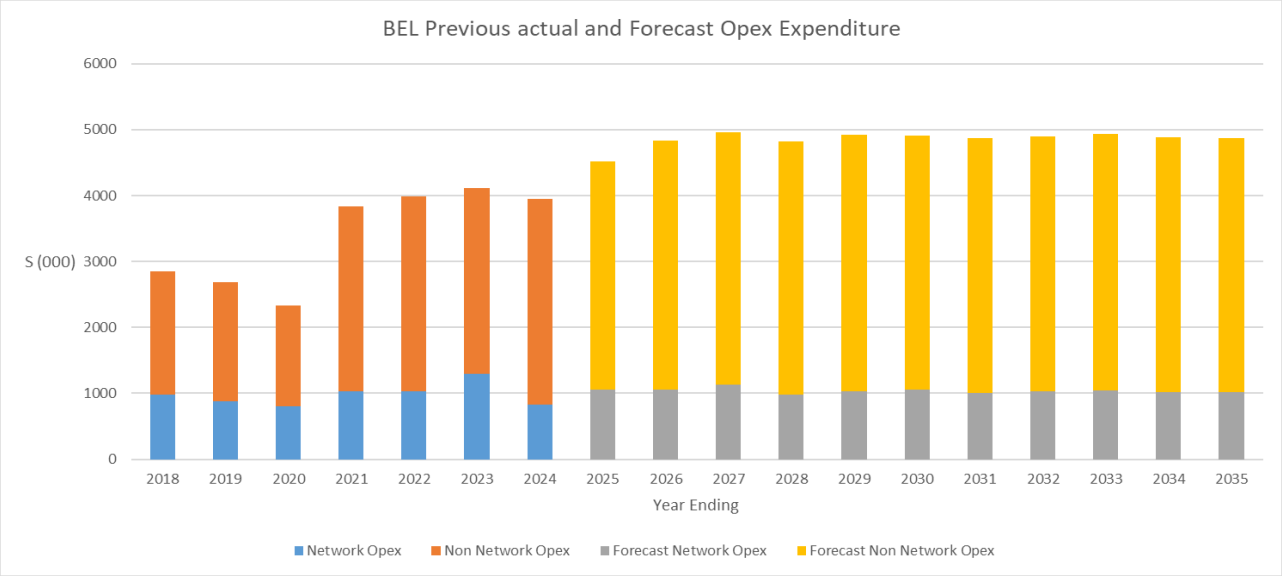


Figure 4. Actual and Forecast Operational Expenditure.

Work Category	Maintenance Budgets $000, year ending 31 March									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Faults and Emergencies	288	297	297	297	297	297	297	297	297	297
Vegetation Management	329	339	339	339	339	339	339	339	339	339
Routine and Preventative	371	428	285	329	350	310	330	345	320	317
Refurbishment and Renewal	74	64	64	64	64	64	64	64	64	64
Network Opex	1062	1129	985	1029	1050	1011	1030	1045	1020	1017
System Management	430	497	494	550	520	520	520	550	520	520
Total Network Opex	**1491**	**1625**	**1479**	**1579**	**1570**	**1530**	**1550**	**1595**	**1540**	**1537**
Business Support	3341	3341	3341	3341	3341	3341	3341	3341	3341	3341
Total	**4833**	**4966**	**4821**	**4920**	**4911**	**4872**	**4891**	**4936**	**4881**	**4878**

Table 4. Maintenance Budget, Year End 31 March.

1.6 DEVELOPING NEW ASSETS

One of BEL's key activities is matching asset capacity to consumer demand. Aggregate residential and commercial demand growth across the entire BEL area tends to be low, predictable, and well within the capacity of almost all substations and lines apart from a few instances where the installation of voltage regulators or voltage support capacitors will suffice. Hence BEL's primary investment mode tends to be renewal of assets due to declining condition. New technology is not foreseen to bring major impacts in the short term to the BEL network. This is detailed in section 6.7.

Industrial demand is a complicated issue for BEL because the value drivers of most of BEL's major industrial consumers are linked strongly to global markets for commodities such as coal, dairy products and fish. As a result, BEL usually does not get much notice of demand expansion or contraction from these consumers, which have potential to require either hurried asset construction or consideration of options for stranded assets.

While there are some potential development projects in the region that BEL is aware of, these have not been developed enough for BEL to plan for these with any certainty given that even site locations have not been confirmed.

Most decarbonisation of local process heat plant has already been undertaken with only one known remaining coal fired boiler in operation. Investigation is continuing to see whether it is economically viable for the consumer to convert to electricity.

Only minimal future expenditure for demand growth is allocated in this AMP. This is for upgrade of transformers on existing subdivisions as additional consumers connect and LV network Voltage complaint corrections.

The below table and chart show BEL's previous and forecast capital expenditure for the AMP planning period. This includes the forecast capital contribution expenditure of third parties for consumer connection work. The 2021 through to 2025 years included the non-network expenditure for the Asset management, GIS and financial system upgrades as well as land and building improvements. Higher than normal forecast Network expenditure in the 2027 to 2029 years is for a standby diesel generator replacement at Karamea, the expected replacement of the SCADA System, ($800k) and Retailer billing and ICP Management software replacement ($350k) . 2032 also includes allowance for a power transformer replacement at Ngakawau Zone Substation.

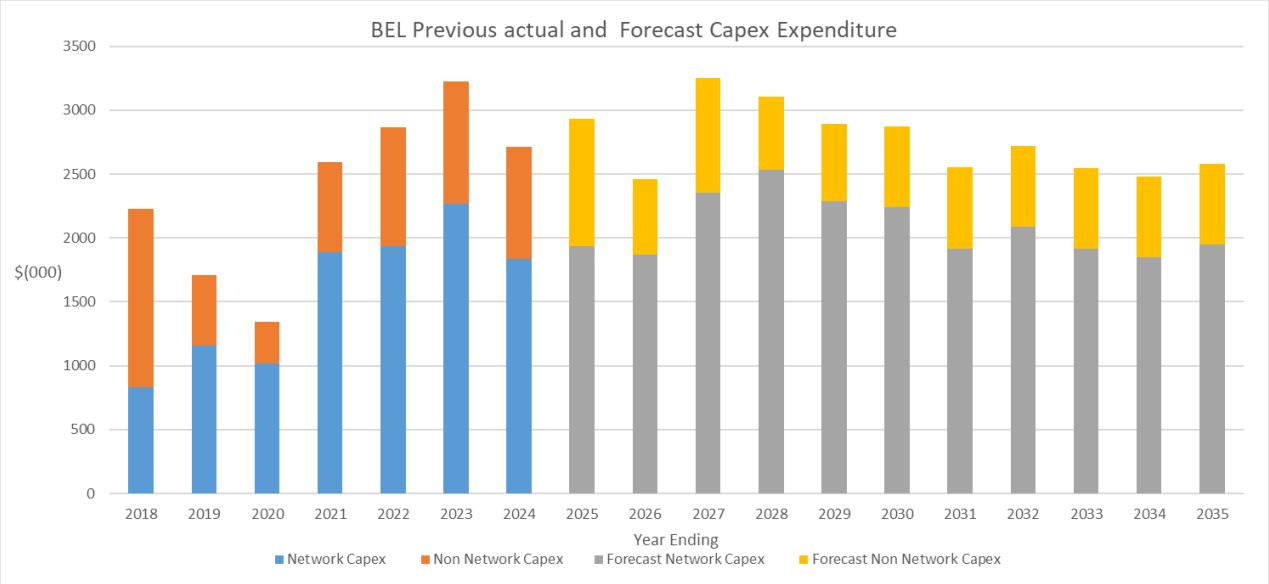


Figure 5. Actual and Forecast Capital Expenditure.

Table 5. Capital Expenditure Budget, Year End 31 March.

Work Category	Capex budgets ($000), year-end 31 March									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Customer connection	100	125	150	175	175	175	175	175	175	175
System growth	51	51	51	51	51	51	51	51	51	51
Replacement and renewal	1493	1901	2043	1839	1783	1498	1669	1494	1428	1527
Asset Relocation	0	0	0	0	0	0	0	0	0	0
Reliability, safety and environment	225	278	292	228	228	193	193	193	193	193
Vested Assets	51	51	51	51	51	51	51	51	51	51
Non-System Assets	591	898	575	604	633	634	634	634	634	634
Totals	**2512**	**3304**	**3163**	**2949**	**2922**	**2602**	**2774**	**2599**	**2532**	**2631**

1.7 RISK MANAGEMENT

BEL has undertaken a comprehensive review of all classes of risks that it faces, ranging from the risk of inaccurate asset condition assessments to storm damage and environmental changes to the risk of changes to the regulatory regime. These are set out in BEL's risk register. BEL also reports regularly to the Board on the risk to the company, setting out both the worst possible and worst credible outcomes should risk events occur. Public safety risks and their associated controls are also regularly reviewed and highlighted with the Board.

BEL recognizes that the most sudden and potentially devastating risks are:

- Physical damage to the network.
- Electrical safety incidents.
- Departure of trained and competent employees and contractors.

Accordingly, BEL has specific plans to minimize the likelihood and consequences of these risks.

Table 1 – BEL planning documents for managing risks

Document title	Description
Buller Electricity Emergency Procedures	This describes action plans for Fire, Earthquake, Accident, Flood / Tsunami, major or minor oil spills.
Buller Electricity Business Continuity Plan	This plan outlines Buller Electricity Limited's response to resume business following natural disasters or catastrophic events on either the Buller Electricity Limited distribution network or the Transpower transmission network.
AMP	The AMP describes BEL's asset management policies, strategies, processes and systems that will be used to manage the electricity distribution system to meet: - Consumer demand for capacity, security and reliability. - Community expectations of safety and clearances. - Regulatory expectations of revenue, pricing, reliability and disclosure.

Section Seven expands on the management of risks and the safety culture being developed.

1.8 PERFORMANCE EVALUATION

This section reviews BEL's performance in the following areas:

- Network asset performance and reliability
- Financial and works implementation
- Comparisons with other EDBs

The figure below illustrates BEL's asset reliability performance over the past two years. The dotted lines represent BEL's targets, while the solid lines depict actual performance. Unplanned forecast figures have been adjusted upward to account for uncontrollable natural disasters, such as storms and flooding.

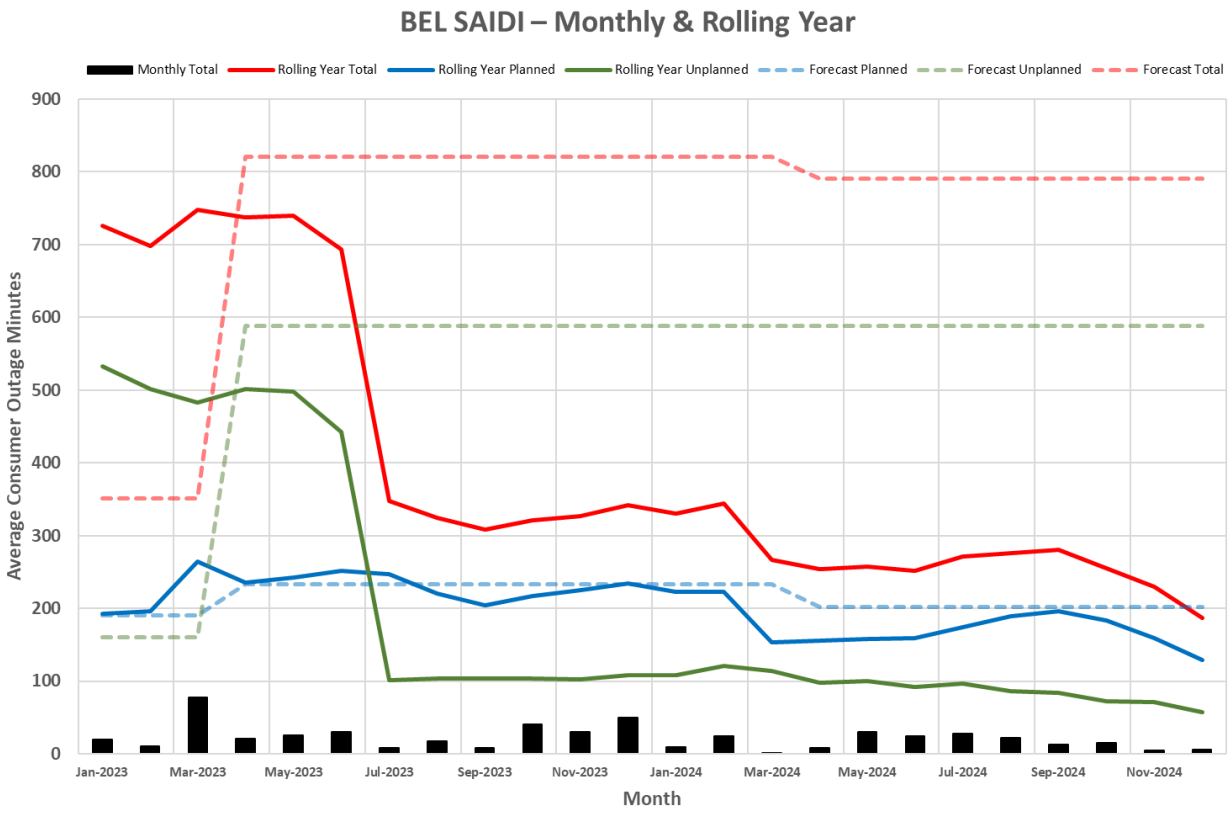


Figure 6. System Average Interruption Duration Index - Rolling Year.

The section ends with the asset management improvement initiatives and workstreams.

2 BACKGROUND AND OBJECTIVES

2.1 PURPOSE OF THIS AMP

The purpose of this AMP is to provide a governance and management framework that ensures that BEL:

- Sets service levels for its electricity line services that reflect customer, community and regulatory requirements.
- Communicates those service levels and the resulting prices to various stakeholders.
- Understands what network capacity, reliability and security of supply will be required both now and in the future and what issues drive these requirements.
- Has a robust and transparent process in place for managing all phases of the network lifecycle from conception to disposal.
- Has adequately considered the risks in all lifecycle activities and that it has systematic processes in place to mitigate identified risks.
- Has made adequate provision for funding and resourcing all phases of the network lifecycle.
- Makes decisions within systematic and structured frameworks at each level within the business and that it especially does not make ad-hoc decisions.
- Has an ever-increasing knowledge of its asset locations, ages, conditions and the networks likely future behaviour as it ages and may be required to perform at different levels or in different ways such as accommodating embedded generation or future technologies that customers may want, such as battery, solar, electric vehicles etc.

Disclosure of the AMP in this format will also assist BEL in complying with the requirements of the Electricity Distribution Information Disclosure (amendments related to IM Review 2023) Amendment Determination 2024. This AMP is BEL's working AMP, and therefore it contains material that may be beyond the requirements.

2.1.1 LONG TERM GOALS

The following goals have been identified as important to the operation of the successful operation of our business.

- To operate a viable business providing an acceptable financial return on capital investment;
- To match asset performance and security of supply to customer preferences and available funding;
- To manage demand and provide transmission solutions to generators;
- To minimise the effect on consumers from significant industry downturn;
- To develop strategies for increased operational efficiency;
- To encourage and support sustainable load growth within BEL's reticulation area also with the advent of new technology; and
- To ensure consumer satisfaction.

There is a degree of uncertainty in any predictions of the future and this flows into our AMP. Consumer demand driven by turbulent commodity markets, public policy trends, local generation opportunities, and the relative size of several industrial customers to the overall demand profile and the local economy means the future is perhaps less certain than many other infrastructure businesses that have greater scale and diversity of consumer behaviour. BEL's network demand is also very small at 11MW, and a new industrial load of circa 5MW would require substantial investment as distinct to larger network businesses that could more easily supply such a load. Accordingly, BEL has attached the following certainties to the timeframes of the AMP:

Table 6. AMP Planning Certainty.

Timeframe	Residential & Commercial	Large Industrial	Intending Generators
Year 1	Very certain	Very certain	Very certainty
Years 2 and 3	Reasonably Certain	Little if any certainty	Reasonable certainty
Years 4 to 6	Reasonably certain	Some certainty	Some certainty
Years 7 to 10	Reasonably certain	Little if any certainty	Little if any certainty

This revision of the AMP covers the period 1 April 2025 to 31 March 2035. This AMP was prepared over the 2024/25 financial year and approved by BEL's Board on the 27 March 2025.

2.2 MISSION AND VISION

BEL's Vision, Mission and Values (Figure 7).

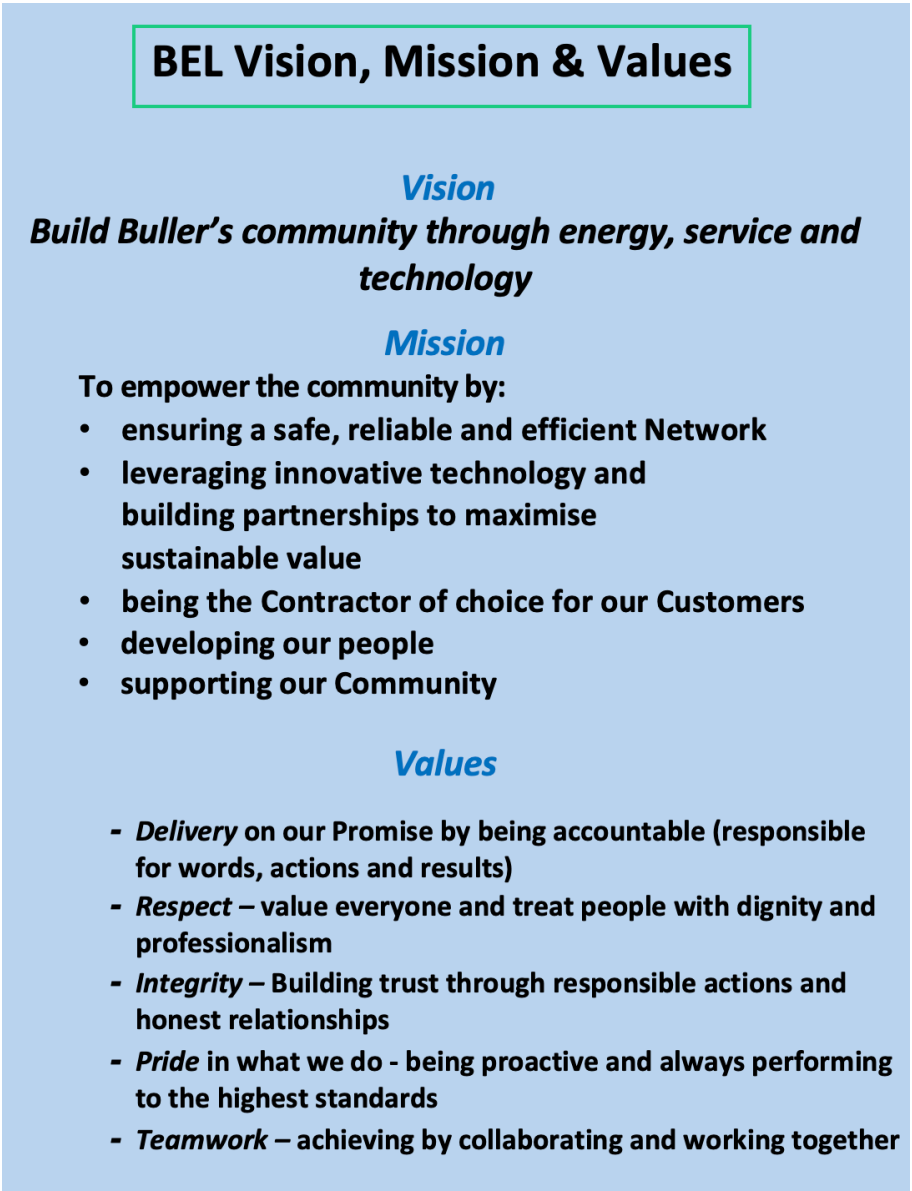


Figure 7. BEL's Vision, Mission and Values Statement.

Safety, reliability, efficient Network operations and leveraging new technology are the linkages between the Mission and the AMP.

2.3 BUSINESS PLANS AND PLANNING PROCESSES

All of BEL's assets exist within a strategic context that is shaped by a wide range of issues including BEL's vision statement and asset strategy, the prevailing regulatory environment, government policy objectives, commercial and competitive pressures, BEL's assets are also influenced by technical regulations, asset deterioration and various risk exposures independently of the strategic context.

BEL's key planning documents are…

Statement of Corporate Intent: BEL's SCI is a requirement under Section 39 of the Energy Companies Act 1992 and forms the principal accountability mechanism between BEL's board and the shareholder (the Buller Electric Power Trust).

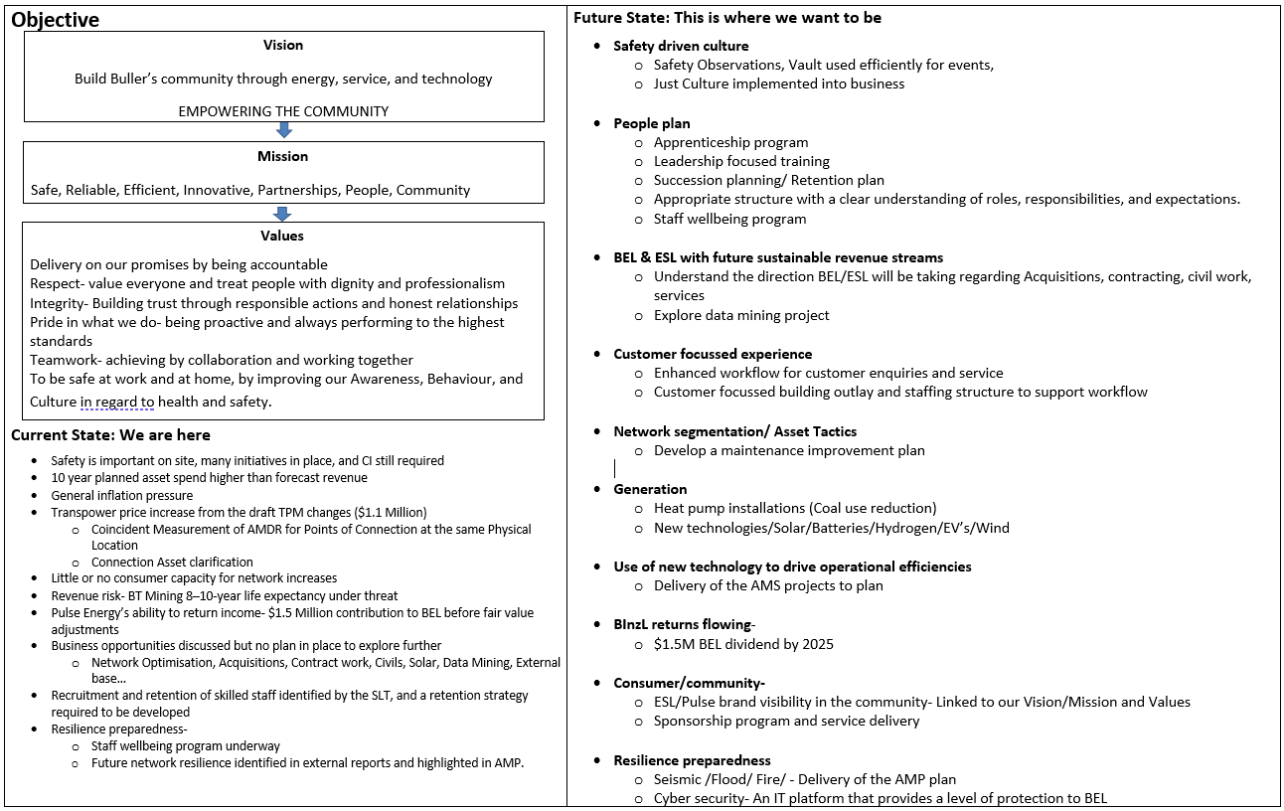


Figure 8. Strategic Plan RoadMap.

The AMP embodies the Business Plan and Strategic Plan: This highlights BEL's overall strategies and business targets, consistent with the approved statement of corporate intent. This also identifies major long-term issues such as asset condition, consumer expectations, regulatory constraints, policy expectations and resource availability and embodies BEL's expected responses to those issues. From this issue identification process, the strategic plan also defines the outcomes that BEL must achieve to be a successful business.

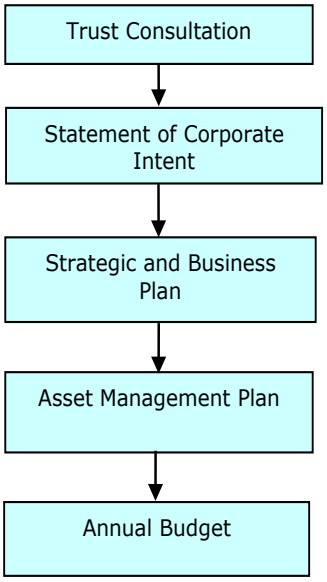


Figure 9. Interaction of Plans and Processes.

2.4 STAKEHOLDERS

BEL defines its stakeholders as any person or class of persons that does or may do one or more of the following:

- Has a financial interest in BEL (be it equity or debt).
- Pays money to BEL (either directly or through an intermediary) for delivering service levels.
- Be physically connected to the network.
- Use the network for conveying electricity.
- Supplies BEL with goods or services (including full-time labour).
- Is affected by the existence, nature or condition of the network.
- Has a statutory obligation to perform an activity in relation to the network's existence or operation (such as request of disclosure data, regulation of prices, investigation of accidents, and district planning etc).

2.4.1 HOW EXPECTATIONS AND DEMANDS ARE IDENTIFIED:

Table 3 – How stakeholder expectations are identified

Stakeholder	How expectations are identified
Buller Electric Power Trust	By their approval or required amendment of the SCI Regular meetings between the Directors and the Trustees
Bankers	Regular meetings between the bankers and BEL's Chief Executive, Financial Controller and Board Chair By adhering to BEL's treasury procedure By adhering to banking covenants Regular reports to Bankers
Connected Customers	Discussions with large industrial consumers as part of their on-going development needs Independent survey of customers every three years (e.g. Aug 16 and Dec 18 customer surveys by third party survey professionals)
Connected or intending generators	Discussions with intending generators after they have made contact with BEL

Stakeholder	How expectations are identified
Energy Retailers	Annual consultation with retailers BEL's promulgation of a new use of system agreement based on the Electricity Authorities model UoSA
Mass-market representative groups	Informal contact with group representatives Formal independent survey of representative community groups such as Federated Farmers and Grey Power
Industry representative groups	Informal contact with group representatives Via the ENA and/or industry news services (e.g. Energy News)
Staff & Contractors	Regular staff briefings Regular contractor meetings Negotiations with relevant unions
Other EDB's	Via regular ENA meetings Via regular CEO, CNOG and OH&S meetings Via direct bilateral discussions/interactivity
Suppliers of Goods & Services	Regular Rep meetings Newsletters Annual reviews with Connetics for warehouse and material supply contract performance
Public (as distinct from customers)	Informal talk and gossip around the district Local newspaper and social media Feedback from the Trust's public meetings Informal comments made to Trustees, Directors and Staff
Landowners	Individual discussions as required
Councils (as regulators)	Formally as necessary to discuss issues such as assets on council land, consenting activities etc.
Transport Agency	Formally as required
Ministry of Business, Innovation & Employment	Regular bulletins on various matters Release of discussion papers Analysis of submissions on discussion papers
Commerce Commission	Regular bulletins on various matters Release of discussion papers Analysis of submissions on discussion papers Conferences following submission process
Electricity Authority	Weekly update Release of discussion papers Briefing sessions Analysis of submissions on discussion papers Conferences following submission process General information on their website Use of ENA resources to inform BEL of EA regulatory issues, discussions and developments
Utility Disputes	Reviewing their decisions in regard to other lines companies Active engagement for any BEL consumer issues arising

2.4.2 INTERESTS OF STAKEHOLDERS

The interests of stakeholders are defined in Table 7 below.

Table 7. Key Stakeholder Interests.

Stakeholder	Interests				
	Viability	Price	Supply Quality	Safety	Compliance
Buller Electric Power Trust	✓	✓	✓	✓	✓
Bankers	✓	✓		✓	✓
Connected Customers	✓	✓	✓	✓	
Connected Generators	✓	✓	✓	✓	
Energy Retailers	✓	✓	✓		✓
Mass-market Representative Groups	✓	✓	✓		✓
Industry Representative Groups	✓	✓	✓	✓	✓
Staff & Contractors	✓	✓		✓	✓
Suppliers of Goods & Services	✓	✓			
Public (as distinct from customers)				✓	✓
Landowners	✓	✓	✓	✓	✓
Councils (as regulators)				✓	✓
Transport Agency (NZTA)			✓	✓	✓
Ministry of Business, Innovation & Employment		✓		✓	✓
Energy Safety (part of WorkSafe)				✓	✓
Commerce Commission	✓	✓	✓		✓
Electricity Authority		✓	✓		✓
Utility Disputes		✓	✓		✓

2.4.3 ACCOMMODATING STAKEHOLDER INTERESTS

The table below provides a broad indication of how stakeholder interests are accommodated:

Table 8. Accommodating Stakeholder Interests.

Interest	Description	How Interests are Accommodated
Viability	Viability is necessary to ensure that shareholders and other providers of finance such as bankers have sufficient reason to keep investing in BEL (and to retain ownership).	BEL will accommodate stakeholders' needs for long-term viability by delivering earnings that are sustainable and reflect an appropriate risk-adjusted return on employed capital. In general terms this will need to be at least as good as the Trust could obtain from a term deposit at the bank plus a margin to reflect the risks to capital in an ever-increasingly regulated lines sector.
Price	Price is a key means of both gathering revenue and signalling underlying costs.	BEL's total revenue is constrained through recognition of the beneficial ownership arrangement.

Interest	Description	How Interests are Accommodated
	Getting prices wrong could result in levels of supply reliability that are less than or greater than BEL's customers want.	Failure to gather sufficient revenue to fund reliable assets will interfere with consumer's business activities, and conversely gathering too much revenue will result in an unjustified transfer of wealth from consumers to shareholders. BEL's pricing methodology is expected to be cost-reflective, but issues such as the Low Fixed Charges requirements distort this. BEL have published a roadmap for how we aim to investigate and move towards cost reflective pricing
Supply quality	Emphasis on continuity, restoration and reducing flicker is essential to minimising interruptions to customers businesses.	BEL will accommodate stakeholders' needs for supply quality by focusing resources firstly on continuity and restoration.
Safety	Staff, contractors and the public at large must be able to move around and work on BEL's network in total safety.	BEL will ensure that the public at large are kept safe by ensuring that all above-ground assets are structurally sound, live conductors are well out of reach, all enclosures are kept locked, and all exposed metal is securely earthed. BEL will ensure the safety of its staff and contractors by providing all necessary equipment, improving safe working practices, and ensuring that workers are stood down in unsafe conditions. Motorists will be kept safe by ensuring that above-ground structures are kept as far as possible from the carriageway within the constraints of private land and road reserve. BEL is accredited to NZS7901:2008 Public Safety Management System from Telarc NZ
Compliance	BEL needs to comply with many statutory requirements ranging from safety to disclosing information.	BEL will ensure that all safety issues are adequately documented and available for inspection by authorised agencies. BEL will disclose performance information in a timely and compliant fashion.

2.4.4 MANAGING CONFLICTING INTERESTS

Priorities for managing conflicting interests are…

Safety - BEL will give top priority to safety. Even if budgets are exceeded or non-compliance arises, BEL will not compromise the safety of its staff, contractors or the public.

Viability - BEL will give second priority to viability (as defined above) because without this BEL will cease to exist, which makes supply quality and compliance pointless.

Pricing – BEL will give third priority to pricing as a follow on from viability (noting that pricing is only one aspect of viability). BEL recognises the need to adequately fund its business to ensure that consumers businesses can operate successfully, whilst ensuring that there is not an unjustified transfer of wealth from its consumers to its shareholders.

Supply quality – BEL will give fourth priority to supply quality, because a reliable electricity supply is a key input to a prosperous community.

2.5 ACCOUNTABILITIES FOR ASSET MANAGEMENT

The ultimate accountability is to the connected consumers, and it is therefore pleasing to note that Subpart 9 of Part 4 of the Commerce Act 1986 has recognised this accountability and exempts such beneficially owned lines businesses from the default price path (DPP) requirements. However, at BEL we have the following structure for dealing with asset management accountability.

2.5.1 ACCOUNTABILITY AT OWNERSHIP LEVEL

The Buller Electric Power Trust holds the 7,550,000 shares in BEL and has five elected trustees.

- Jan C Coll (Chair)
- Patrick J Bradley
- Mark A McIntyre
- Elizabeth J Douglas
- Presently, election underway with appointment pending.

On 1st April of every third year, the 3 Trustees who have been longest in office since the last election shall retire. A retiring Trustee is eligible for re-election.

2.5.2 ACCOUNTABILITY AT GOVERNANCE LEVEL

BEL currently has four non-executive directors who are appointed by the Buller Electric Power Trust and are accountable through the Statement of Corporate Intent (SCI).

- Shannon K Hollis (Chair)
- Murray W Frost
- Dean J Phibbs
- Bruce D Gemmell

Because the SCI includes projected revenue and reliability measures both the Trust and the Board are closely informed of intended price and supply quality trade-offs.

The AMP annual budget which has detailed expected individual project expenditure is approved by the Board.

2.5.3 ACCOUNTABILITY AT EXECUTIVE LEVEL

The Chief Executive of BEL is accountable to the Board of BEL primarily through his employment contract which sets out revenue and supply quality targets.

2.5.4 ACCOUNTABILITY AT MANAGEMENT LEVEL

Accountability for asset management at the second tier is split two ways:

Accountability for the moment-by-moment continuity and restoration of supply, rests with the Operations Manager, principally through control and dispatch, switching and fault restoration. The success of this role obviously depends on the nature and configuration of assets decided upon.

Accountability for managing the existing assets and planning new assets lies with the Network Asset Manager. This function addresses long-term planning issues such as capacity, security and asset configuration.

Hence in the medium to long term, both the Network Asset Manager and the Operations Manager play significant roles in influencing key outcomes such as reliability, security and capacity.

Accountability for the key area of line pricing lies with the Chief Executive and Commercial Manager.

The key accountabilities of the Operations Manager, Network Asset Manager and Commercial Manager to the Chief Executive are through their respective employment contracts, which set out performance targets and accountability specifics.

2.5.5 ACCOUNTABILITY AT WORKS IMPLEMENTATION LEVEL

The Operations Manager has engineering and operational staff that are accountable to him primarily through their employment contracts for delivering specific outcomes that contribute to the overall price-quality trade-off.

Field operations excluding civil works are mainly carried out in house. Specific technical work such as the testing of protection relays, maintenance of circuit breakers, disconnectors and the power transformers at the Robertson Street Grid Exit Point are carried out by approved external contractors.

2.5.6 SUMMARY OF ACCOUNTABILITY MECHANISMS

The primary and other accountability mechanisms are summarised in the following table:

Table 9. Accountability Within BEL.

Function	Primary accountability mechanism	Other accountability mechanisms
Representation	Election of trustees by connected consumers	Company annual report Information disclosure Disclosed AMP Public notices in newspaper Consultation on major issues Trustees being approached in the street by concerned customers
	Trustees are accountable to the NZ judiciary for complying with the Deed	Occasional challenges of Trust decisions and activities by any other stakeholders
Ownership	Statement of Corporate Intent	Quarterly meetings between Trust and Board
Governance	Companies Act 1993 and other Statutes Code of Governance Deed of Engagement Board Policies	Monthly board meetings Informal discussions between Chairman and Chief Executive
Management & service delivery	Employment Contract	Monthly management meetings Weekly team talks On-going daily contact General workplace accountability Project reviews
External contracting	Performance Based Contracts	Competitive tendering

2.5.7 KEY REPORTING LINES

The key formal reporting mechanisms and their content are summarised (Table 10).

Table 10. Reporting to Stakeholders.

Reporting Line	Reporting Mechanisms and Content
Trust to customers and wider community	Trust's AGM Trust's annual report and audited accounts Voting at Trustee elections
Board to Trust	Company annual report includes statements and audited accounts Annual information disclosure Quarterly performance measures report and meeting, presentation includes financial and operational performance
Chief Executive to Board	Monthly board report includes progress on significant Capex projects and major outages Informal discussions between the Chief Executive and Chairman on specific issues
Network Asset Manager	Monthly and YTD performance and progress against budget Network risks, defects and safety issues
Operations Manager to Chief Executive	Individual reports on major projects, staffing and plant issues Daily updates on areas of concern
Level three staff to level two managers	Daily updates during brief meetings Annual reports Weekly planning and progress reports Monthly meetings on progress to budget Outage statistics

2.5.8 REPORTING STRUCTURE

The following figure sets out the present organisational structure of BEL and defines the reporting lines of the Company. This also includes the BEL Group electrical contracting company Electro Services Ltd.

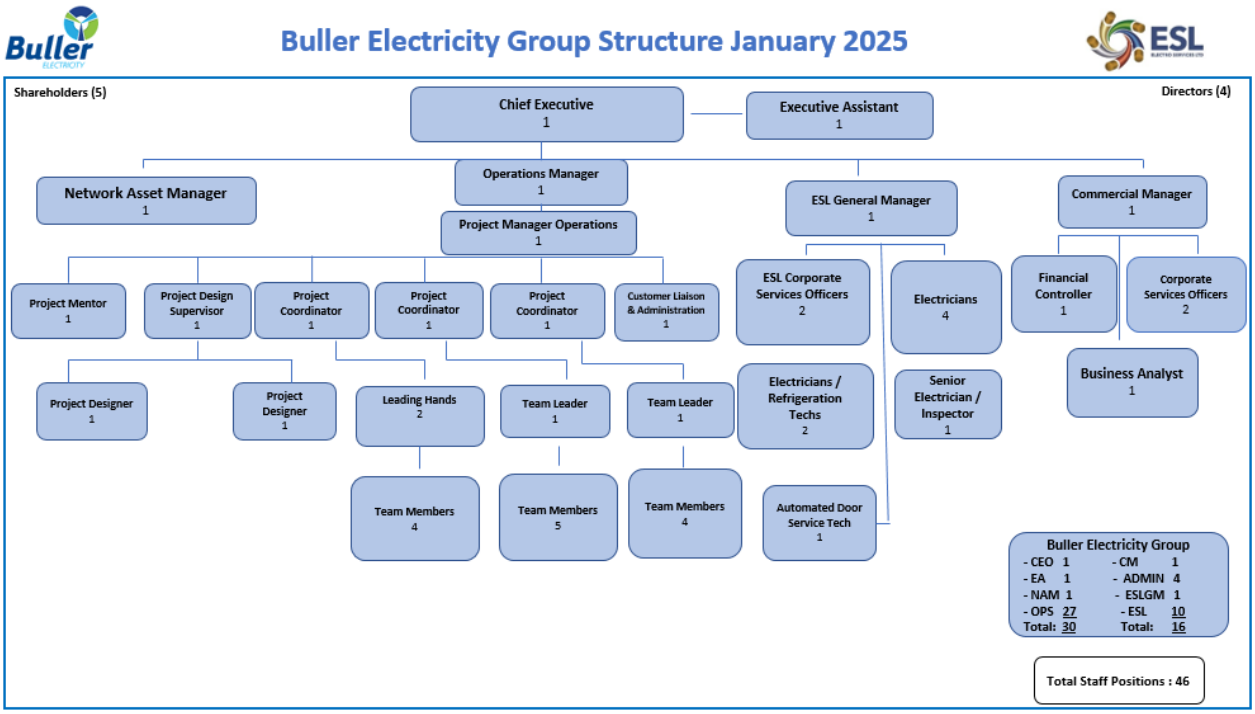


Figure 10. BEL Corporate Structure (January 2025).

2.6 ASSUMPTIONS

The assumptions underpinning BEL's AMP are listed (Table 11).

Table 11. Schedule of Assumptions.

Class of Assumption	Specific Assumption	Likely Impact on AM Drivers and Outcomes if Assumptions Prove Incorrect
Economic	Buller economy will continue to remain flat.	Probably minimal in the short term
	Global Political trade policies	Probably moderate, possible high price increases for plant, equipment and materials along with procurement delays.
	BT Mining's Stockton operation will continue to operate at its current levels	Significant impact to financial and forecast planning as this one consumer is responsible for approximately 20% of the BEL load
Connections	New connections will continue at the rate current rate of 20 per year	If new connections and capital contribution work reduce to zero, then this would potentially decrease the capital expenditure by $100k per annum
Technology	Rooftop solar and batteries unlikely to be popular for most domestic consumers in the short term due to cost, low feed-in tariffs and	Probably low in the short-to-medium term Possibly higher costs for monitoring and compliance, likely to have minimal effect on the

Class of Assumption	Specific Assumption	Likely Impact on AM Drivers and Outcomes if Assumptions Prove Incorrect
	payback period. Installations will continue at the current rate.	physical network asset spend. Possible pricing methodology changes
	EV uptake behind the national average due to limited range of EV's and current capital cost to change vehicles.	May require significant increase in LV conductor replacement and transformer upgrade work if EV uptake was to rapidly increase.
Load	Load and peak demand increase slowly at 0.4% per year in short term and the uptake of EVs will further moderately increase load in the latter half of the planning period	Low in the short term. Load would have to increase significantly to impact the forecast planning. The pace of change to meet Zero Carbon objectives and the rate of uptake of EVs may change this
Price Increases	Increases in prices will follow price inflator assumptions	Low in the short term. Inflation figures would have stay high over the medium to long term to significantly impact forecast planning
Climate Change and sea level rise	No significant change in sea level rise over the planning period that would affect Network assets and associated consumer connections	Could cause major network relocation and associated expenditure for coastal and low-lying land area assets
	There will be no rapid rate increase in storm and other environmental events that would affect the network during the planning period	Higher level of faults and outages and associated increased fault expenditure spend Additional capital expenditure for network resilience and reinforcement
Regulatory	Safety and tree regulations will not change significantly to affect the expenditure	Could require more administration and vegetation control and safety improvement work to ensure compliance
	Regulatory and reporting requirements change at a predictable steady rate	Major one off or rapid changes in regulatory and reporting standards could have major impact on administration and business support expenses and associated software upgrades
Equipment Failure	There are no major one-off plant and equipment failures	Low due to ongoing testing and monitoring of major plant along with business continuity plans

2.7 ASSET MANAGEMENT DRIVERS

BEL's detailed asset strategy is driven by the BEL region, its economy, its demographics and its weather. Detailed strategies exist for existing assets and their renewal, however long-term development is dependent on the extraction and processing of the region's resources (coal, farming and fishing). BEL has taken the approach that because these resource requirements are somewhat erratic, it is not economic to invest in asset upgrades or extensions unless there is a high degree of certainty, therefore at this time the following guiding principles are followed.

The network will be driven by:

Legislation: Comply with all relevant standards, regulations and acts to ensure safety to staff, contractors and the public. Comply with all environmental standards, regulations and acts.

Service: Provide reliable and effective service to consumers by linking the asset performance to an acceptable consumer expectation of service and prices.

Efficiency: Provide acceptable financial returns on investments by managing the asset operation in such a way to provide the required performance effectively and sufficiently.

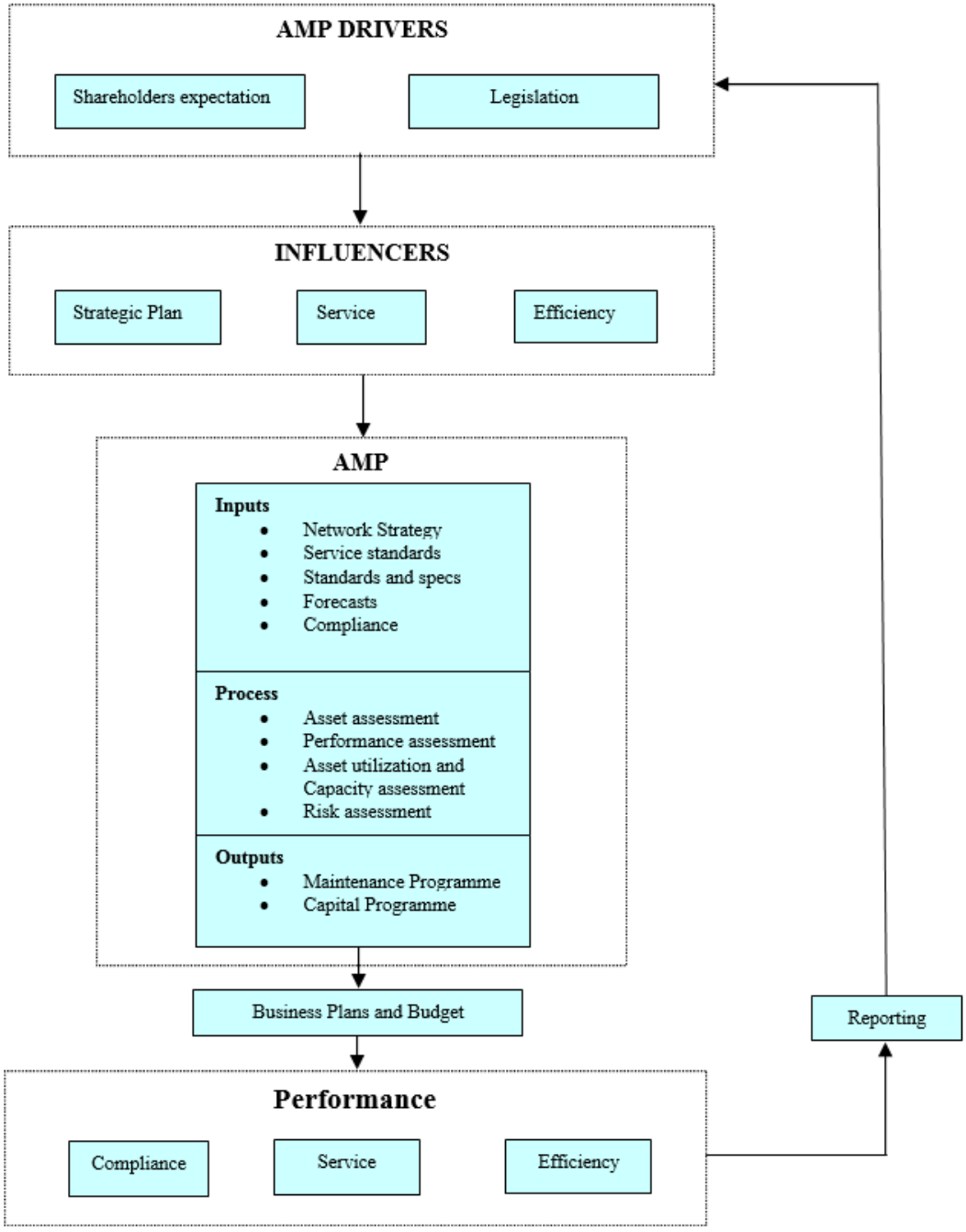


Figure 11. Development of AMP.

2.8 ASSET MANAGEMENT PROCESS

This section describes how assets are managed over the entire lifecycle from “conception” to “disposal.” BEL uses a combination of age, condition and reliability-based management systems.

The AMD database is the starting point for all asset reinforcement or replacement. Reports are extracted annually that identify asset trigger points such as approaching their economic life, or their condition.

Load flow modelling is carried out bi-annually on the sub transmission and distribution network using updated loadings derived from the SCADA system to ensure all equipment is operating within its design limits and that voltage levels remain within regulatory limits.

Asset management process is driven by asset management drivers and acceptable levels of service.

2.9 LINKS TO OTHER PLANS AND DOCUMENTS

This AMP is specific to BEL Network assets and is part of various documents and plans used to format the following key plans:

- Statement of Corporate Intent
- Strategic Plan and Business Plan
- Annual Budgets
- Maintenance Plans
- Network Development Plans

2.10 DEVELOPMENT PLANS

When faced with increased demand, reliability, security or safety requirements, BEL considers the broad range of options to rectify the issues. Once the best broad option has been identified BEL uses a range of analytical approaches to determine which option best meets Buller's investment criteria.

Having determined that a fixed asset (CapEx) solution best meets Buller's requirements and that Buller's investment criteria are met (and if not, ensuring that a consumer contribution or some other form of subsidy will be forthcoming), a project will proceed through the following stages:

1. Identify an appropriate range of alternatives, including do-nothing and non-network options.
2. Eliminate options with unacceptably high risk.
3. Eliminate options unlikely to meet the economic criteria of the business.
4. Produce a detail costing and re-run the cost-benefit analysis if detail costs exceed those used for investment analysis.
5. Seek approval within Buller's delegated authorities.
6. Address resource consent, landowner and any Transpower issues.
7. Detail design and drawings, construction specifications and if necessary tender documents.
8. Tender out construction stage and award tender if the project is beyond BEL's capability or expertise.
9. Close out and de-brief project after construction.
10. Ensure that contractors pass all necessary information back to BEL including as-builds and commissioning records.
11. Undertake project reviews to understand areas for future improvement.

BEL uses the following process (Figure 12) for meeting the demand of future load growth.

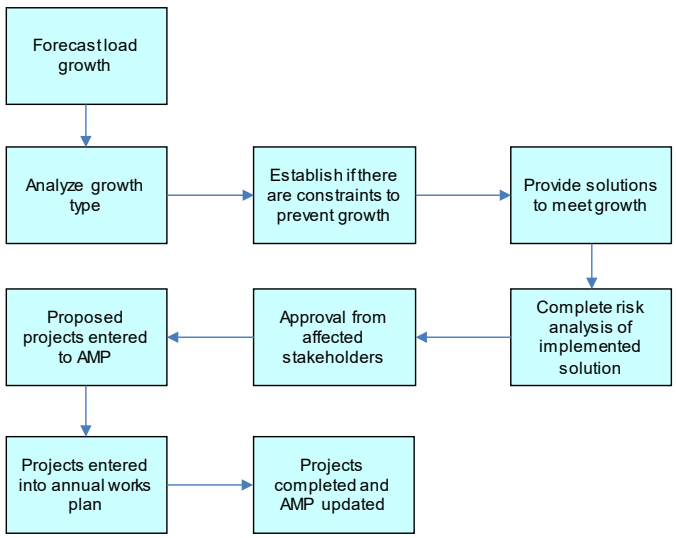


Figure 12. Process for Assessment of Future Load Growth.

2.11 EQUIPMENT & DESIGN STANDARDS

Equipment and design standards for assets are linked to all maintenance and development work. BEL uses standard construction drawings, plans and equipment manuals. For BEL's own assets all material used shall comply with BEL's construction and material standards, however if the asset is privately owned within the network, the asset owner is encouraged to comply with these standards.

These design and construction standards, along with post completion inspection of work, form a key mechanism for managing network performance.

2.12 INSPECTIONS & MONITORING

BEL carries out regular inspections to confirm asset condition. Assets are risk rated for failure in terms of safety, and consumer service interruptions, and the frequency of inspections is matched to that risk.

2.13 PERFORMANCE MEASUREMENT

BEL constantly measures network performance to ensure consumer and regulatory requirements are met. The following chart (Figure 13) shows the process.

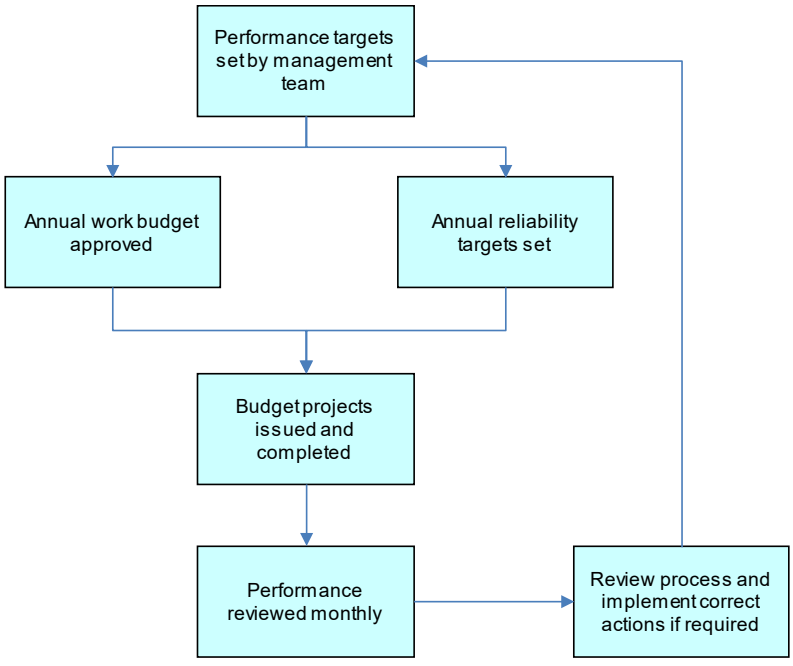


Figure 13. Performance Monitoring Process.

2.13.1 INFORMATION SYSTEMS AND OPERATING PROCESSES

BEL utilizes a variety of operating processes, systems, and databases to store and manage asset data, which underpin its asset management decisions. These systems have evolved over time and are customized to meet BEL's specific needs. In 2022, the GIS was upgraded to ArcGIS Online, providing field staff with real-time access to asset information. In 2024, BEL implemented a custom-built asset management program to further enhance its capabilities.

2.13.1.1 MICROSOFT NAVISION (NAV) AND BUSINESS CENTRAL

In 2024, BEL transitioned from Microsoft Navision to Microsoft Dynamics 365 Business Central to enhance collaboration and support more informed decision-making. This modern, cloud-based platform offers scalability,

improved accessibility, and automatic updates, ensuring the system remains up-to-date with minimal effort. By leveraging Business Central, BEL has adopted a more flexible and integrated solution, enabling the organization to streamline operations, adapt to changing business needs, and drive sustainable growth.

2.13.1.2 GEOGRAPHIC INFORMATION SYSTEM (GIS) AND ASSET MANAGEMENT DATABASE (AMD)

BEL utilizes ESRI's ArcGIS Online platform to provide a spatial representation of its entire network of assets. This platform is populated with data from the Adapt Asset Management Database, which stores all asset-related attributes.

Reports on asset condition, along with maintenance and inspection schedules, are generated to support the development of the forward work plan for the Asset Management Plan (AMP). Across 7,400 asset location sites, BEL has catalogued 43,500 individual assets, with data encompassing:

Asset location, age, and site details, including site-specific hazards.
Condition assessments, defects and asset criticality for all assets.
Attribute data, such as type, size, and capacity etc., for critical components, including poles, crossarms, conductors, substations, transformers, switchgear, fuses, earthing systems, SCADA, and communication systems.

Asset condition inspection and data integrity checks are completed annually on one fifth of the network. This is collected utilising a phone or tablet App as part of the Adapt asset management platform. This comprehensive system enables BEL to manage its assets and associated risks effectively and ensure proactive planning and maintenance.

2.13.1.3 FUTURE GRID COMPASS™

Compass is a LV monitoring and analysis software solution which combines data from the GIS, NED and power quality data from metering equipment providers to proactively detect faults, voltage issues and capacity constraints within the network. Operational faults and safety issues are detected and actioned on a day-to-day basis while voltage quality and constraint issues are generally corrected with additional network modelling and planning.

2.13.1.4 FULCRUM

Fulcrum is a cloud-based web app utilised for mobile field data collection using smart phone and tablet type handheld devices. Currently BEL utilise this mobile application for

- Vegetation management and data collection
- Network Defect Recording

Screenshot examples of Fulcrum are shown below (Figure 14 to Figure 16).

Records (dots on map) show information relating to trees, including photos, address information and location coordinates.

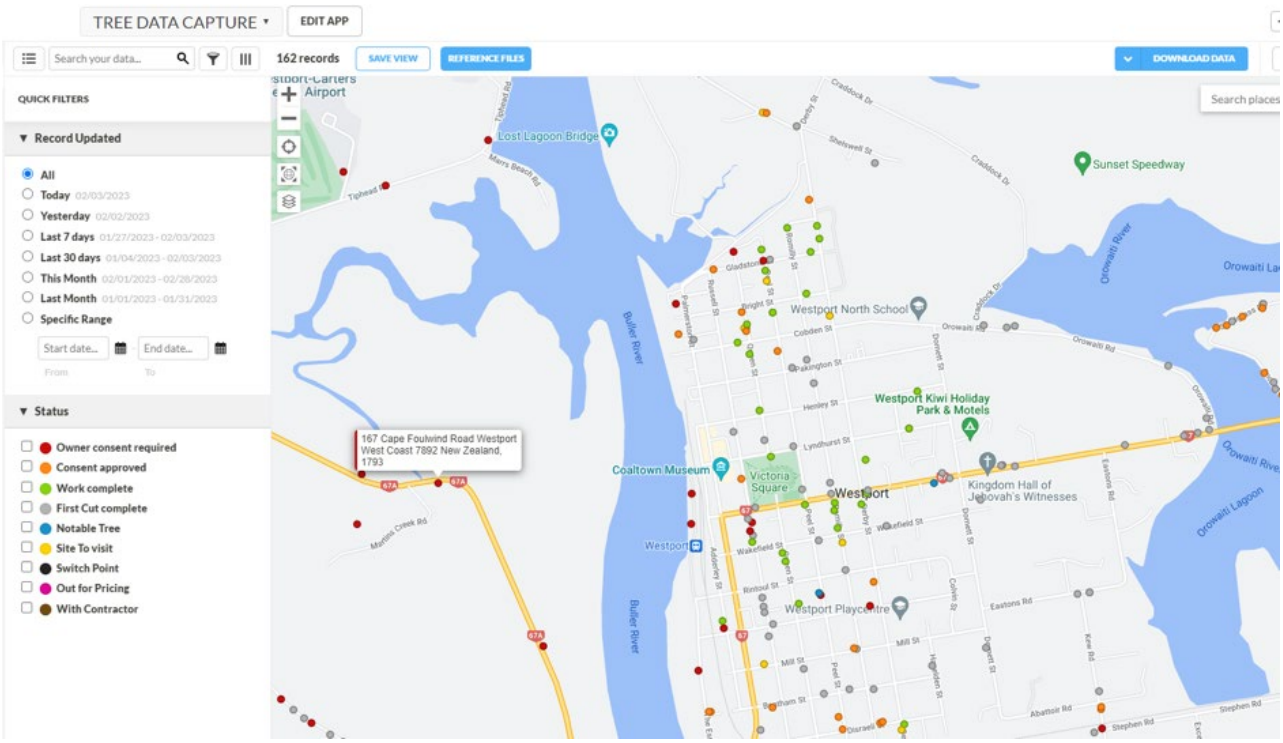


Figure 14. Fulcrum Tree Status Mapping.

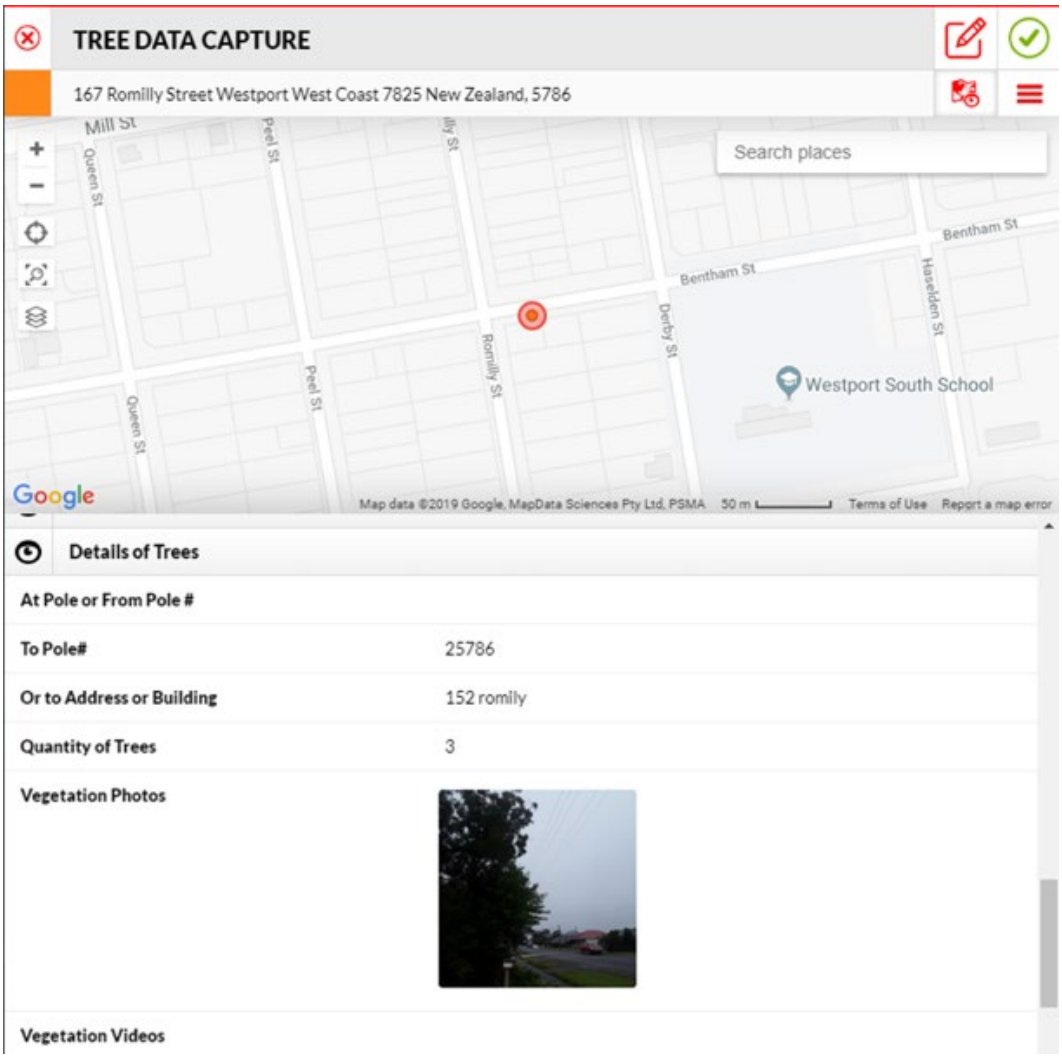


Figure 15. Fulcrum Tree Data Capture Record.

Records are linked to supporting documents relating to a record. For example, a signed Cut or Trim notice or work details.

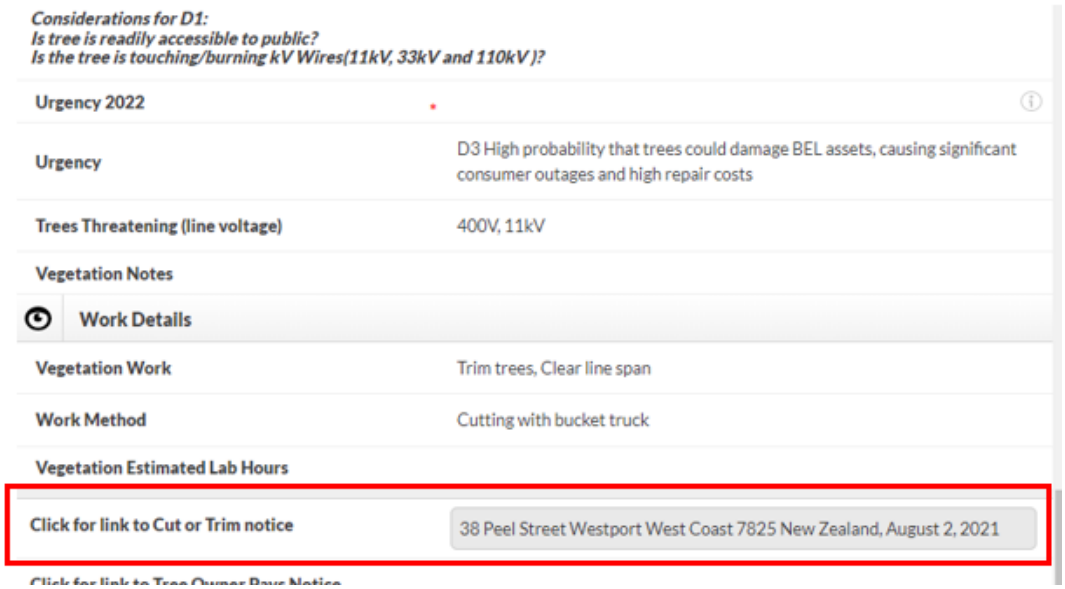


Figure 16. Fulcrum Tree Work Details.

2.13.1.5 OUTAGE DATABASE (NOD)

This database incorporates data on all planned and unplanned outages on the BEL network. Outage data are recorded by line-staff, design team members and network controllers. Control Room staff update the database as records are submitted after a power outage.

Recorded information includes:

- ICPs affected
- Whether the outage was planned or unplanned.
- The time when the outage occurred
- The time when the cause for outage was found
- The time when the power was restored
- Location of outage and feeder/s affected
- Reason of outage, and
- Number of consumers affected.

This data is used for the categorisation and generation of outage statistics such as SAIDI, SAIFI and CAIDI. This information is reported to the BEL board monthly and is used to compile reports as per the Electricity Industry Information Disclosure Regulations.

The number of equipment failures and different failure types are also recorded to allow for the trending and analysis of reliability for different equipment types and locations in the network.

2.13.1.6 NETWORK ENERGY DATABASE (NED)

The NED programme is a Microsoft access database that has been developed in-house to cater for the needs of BEL. The primary functions of NED are as follows:

Data Import and Viewing – NED has been built to import a variety of data types including ICP Mass Market and Half Hour meter data from retailers, retailer customer information, electricity registry ICP information,

and Transpower GXP Half Hour meter data. A user-friendly interface is provided which allows the different types of data to be easily identified/viewed/analysed.

ICP Consumer Information – Information from the registry and retailers is combined to form a Consumers Database which provides general details for each ICP including customer name, connection status, retailer and load group. This information is updated monthly, and reports are available which provide information on consumer numbers and consumers, which are categorised as either disconnect, restricted or medically dependent.

Monthly Retailer Billing – BEL does not invoice individual consumers but collects line charges via the energy retailers. Energy retailers are billed monthly based on-line charges for the network services used by their customers, as determined from mass market and half hour meter data for the period. NED has been programmed so that monthly retailer billing can be accomplished in a fast and efficient manner. A data file interface has been setup with Microsoft NAV which automates most of the work when generating retailer invoices.

Monthly Reporting – Following the monthly retailer billing process, the information is taken from NED and used for reporting to the management team, and the Board of Directors. This includes but is not limited to network/consumer energy consumption, maximum demand, losses and generation.

Annual Reporting – NED assists with the preparation of data for Information Disclosure and other regulatory requirements. It is also used to provide information required for the annual line charge tariff setting process and other areas of interest such as asset utilisation, revenue and consumer cross-subsidy analysis, and line charge methodologies.

Retailer/Consumer Outage Notification – BEL is required to notify customers of planned outages and this is done by providing EIEP5 data files to retailers (a list of ICPs which will be affected by an outage and associated outage dates/times). The ICP list is currently generated by selecting substations which will experience an outage and then using the ICP to Substation link to determine affected ICPs.

2.13.1.7 SCADA SYSTEM

The SCADA system (Supervisory Control and Data Acquisition) is a software and hardware package that collects data from Remote Terminal Units (RTU's) at all BEL substations, field reclosers and sectionalisers. The system monitors loads and controls BEL's ripple injection plant to control the load on the network. It also allows for the monitoring and control of all substation circuit breakers and field reclosers and sectionalisers.

The SCADA Master and Backup PC's are located at BEL's Offices at Robertson Street. Additional SCADA node PC's are located in the BEL control room for network controllers to carry out network switching operations and monitoring of network loadings.

2.13.1.8 NETWORK MODELLING

BEL uses OTI's Electrical Transient and Analysis Program (etap) for network modelling. This software allows BEL to analyse and report the following for its high voltage networks

- Load Flow Studies
- Short circuit
- Protection systems coordination and selectivity analysis
- Reliability assessment of system configuration
- Earthing system design
- Arc Flash analysis
- Transient stability analysis

The results of modelling are used for optimisation of the network in regards ensuring system voltage and loadings within prescribed limits, loss minimisation, public safety with regards to earthing systems and protection operation and arc flash and targeted maintenance for reliability.

2.13.1.9 PROMAPP

Promapp is a web-based application used to create, navigate, share and change business processes, enabling quality assurance, risk management and business continuity. Promapp provides an intuitive online process mapping tool, a central cloud-based process repository & a comprehensive process improvement toolset, supporting the development of smarter and safer ways to work & simplifying process mapping so that business teams can own and improve their own processes.

2.13.1.10 VAULT

Vault is a cloud-based health, safety and risk management system. Vault assists BEL maintain compliance in training, documentation and auditing internal and external processes.

In addition, Vault has built-in reporting tools that can run on a variety of devices allowing for immediate reporting of incidents, accidents and defects on any company owned assets.

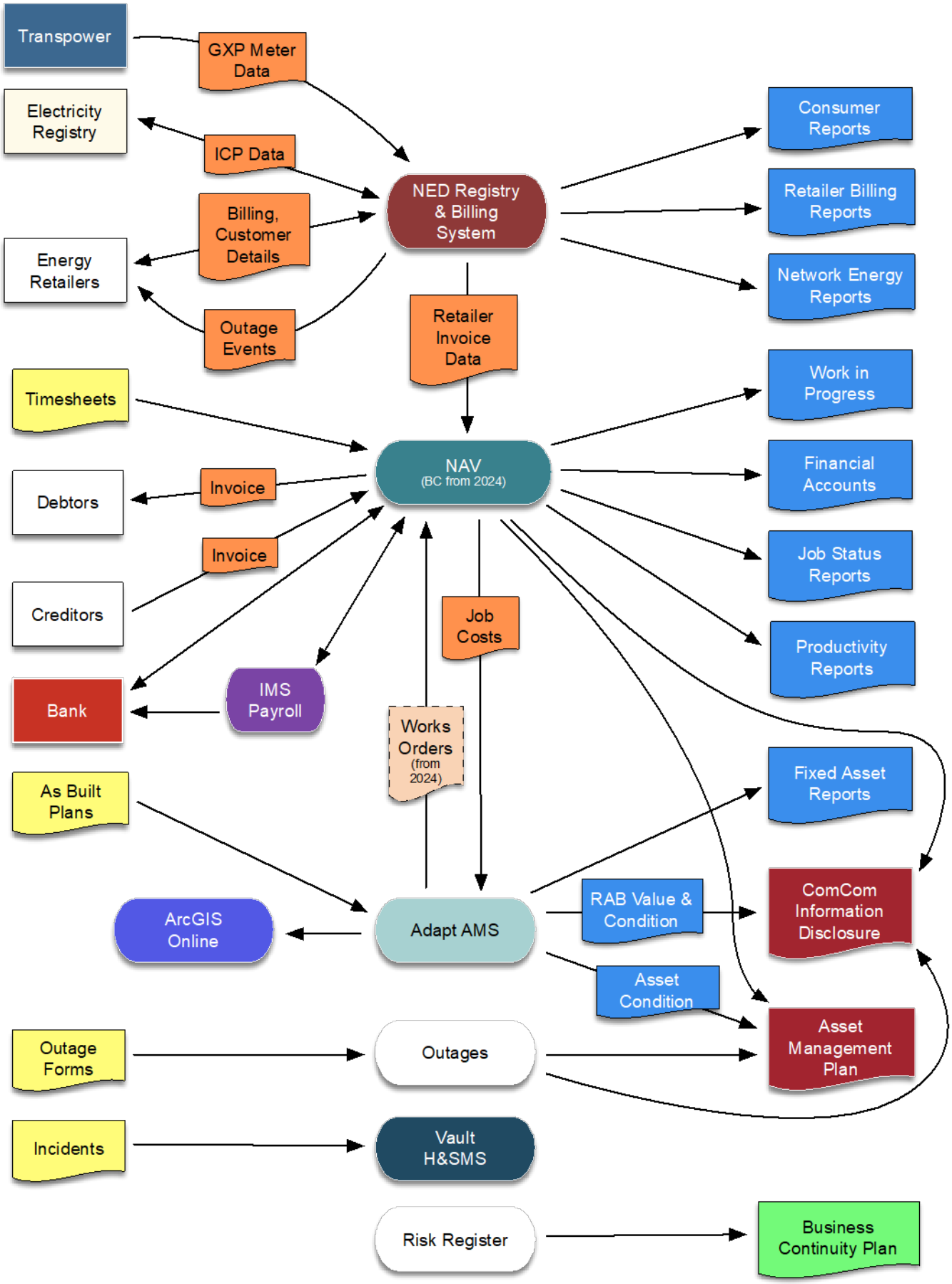


Figure 17. BEL Information Systems Architecture Overview.

2.13.2 DATA ACCURACY

Asset attribute data has improved significantly with generally a good level of accuracy. Some limitations exist in the age and attributes of some poles, crossarm and conductor data, this is generally not seen as major limitation to BEL's short to medium term expenditure and works programs as condition is normally the driver for the maintenance or replacement of assets. Overhead line condition data requires some improvement. BEL has reviewed its condition inspection scheduling and assessment program and revised the process to ensure the data collection and condition assessment consistency is improved over the next few years. The Adapt mobile data collection app has replaced manual paper-based asset condition data collection. This will reduce double handling and additional manual data entry and processing errors.

Table 12. Asset Condition Data Accuracy.

Asset type	Data	Accuracy	Implications of Poor Data Accuracy
Poles	Asset number missing, incorrect or illegible, danger sign missing or illegible, hazard signs attached, pole leaning, concrete cracks, concrete sprawling, concrete sprawling with steel showing, wood splits / cracks, wood rot above ground, wood rot below ground, corrosion, insufficient strength for load, damaged or no possum guard, pole yellow tagged, red tagged, no low level, public access.	Good	Significant implications for final tuning of age-based pole renewal costs. Increased Public safety risk, employee risk. Increased employee / contractor risk. Increase in unplanned outages. Increase in fault expenditure.
Stay Wires, Anchors & Clamps	Inadequate strength for load applied, loose stay, inadequate stay protection, inadequate clearance from live fittings, inadequate clearance from ground, insufficient insulation, loose bolts / nuts, corroded fittings, anchor rod not sufficient in ground (eye more than 100mm out of ground), missing or damaged clevis, missing or damaged white hose, public access to live fittings, terminated on crossarm eye-nut, terminated on pole eyebolt, public access.	Good	Increased Public safety risk, employee risk. Increased employee / contractor risk.
Crossarms & Supports	Significant rot, splits, corrosion, missing or loose stay straps, loose bolts & nuts, not straight, insufficient strength for load, corroded pins, bolts, shackles, split polymer/ porcelain material, holes, tears in polymer housing.	Average	Significant implications for final tuning of age-based crossarm renewal costs. Increased Public safety risk, employee risk. Increased employee / contractor risk. Increase in unplanned outages. Increase in fault expenditure.
Conductor	Insufficient ground clearance, insufficient asset / phase clearance, broken strands, internal aluminium / steel corrosion, fretted strands near supports, loose binders, sprawling conductor, dead-end corrosion, sleeve bent / failure, more than 3 sleeves per span Sleeves or joints within railway crossing span, connector joint not to BEL standard, insufficient strength for load, exposed metal showing on insulated conductors.	Average	Significant implications for final tuning of age-based conductor renewal costs. Increased Public safety risk, employee risk. Increased employee / contractor risk. Increase in unplanned outages. Increase in fault expenditure.

Asset type	Data	Accuracy	Implications of Poor Data Accuracy
Vegetation	Vegetation greater than 2m from conductors and pose risk, vegetation within 2m from conductors, vegetation within 0.5m or touching conductors.	Average	Increased Public safety risk, employee risk. Increased employee / contractor risk.
Surge Arrestors	Moisture ingress in surge arrestor housing, rigid earthing connection to surge arrestor tail, arrestor disconnected (line or earth), defective arrestor.	Average	Increase in transformer and switchgear damage, replacement. Increase in unplanned outages. Increase in fault expenditure. Increase in consumer equipment, appliance damage.
Reclosers, Sectionalisers and Fault Indication Units	Oil leaks, operational Labels missing, metal wear corrosion. defective bushings, corroded electrical connections, overheated electrical connections, defective paint coatings, schematic ID labels missing, loose or insecure mounting, control systems working and batteries checked and charged.	Good	Implications for final tuning of age-based switchgear renewal costs. Increased Public safety risk, employee risk. Increased employee / contractor risk. Increase in unplanned outages. Increase in fault expenditure.
Air Break Switches	Misaligned contacts, misaligned flickers, defective operating handles / linkage, damaged / unsafe earth lead, overheated / defective electrical connections, not to BEL line connection standard, security lock missing or defective, operational safety measures / labels missing / illegible, metal wear corrosion, damaged insulators, No operator earth pad, no Handle flexi earth lead to main earth, extensive protective coating deterioration, schematic ID labels missing / illegible.	Good	Implications for final tuning of age-based switchgear renewal costs. Increased Public safety risk, employee risk. Increased employee / contractor risk. Increase in unplanned outages. Increase in fault expenditure.
HV Dropout Fuses & Links	Overheated / defective electrical connections, mounting bracket metal wear corrosion, nuts missing, broken insulator, misaligned / corroded fuse contacts, jumper conductor deterioration, fuse carrier pivot corrosion, insulator / cement damage at mounting bracket, insulator break at mounting bracket point, not to BEL line connection standard, schematic ID Labels Missing / illegible.	Good	Implications for final tuning of age-based switchgear renewal costs. Increased Public safety risk, employee risk. Increased employee / contractor risk. Increase in unplanned outages. Increase in fault expenditure.
Overhead Substations	Corroded steel supports, loose bolts/nuts, insufficient for applied load, conductor clearance inadequate, conductor / cable insulation inadequate, phase ID colours missing, protective coating inadequate, hardwood deterioration, public access to live fittings.	Good	Implications for final tuning of age-based switchgear renewal costs. Increased Public safety risk, employee risk. Increased environmental risk. Increased employee / contractor risk. Increase in unplanned outages. Increase in fault expenditure.
Overhead Transformers	Corrosion, oil leak, damaged HV bushing, damaged LV bushing rusted hanger bracket, loose bolts / nuts, extensive protective coating deterioration, low oil level, schematic ID Labels Missing.	Good	Implications for final tuning of age-based switchgear renewal costs. Increased Public safety risk, employee risk. Increased environmental risk. Increased employee / contractor risk. Increase in unplanned outages. Increase in fault expenditure.

Asset type	Data	Accuracy	Implications of Poor Data Accuracy
Services OH & UG	Inadequate overhead ground clearance, inadequate ground clearance to cables, inadequate cable protection at pole, inadequate cable protection below ground, inadequate mechanical strength, corroded fittings, exposed to sunlight cable core PVC, no heatshrink applied, more than one join per span, inadequate cable/conductor joint, aged fuse, live conductors exposed, inadequate insulation.	Good	Increased Public safety risk, employee risk. Increased employee / contractor risk. Increase in consumer unplanned outages. Increase in fault expenditure.
Earth Systems	Broken earth strands / conductor, corroded earthstake, protective covering damaged, high earth test, no test plate, conductor less than 35mm, exposed earthing conductive material below 3m.	Good	Increased Public safety risk, employee risk. Increased employee / contractor risk. Increase in unplanned outages. Increase in fault expenditure.
HV & LV Cables	Moisture ingress in cablebox or pothead, inadequate phase-phase clearances, inadequate phase to earth clearance, crotch/leads tracking, no danger sign, inadequate cable protection, no phase ID colours, cable earthing inadequate, no arrestors, no or inadequate cable protection up pole, No or inadequate cable protection in ground, no outer heatshrink on sun exposed PVC cores.	Good	Increased Public safety risk, employee risk. Increased employee / contractor risk. Increase in unplanned outages. Increase in fault expenditure.
Ground Mount Switches	Incorrect / illegible schematic ID labels, incorrect / illegible safety / operating instructions, cables circuit ID – not tagged or illegible, moisture ingress, cable tracking, extensive protective coating deterioration, corrosion, lock inadequate or defective.	Average	Increased Public safety risk, employee risk. Increased employee / contractor risk. Increase in unplanned outages. Increase in fault expenditure.
Groundmount Transformer Cubicles	Ineffective door locks, rotten/split door panels, rusting roofs/mounting bases, weathered paintwork, incorrect / illegible schematic ID labels, incorrect / illegible safety / operating instructions.	Good	Increased Public safety risk, employee risk. Increased employee / contractor risk. Increase in unplanned outages. Increase in fault expenditure.
Groundmount Transformers	Incorrect / illegible schematic ID labels, incorrect / illegible safety / operating instructions, oil leaks, cables circuit ID – not tagged or illegible, moisture ingress, cable tracking, extensive protective coating deterioration, corrosion, lock inadequate or defective, ineffective cooling vents.	Good	Implications for final tuning of age-based switchgear renewal costs. Increased Public safety risk, employee risk. Increased environmental risk. Increased employee / contractor risk. Increase in unplanned outages. Increase in fault expenditure.
LV Pillars & Boxes	Damaged box, insecure locks or lid screws, exposed live fittings, overheating lugs, links, schematic ID label missing or illegible, cable ID tag missing or illegible.	Average	Increased Public safety risk, employee risk. Increased employee / contractor risk. Increase in unplanned outages. Increase in fault expenditure
Voltage Regulators	Oil leaks, operational Labels missing, metal wear corrosion, defective bushings, corroded electrical connections, overheated electrical connections, defective paint coatings, schematic ID labels missing.	Good	Implications for final tuning of age-based switchgear renewal costs. Increased Public safety risk, employee risk. Increased environmental risk. Increased employee / contractor risk.

Asset type	Data	Accuracy	Implications of Poor Data Accuracy
			Increase in unplanned outages. Increase in fault expenditure.
Zone Substations	Transformer and Circuit breaker Oil leaks, Operation counters working, metal wear /corrosion, defective bushings, corroded electrical connections, overheated electrical connections, defective paint coatings, schematic ID labels missing. Security fencing in good repair and locking systems working, Building and control systems in good condition. Battery and backup systems operational and secure. Safety operation equipment checked and in working condition.	Good	Implications for final tuning of age-based equipment renewal costs. Increased Public safety risk, employee risk. Increased environmental risk. Increased employee / contractor risk. Increase in unplanned outages. Major increase in fault expenditure.

2.13.3 OPERATIONS PROCESSES AND SYSTEMS

BEL utilise a wide range of operating processes and systems including switching standards and safe work practice procedures. These are based on good industry practice, manufacturer recommendations and other industry related parties' information and guides.

Workshops with other Electricity Distribution Businesses such as the Combined Network Operations Group, Standardised Technical Arrangement Working Group and CEO forums are held regularly to share knowledge and experiences on various industry matters including safe working practices, network control, and operating procedures.

2.13.4 MAINTENANCE PROCESSES AND SYSTEMS

BEL's maintenance programs are based on best industry practice, manufacturer recommendations and BEL's own experience (This consists of local knowledge regarding the geographical location, environmental and corrosion conditions in which the assets are located).

BEL has a testing regime that tests each asset in the network. The results drive the scheduling of maintenance, asset replacement or upgrading of assets.

These asset upgrade programs utilise a combination of manual paper based and IT systems such as the Asset Management Database (AMD) and the Geographic Information System (GIS).

2.13.5 RENEWAL PROCESS AND SYSTEMS

When the condition assessment indicates an asset is at end of life, the item is scheduled for renewal. As assets age or exhibit deterioration at different rates, a decision is made with regard to replace an entire series, or individual assets on successive visits. The feasibility of each approach is evaluated on a case-by-case basis.

Overhead lines are routinely inspected, and the remaining strength of the support poles are assessed to determine end of life. Substation and plant inspections are undertaken as part of the routine maintenance programme or as part of a one–off condition assessment inspection by a technical expert. The information from these inspections is collated, reviewed, assessed and used to inform asset management decisions. Before a section of line or substation is replaced, an assessment is undertaken to ensure that the asset is still required or if existing consumers can be supplied from an alternative supply or another network asset. If replacement is required, then the decision to underground is determined by the location and potential for future growth and capacity requirements of the area.

2.13.6 PROCESSES & SYSTEMS DOCUMENTS

Below is a list of some of the standards, documents and reporting data that support maintenance and network development planning:

- BEL Risk Register
- Manufacturers' recommendations
- BEL Safety Management System
- Annual AMP works program
- BEL work procedures
- BEL standard construction standards and drawings
- BEL asset maintenance standards and schedules
- BEL material standards
- Regulations & codes of practice
- EEA and industry guides
- Buller District Council and Regional Council resource consent processes
- Results from various network modelling scenarios
- Power Quality Recorder data
- SCADA load monitoring recordings
- Substation and transformer MDI recordings
- Outage statistics
- Stakeholder surveys
- Root cause analysis of defected or faulted assets

2.13.7 PERFORMANCE MEASURING PROCESSES & SYSTEMS

BEL uses the following standards and documents (Table 13) to guide its performance measuring activities:

Table 13. Performance Management Documentation.

Stakeholder	Expectation	Systems	Measure
Consumer	Pricing	Commerce Commission determinations, Annual, Budgets	Regulatory Threshold
		Financial, NED, ETAP	Loss Factors
		SCADA, GIS, ETAP	Asset Utilization
		SCADA, Financial System	Transpower Costs
		Price Waterhouse Coopers Compendium	Line Business Ratings
	Reliability	Network Outage Database	SAIDI, SAIFI
		GIS, ETAP	Outage Standards
	Quality	Complaints Register Future Grid Compass	Voltage Complaints/issues
	Communications	Call Centre System	Call Centre Log
		Consumer Survey	Consumer survey results
Retailer	Communication	Fault Records	Outage Data Transfers
		Use of System Agreement	Tariff Changes
	Network Access	Industry Regulations	Published Plans & Pricing Methodology

Stakeholder	Expectation	Systems	Measure
	Metering and billing	ICP Database, Records & Systems	Random Audits of Systems & Sites
Board	Safety	Industry Regulations & Standards	Accident Reports, Stats & Non-Compliance
	Profit	Financial System	Audited Financial Reports
	Accountability	Key Performance Indicators	Annual Staff & Plan Performance Reviews
Trust	Dividend	Financial System	Audited Financial Reports
	Asset value	Financial System, GIS, Asset Database	RAB
	Ownership	Survey Report	Ownership Reviews as per Statement of Corporate Intent
	Compliance	Board Reports	Legal and Statutory compliance
	Social Responsibility	GIS and Financial System	Capital Contribution System
Regulatory	Compliance with Regulations	Legislation & Correspondence	Monthly reports & Forecasts against Thresholds
Staff	Health and Safety	Staff Management System	Accident / Incident Reports & Non-Compliance
	Training	Staff Management System	Agreed Development
	Job Satisfaction	Admin Spreadsheet	Staff Turnover
Public	Land Access	GIS	Work Consents, Complaints
	Vegetation Control	GIS, Spreadsheet	Outages & Complaints
	Safety	Risk Register, various processes set out in the OPS&H Manual	Number of fatalities, number of injuries classified as serious harm, number of incidents of serious property damage.
Councils	Resource Management	Legislation	Consents for Work, Complaints
	Road management	Procedures	Consents, Complaints

3 SERVICE LEVELS

3.1 INTRODUCTION

This section describes BEL's various service levels according to the following principles:

- What service attributes are most important to consumers?
- How well is BEL doing with what is important to consumers?
- What trade-off of service and price consumers would be comfortable with?

The answers to these questions define the investment required and line charges going forward and consequently the nature and volume of almost all of Buller's asset management activities.

3.2 CREATING SERVICE LEVELS

BEL creates a broad range of service levels for all stakeholders, ranging from capacity, continuity, restoration, notification of planned shutdowns and processing of connection applications for connected consumers (who pay for these service levels) to ground clearances, earthing, absence of interference, compliance with the District Plan and submitting regulatory disclosures (which are subsidised by connected consumers), which are shown in the figure below. This section describes those service levels in and how BEL justifies the service levels delivered to its stakeholders.

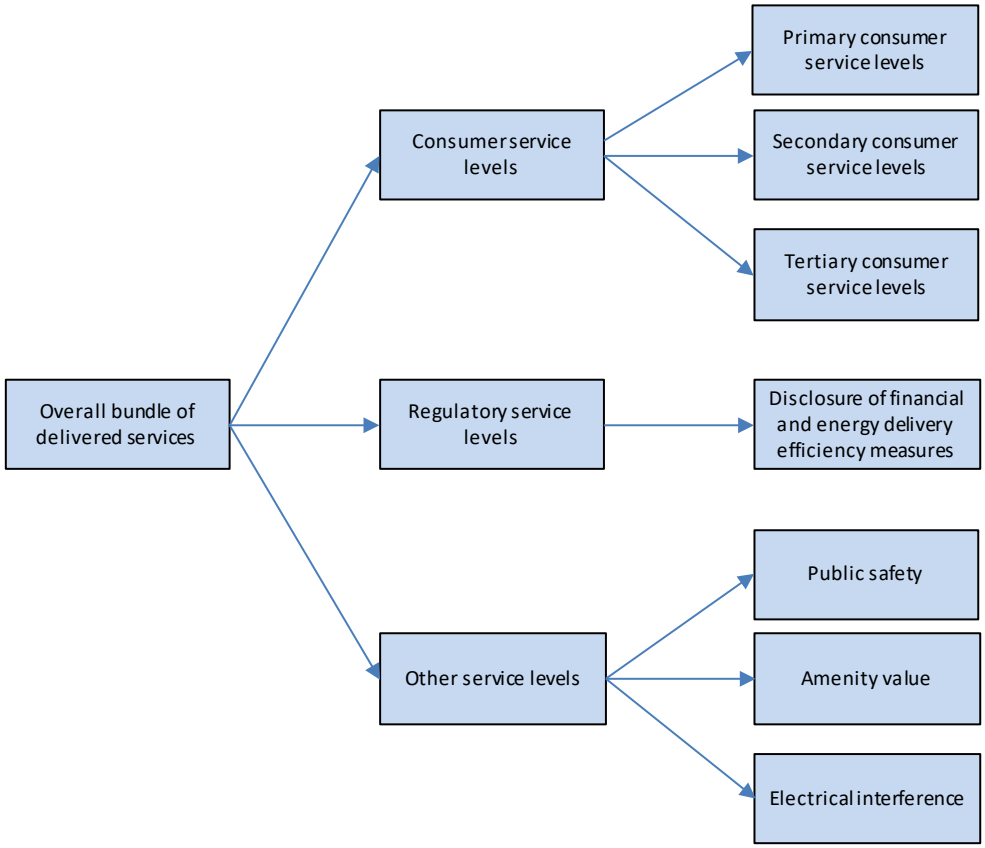


Figure 18. Overview of Service Levels.

3.2.1 SECURITY STANDARD

Table 14 below describes Buller's security levels.

Table 14. Security Levels per Asset Type.

Description	Load (MW)	N-1 Cable, Line or Transformer, Bus, Switchgear Fault	N-2 Cable, Line or Transformer, Bus, Switchgear Fault
GXP Robertson Substation	11 MW (4954 consumers)	No interruption	Loss of supply. 428 consumers restored from Kongahu generators within 45 mins. Remaining consumers restored in repair time.
33kV Transmission ROB–NGK	4 MW (976 Consumers)	No Interruption	Loss of supply. 428 consumers restored at Karamea within 45mins of fault via diesel generation. Remaining consumers restored within 4hrs.
NGK Substation 11kV	1.0 MW (543 consumers)	No Interruption	Loss of supply. 542 consumers restored within 60mins of fault. BT Mining restored within repair time.
33kV NGK to KON	1.0MW (431 consumers)	Loss of supply. 428 consumers restored within 45mins	Loss of supply. 428 consumers restored at Karamea within 45mins of fault via diesel generation, remaining three consumers restored within repair time (4 to 16 hrs)
11kV Urban	0-1 MW	Restore within 2hrs	Restore within repair time
11kV outer meshed	0-0.5 MW	Restore within 2hrs	Restore within repair time
11kV heavy spur	0-0.5 MW	Use generator to restore within 4hrs	Restore within repair time
11kV light spur	0-0.2 MW	Restore within repair time	Restore within repair time

Load: This is the maximum load on an asset section under normal operating conditions.
N-1 Load: Is the load on an asset section if a network section was removed from connection due to a planned or unplanned event.
N-2 Load: This is the load on an asset section if two network sections were removed from connection due to a planned or unplanned event.

3.2.2 OPTIONS FOR MEETING SECURITY

A key component of security is the level of redundancy or over-investment that enables supply to be restored independently of repairing or replacing a faulty component. Typical approaches to providing security include…

- Provision of an alternative sub-transmission circuit into a zone substation.
- Provision to supply 11kV circuits from another zone substation or other 11kV circuits where sufficient 11kV capacity and interconnection exists.
- Provision to supply 400V circuits from adjacent transformers where there is sufficient capacity and interconnection exists
- Use of generation
- Use of interruptible load (such as water heating).

3.3 CONSUMER ENGAGEMENT

BEL's engagement with consumers was completed by an independent third-party professional survey firm. This was a telephone survey conducted with residential and commercial customers of BEL including:

- 149 residential urban customers
- 99 residential rural customers
- 19 commercial urban customers
- 36 commercial rural customers

The survey was conducted between 29th June and 3rd September 2021 and put on hold between 16 July and 23 August to give flood displaced customers time to return to their residences.

Specific objectives included

- To understand customers' perceptions of the organisation and its reputation, including price/quality trade-off;
- To understand satisfaction with the services provided by Buller Electricity;
- To identify the key drivers of these perceptions; and
- To identify priority opportunities to enhance customer satisfaction.

These are described more fully below.

During Buller's customer engagement the following conclusions were reached:

- Customers' overall perceptions of Buller Electricity's performance is high with seven in ten customers satisfied.
- The main driver of overall satisfaction is Value for money (39%), followed by Reliability of supply (19%), Communication (18%) and Image and reputation (18%).

The key opportunities for improving perceptions of Buller Electricity include:

- Demonstrating the value of lines charges.
- Providing an exceptional call centre service.
- Give customers options/plenty of warning via various channels regarding planned outages.
- Minimising the number of outages (work around the timing for planned outages).
- Keep customers up to date with what the company is doing in the area via a newsletter/direct mail.

Awareness of Buller Electricity as a lines company is high with close to three-quarters of customers (73%) correctly naming Buller Electricity as their local lines company.

The proportion of customers who have adopted new technology remains low. At least three in five (60%) have LED lighting installed at their home or business and over one in four (26%) use gas for hot water or heating.

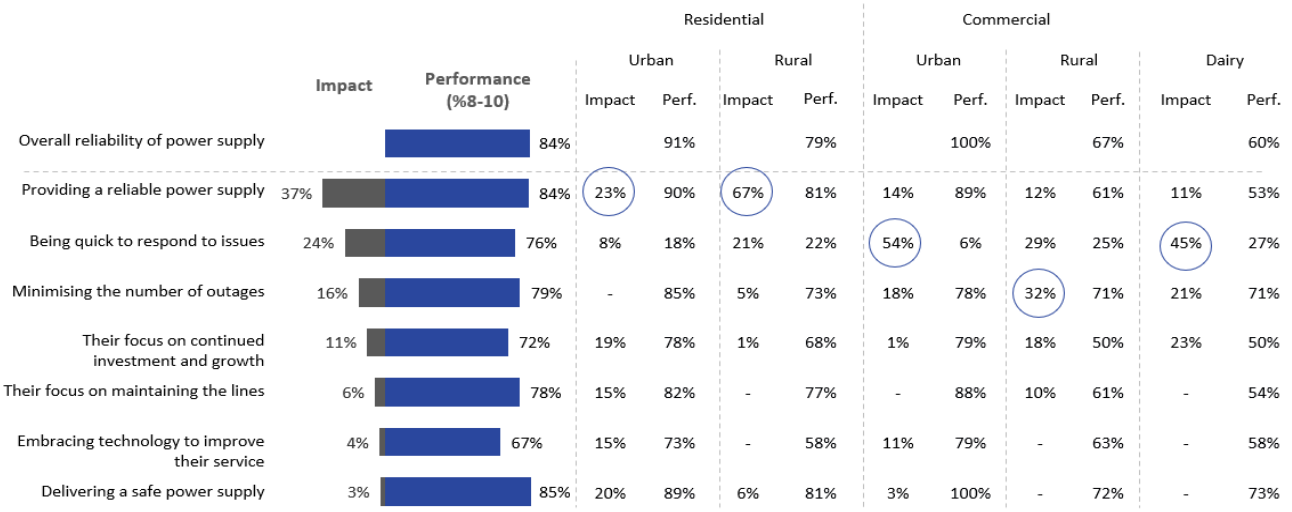


Figure 19. Drivers of Customer Satisfaction – Reliability of Power Supply.

3.3.1 PRIMARY CONSUMER SERVICE LEVELS

Projections of these measures for the current year and two years ending 31 March are set out in the table below.

Table 15. Primary Service Levels.

Measure	2025/26	2026/27	2027/28
SAIDI Planned Interruptions	200	190	180
SAIDI Unplanned Interruptions	588.0	588.0	588.0
SAIFI Planned Interruptions	0.70	0.70	0.70
SAIFI Unplanned Interruptions	3.85	3.85	3.85

3.3.2 SECONDARY CONSUMER SERVICE LEVELS

Secondary service levels are attributes such as absence of flicker and timely shutdown notices. These service levels and targets are shown in the table below.

Table 16. Secondary Service Levels.

Service Level		
Voltage, Harmonic or flicker complaints	Number of days to investigate or respond with a timeframe and reason if the investigation will take longer	5 days
Unplanned Outages	Restore Urban within	6Hrs
	Restore Rural within	18Hrs
	Restore Remote Rural within	24Hrs
Planned Shutdown Notices	Number of planned shutdowns for which BEL fail to accommodate large consumers production schedules	0
	Number of occasions for which BEL fail to give large consumers 30-minute confirmation of shutdown	0
	Number of planned shutdowns which fail to proceed without sound operational reasons	0

3.3.3 TERTIARY CONSUMER SERVICE LEVELS

These service levels are things like answering the phone quickly, processing new connection applications or providing technical advice. The table below sets out the tertiary consumer service levels BEL expects to achieve over the next three years.

Table 17. Tertiary Service Levels.

Service Level		
Tree defects as notified by consumer	Inspect and action same day of complaint	95%
Network defects notified by consumers	Inspect and action same day of complaint	100%
New Connection	Advise requirements within 15 business days and connect on agreed day if all requirements have been met	90%
Written response or estimates for new or additional supplies	Reply within 10 business days	90%

3.3.4 REGULATORY SERVICE LEVELS

Various Acts and Regulations require BEL to deliver a range of outcomes within specified timeframes, such as the following…

Publicly disclose either an AMP or an AMP Update each year.

Publicly disclose prescribed performance measures each year (Information Disclosure).

Buller's expected performance and efficiency measures are set out below. The complete derivation of these measures will be included in the annual disclosures.

3.3.5 Forecast Financial Efficiency Measures

The projected financial efficiency measures are shown below. These measures are…

- Cost per km of line – [Capital expenditure + Operational expenditure] / [system length at year end].
- Cost per ICP – [Capital expenditure + Operational expenditure] / [number of ICP's at year end].

Table 18. Financial Efficiency Measures.

Measure	YE 31/3/26	YE 31/3/27	YE 31/3/28	YE 31/3/29	YE 31/3/30
Costs ($/km of line)	11,067	12,473	12,018	11,846	11,791
Costs ($/customer)	1,483	1,663	1,597	1,566	1,551

Definitions:

Capital Expenditure = Capital Expenditure on System Fixed Assets + Capital Expenditure Non-System Fixed Assets.

Capital Expenditure on System Fixed Assets = Expenditure incurred on works that, when those works are recognised in the Asset Register, has the effect of increasing the RAB.

Operational Expenditure = Expenditure incurred in the operation of the distribution business, that is not Capital Expenditure and excludes depreciation, tax, expenditure on transmission and expenditure relating to the financing of the business.

3.3.5 ENERGY DELIVERY EFFICIENCY MEASURES

BEL's projected energy delivery efficiency measures are shown below. These measures are:

$$Load\ Factor = \frac{kWh\ entering\ the\ network\ during\ the\ year}{maximum\ demand\ for\ the\ year * hours\ in\ the\ year}$$

$$Loss\ Ratio = \frac{kWh\ lost\ in\ the\ network\ during\ the\ year}{kWh\ entering\ the\ network\ during\ the\ year}$$

$$Capacity\ Utilisation = \frac{maximum\ demand\ for\ the\ year}{total\ installed\ transformer\ capacity}$$

Table 19. Energy Delivery Efficiency Measures.

Measure	YE 31/3/26	YE 31/3/27	YE 31/3/28	YE 31/3/29	YE 31/3/30
Load Factor	59%	58%	56%	55%	55%
Loss Ratio	6.9%	7.06%	7.06%	5.6%	5.6%
Capacity Utilisation	24%	24%	25%	25%	25%

3.3.6 PUBLIC SAFETY

Various legal requirements require assets (and consumers' plant) to adhere to certain safety standards which include earthing exposed metal and maintaining specified line clearances from trees and from the ground. These include…

- Health & Safety at Work Act 2015 (from 4th April 2016).
- Health & Safety in Employment Act 1992.
- The amended Electricity Act 1992 sets the requirements for safety management systems.
- Electricity (Safety) Regulations 2010.
- Electricity (Hazards from Trees) Regulations 2003.
- Maintaining safe clearances from live conductors (NZECP34:2001).
- Power system earthing (NZECP35:1993).
- NZS 7901:2008 Public Safety Management Systems

These are reflected in BEL's Risk Register.

3.3.7 AMENITY VALUE

There are constraints that limit where and how overhead powerlines are built:

- The Resource Management Act 1991.
- The operative Buller District Plans.
- The various operative West Coast regional plans.
- NZTA requirements.
- Civil Aviation Authority requirements.

In general, new assets will need to be underground in many areas which is significantly more expensive and may also result in reliability levels beyond what consumers generally expect and are prepared to pay for.

3.3.8 ELECTRICAL INTERFERENCE

Under certain operational conditions, assets can interfere with other utilities, such as phone wires and railway signalling or with the correct operation of Buller's own equipment or customers' plant. The following codes impose service levels…

- EEA Power Quality Guidelines (2012)
- BS EN 50160:2010
- AS/NZS 61000.3.2:2003
- Harmonic levels (NZECP36:1993)
- SWER load limitation to 8A (NZECP41:1993)

3.3.9 JUSTIFYING SERVICE LEVELS

BEL justifies its main service levels in the following ways:

Table 20. Rationale for Service Levels.

Class	Attribute	Reference point	Justification for service levels
Consumer	Primary	Consumer perception of frequency and duration of unplanned outages around time of consumer survey, including supply restoration efforts. Prevailing line charge at time of survey	Preference of surveyed consumers By what is achievable within constrained revenue Legacy network characteristics Principle of diminishing returns
	Secondary	Consumer perception of flicker around time of consumer survey. Consumer perception of planned shutdown notification around time of survey. Prevailing line charge at time of survey	Preference of surveyed consumers By what is achievable within constrained revenue Legacy network characteristics Principle of diminishing returns Safety requirements that limit deployment of fault staff during rough weather
	Tertiary	Consumer perception of phone answering around time of consumer survey. Consumer perception of new application process around time of Consumer survey. Prevailing line charge at time of survey	Preference of surveyed consumers
Regulatory	Financial	Derivation of performance measures specified by Commerce Commission.	Legacy performance Legacy network characteristics
	Energy delivery	Derivation of performance measures specified by Commerce Commission	Largely determined by consumer behaviour Legacy performance Legacy network characteristics
Other	Public safety	Current safety levels determined by inherent characteristics of assets. Striving toward zero public harm or property damage Safety outcomes required by regulations promulgated under the Electricity Act 1992.	Working towards zero harm targets

	Amenity value	Broad principles set out in Resource Management Act 1991. Qualitative levels specified in District and the various regional plans.	Legislative requirements Council requirements
	Interference	Level specified in ECP	Legislative requirements

Consumer surveys have indicated that consumer preferences for price and service levels are reasonably static. There is certainly no obvious widespread call for increased supply reliability.

3.3.10 LINKING SERVICE LEVELS TO AMP ACTIVITIES

The following chart links Buller's service levels to its asset management activities and is a key component of allocative efficiency.

Table 21. Service Level Link to AMP.

Service level attribute		Response		Buller's mandate
What do Consumers want the most?	➔	Continuity and restoration first and foremost	➔	Focus on continuity and restoration of supply first and foremost
How much do they want?	➔	About the same as they are currently getting	➔	Maintain continuity and restoration performance at about the current level
How much do they want to pay?	➔	About the same as they are currently paying	➔	Keep line charges at about the same level as they currently are
Are the Consumers happy?	➔	Yes	➔	Keep delivering similar service levels for other attributes

3.4 QUANTITATIVE DISCUSSION

In order to meet the requirements under section 17 of the Disclosure Requirements, we include a discussion of how we deal with the topics of outage management, power quality, customer service practices, new connections, and how we deal with load/generation/storage growth, and any innovation practices.

3.4.1 OUTAGE MANAGEMENT

PLANNED INTERRUPTIONS

Outage management has developed over time – to the current position where the customer receives a notification from their retailer. Outage planning begins with the work planner completing an outage application and sending it to the BEL control room for approval, the duty Network Controller selects the assets work area in the GIS system and consumer connections affected by the outage area are automatically listed then loaded into the regulated electricity information exchange protocol (EIEP5A) – where the reason for the outage, proposed and alternative service interruption dates and restoration times are included. A combined EIEP5A file is sent to the electricity registry where the retailers get notified, which in-turn notifies the consumer in advance of the planned outage.

- For all non-urgent planned interruptions, BEL notifies retailers at least 15 working days before the planned outage.
- For small scale and urgent planned interruptions, BEL will notify the customers directly by either doing a letter drop or calling the customers directly to inform them of the interruption.

UNPLANNED INTERRUPTIONS

Consumers are notified about significant unplanned interruptions on Facebook. BEL updates these posts with expected restoration times and other information as it becomes available.

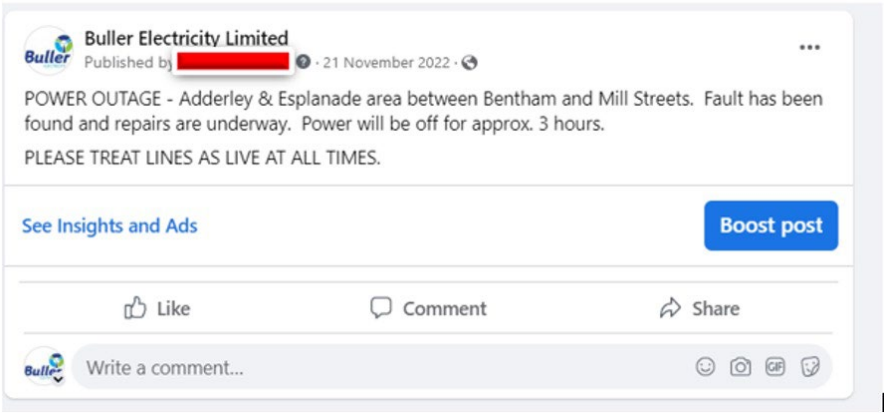


Figure 20. BEL Facebook Unplanned Outage Notification

- Information about interruptions is posted on the company Facebook page and Website
- Whenever possible medically dependent and critical consumers are called directly to inform them of the outage and probable restoration times

3.4.2 VOLTAGE QUALITY AND ANALYSIS

BEL currently monitors voltage quality on the HV network at zone substations and field recloser and sectionaliser throughout the network, this is in the form of dedicated power quality recording equipment or as an additional feature of network protection relays. This equipment typically monitors and records voltage, current, voltage surge and sags, transients and harmonics.

BEL in the past has not proactively monitored voltage quality on the LV networks. After completing an initial trial of LV monitoring equipment BEL has installed the Future Grid Compass™ AMI based low voltage network management solution. BEL currently collects power quality data through a single metering equipment provider for approximately 54% of the ICPs on the network. This data includes five-minute instantaneous values of voltage, current and phase angle and is downloaded on a daily basis. . The power quality data collected is combined with distribution transformer, feeder and zone substation information and is processed with the Future Grid Compass software platform. This provides alerts and a geographical view of potential Loss of Neutral faults, phase imbalance, voltage excursions and transformer overloads and constraints as well as many other network issues. This data is currently also being combined with other network data and utilised for load flow modelling of individual distribution substation reticulation areas using ETAP network modelling software. This is used to confirm capacity constraints and investigate options for any future load growth or distributed generation connection issues. As we presently only collect power quality data from 54% (2662) of the ICPs in the network, some estimation is completed for the missing data in the network models. It is expected that through data collection from other metering equipment providers and replacement of older meters in the network that this will provide coverage of up to 95% within the next two years.

BEL is currently compiling LV network models of all its urban reticulation, and this will be used with monitoring data to analyse the networks to facilitate follow-up work programs to enable the:

- Reduction of network energy losses though load balancing or transferring loads to adjacent LV Circuits
- Optimisation of existing network assets and targeted replacement programs for LV conductors
- Improvement of consumer power quality i.e. voltage regulation and flicker minimisation
- Gain knowledge of network remaining capacity and or constraints for future new connections, EV uptake and distributed generation.

The Electricity (Safety) Regulations 2010 require that consumers be supplied electricity at a Voltage of 230V with 6% tolerance at the point of supply. Presently there is no known network noncompliance with regulations regarding voltage and or harmonic limitations. Typically, BEL receives a voltage complaint only once or twice a year.

When a stakeholder (generally a customer or retailer) notifies BEL of a power quality complaint, this is usually notified as a flickering power or low voltage complaint. All ongoing investigation costs associated with voltage complaints are covered by BEL. Any costs associated with rectifying the complaint will be invoiced to the asset owner, which could be Buller Electricity (Works) or the consumer (Installation) or both. BEL's target is to investigate and respond to the consumer within five working days of the complaint or as otherwise agreed with the consumer.

The typical order of actions to resolve voltage issues is:

1) Obtain a detailed description of the voltage or flicker complaint from the consumer
2) Dispatch line staff to the site to check service connections to remedy any localised fault and carry out measurements to determine the cause or if further monitoring or investigation is required
3) Install voltage recorders inside the installation, on the service connection and distribution substation for a minimum of two days or as determined though discussions with the consumer.
4) Record and map all service connections of individual phases and LV circuits from the distribution substation.
5) Model the LV network in ETAP software and run unbalance load flow analysis.
6) Confirm if there is a voltage issue from the downloaded recorders and weather the issue is internal to the installation or a network issue.
7) Determine ETAP model accuracy and analyse possible remedies for the voltage complaint including altering of service connection phases, transferring LV circuits to other nearby distribution substations, reconductoring LV circuits etc.
8) Advise the affected consumer if possible by phone and follow up letter if the issue is internal to the installation or service mains, or if there is a network issue and the planned remedial action and timeframe for correction
9) Plan and complete the required works for remedial action
10) Reinstall the voltage recorders to confirm that the undertaken remedial actions have been successful and that no further issues have arisen
11) Follow up letter to the consumer to advise the outcome

3.4.3 CUSTOMER SERVICE PRACTICES

Buller Electricity conducts a consumer survey as and when deemed necessary to gauge consumer satisfaction.

BEL's engagement with consumers is completed by an independent third-party survey firm. This is generally a telephone survey conducted with residential and commercial customers of BEL including:

- residential urban customers
- residential rural customers
- commercial urban customers
- commercial rural customers

The last survey was conducted between 29th June and 3rd September 2021 and put on hold between 16 July and 23 August to give flood displaced customers time to return to their residences.

Specific objectives included

- To understand customers' perceptions of the organisation and its reputation, including price/quality trade-off;
- To understand satisfaction with the services provided by Buller Electricity;
- To identify the key drivers of these perceptions; and
- To identify priority opportunities to enhance customer satisfaction.

Buller Electricity endeavours to fulfil all obligations to its ICP holders and that all interactions are positive wherever possible. In the event of a customer complaint Buller Electricity sets out to resolve the complaint positively in a timely manner. All official complaints are captured on BEL's complaints register. The complaint is then sent to the Operations Supervisor who assigns the complaint to the most appropriate person. The assignee will then deal with the customer directly to resolve the issue or come to a fair and reasonable compromise. The assignee updates the register as the resolution proceeds and closes off the item when the complaint has been dealt with.

Additionally, BEL has put targets in place that focuses on increased customer service levels. Below are the tertiary consumer service levels BEL expects to achieve over the next few years.

Table 22. Repeat of Tertiary Service Levels.

Service Level		
Tree defects as notified by consumer	Inspect and action same day of complaint	95%
Network defects notified by consumers	Inspect and action same day of complaint	100%
New Connection	Advise requirements within 15 business days and connect on agreed day if all requirements have been met	90%
Written response or estimates for new or additional supplies	Reply within 10 business days	90%

3.4.4 NEW CONNECTIONS

On average over the last five years BEL has had 37 new or altered connections per year, the new connections being mainly domestic while the alterations have been typically for dairy farm transformer upgrades and the school coal fired boiler replacements as part of the EECA GIDI funding program. To facilitate the connection to be completed in a timely manner BEL's preferred method, especially for domestic consumer connections is that the customer utilises their preferred electrical contractor to manage the connection process on their behalf, this tends to make the process easier as the electrical contractor can determine the technical requirements such the type of connection, load current, number of required phases, cable sizing etc. before applying for application for connection to the network. For large connections or subdivision applications we work directly with the applicant or their design consultants to facilitate the load.

Once application to connect to the network is received

1) The application details are logged into the Network Energy Database (NED) and tagged in the GIS system for future reference.
2) The application is assessed based on load type and location in the network and available network capacity at the location
3) Any additional requirements determined e.g. easements, network extensions, upgrades, resource consents etc.
4) Costs and material availability are determined from suppliers, work planning schedule are reviewed for potential construction dates and a quote prepared and sent to the customer
5) Upon quote acceptance materials are ordered and the work planning schedule updated
6) NED and registry information is updated and confirmation of ICP and retailer acceptance is checked
7) The work is planned and completed in liaison with the customer/electrical contractor to align with expected electrical inspection, metering installation and livening date.
8) Administrative items such as registry, as-builts and compliance records are updated

CURRENT TYPICAL ISSUES AND DELAYS

Connection of new distribution substations and HV lines requires a network outage or live line glove and barrier work to make the connection. Weather events and rain can cause this work to be delayed, the timeframes for customer outage notification and any ongoing disruptive weather patterns can lead to extensive delays with providing the connection.

Third party delays are mainly due to metering installation and electrical contractor delays, presently there is only one metering installer in Westport and is only approved by one MEP so some installation require metering installers to come from Nelson or Christchurch. Additionally, there are only a few inspectors in Buller and distributed / solar generation inspectors typically have to come from outside the district. BEL typically liaise with the electrical contractor to try and ensure all parties arrive onsite for the connection to be livened on the same day. This is to ensure costs are minimised and repeat trips are not required.

3.4.5 ASSESSMENT FOR CONNECTION

Typically, domestic connections can be connected in the urban networks without issue, rural connections to small single-phase substations may require a transformer upgrade or complete distribution substation installation. BEL prefer to connect new consumers to existing substations and extend or upgrade the LV network rather than install additional substations as this is typically less cost and ultimately BEL have less distribution assets to maintain in future. As a default and if topography allows, new connections are connected to existing substations if they are within 350 meters, above this more detailed costing and load flow analysis is required.

With the current pricing methodology, a new single domestic connection requiring an overhead extension to the network of two or more spans of HV overhead and a new distribution substation is typically uneconomic. The installation of a longer and higher capacity LV underground service cable is preferred as this generally a cheaper option and ultimately has a longer lifespan along with less ongoing maintenance and inspection requirements and costs.

For new connections that are uneconomic or too far away from the existing network the customer is advised to seek non network solutions e.g., solar and battery type solutions. BEL does not currently provide this service but can direct the customer to potential suppliers and installers.

For commercial or industrial connection, the proximity to zone substations and subtransmission capacity drives the effort required to model the impact on the network. Connections on the rural 11kV circuits require more detailed analysis to ensure other consumers power quality is not unduly affected by the connection, analysis typically include load flow modelling, motor starting analysis and confirmation that current protection settings are suitable. For larger installations monitoring equipment is installed prior to, and after connection to ensure there has been no adverse effects to other consumers and voltage is within regulatory limits. Except for minor areas at the extreme and of the rural 11kV networks BEL has no known area where any medium-term foreseeable load increase would cause issue on the 33kV or 11kV networks.

3.4.6 INNOVATION PRACTICES

A number of initiatives have been undertaken to improve the operational efficiency of Buller Electricity.

The Future Grid COMPASS™ platform was deployed in February 2024. COMPASS™ has improved visibility across the Low Voltage network, and giving insights into transformer and LV network loading, electric vehicle uptake, power quality and compliance of distributed generation resources.

4 ASSETS COVERED

4.1 INTRODUCTION

This section summarises BEL's assets and asset configurations, but begins by describing BEL's geographical coverage, what sort of activities the underlying community uses electricity for, and the issues arising from that use.

4.2 DISTRIBUTION AREA

The BEL distribution region is located on the northern section of the South Island's West Coast and stretches between Karamea in the north and Meybille Bay (5km north of Punakaiki) in the south. The distribution network is one of the smallest in New Zealand servicing a consumer base of 4889 ICP's and conveying 54 GWh of electrical energy in the 2023/24 financial year. Westport is the only township of significant size in the distribution region and is where about half of the ICP's are located. It should be noted that the BEL region is significantly smaller than that which is covered by the Buller District Council.

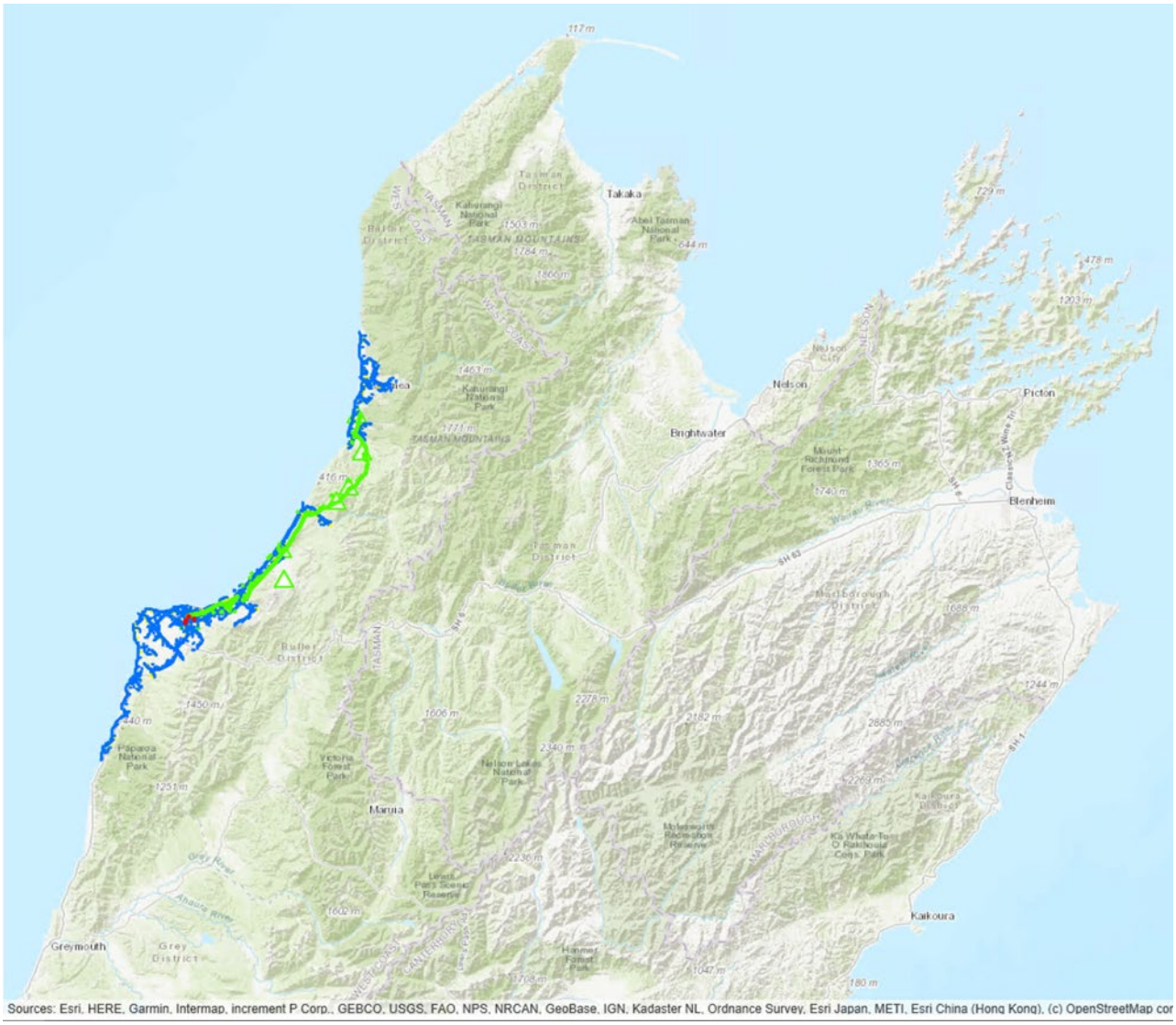


Figure 21. BEL Supply Region (Blue and Green Lines).

The geography of the Buller region is summarised as follows:

- A coastal plain bordered by Waimangaroa, Westport, Cape Foulwind and Charleston where farming dominates economic activity;
- Rugged uninhabited bush on the western slopes of the ranges overlooking the coastal plain and coastline;
- A small farming community on the coastal plain surrounding Karamea;
- Elevated plateaus – Denniston and Stockton – on the coastal ranges inland from between Waimangaroa and Granity where high quality coking coal deposits exist;
- Main access roads are generally located close to the coastline with exceptions being sections south of Charleston and in the Karamea Bluff area (between Little Wanganui and Mokihinui) where the rugged coastal terrain forces roads inland; and
- Outside of Westport the region is sparsely populated, the most notable settlements being Karamea, Ngakawau/Hector/Granity, Waimangaroa, Carters Beach and Charleston.

A key implication of the geographical location is corrosion from the coastal marine environment as a significant portion of the distribution network is within 1km of the westerly facing coastline.

4.2.1 KEY ECONOMIC ACTIVITIES

The most significant economic and electrical energy intensive activities in the region currently include:

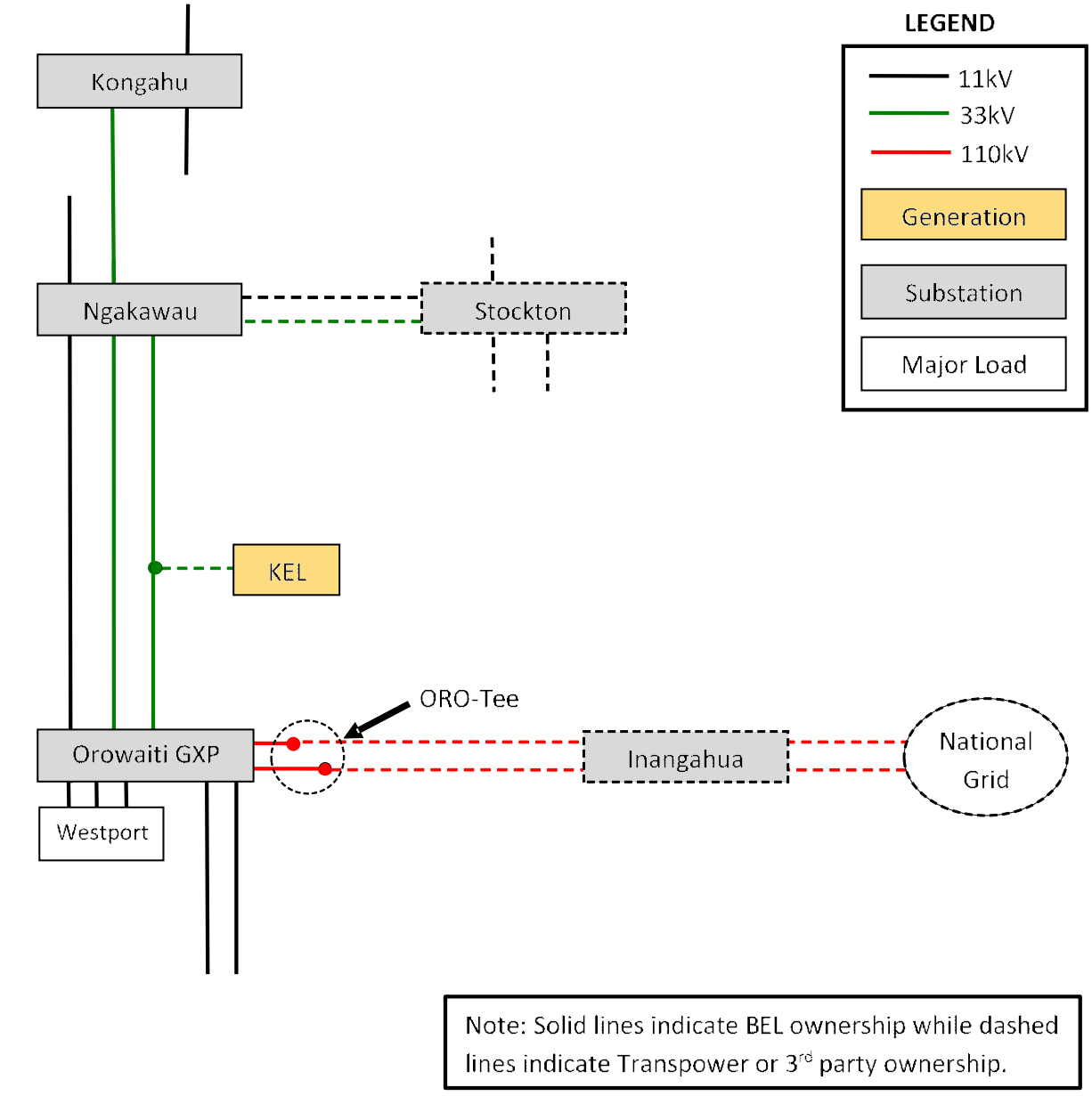
- Coal mining (BT Mining Opencast Mine at Stockton)
- Dairy Farming (All rural areas from Charleston to Karamea)
- Fish processing operations (Talleys Fisheries in Westport)
- Westport urban, commercial and light industry activities
- Other mining operations

4.3 NETWORK CONFIGURATION

An overview of the transmission, sub-transmission, and distribution networks in the Buller region is provided below.

BEL's assets centre around a dual GXP substation owned by BEL at Robertson Street in Westport. This is supplied via two 1km 110kV circuits that connect to the Transpower's Inangahua-Robertson Street transmission lines.

Figure 22. Electricity Networks in the BEL Region.



SUBTRANSMISSION NETWORK

BEL's 33kV subtransmission network consists of two overhead circuits that exit Robertson Street and lead north to Ngakawau zone substation, and a single 33kV sub transmission line which then continues further northward over the Karamea Bluff to the Kongahu zone substation. Connected 6km from Robertson Street on the ROB-NGK circuit 1 is Kawatiri Energy's Rochfort 4MW hydro generation scheme. The total length of these 33kV circuits is 106km including 1km of underground cable.

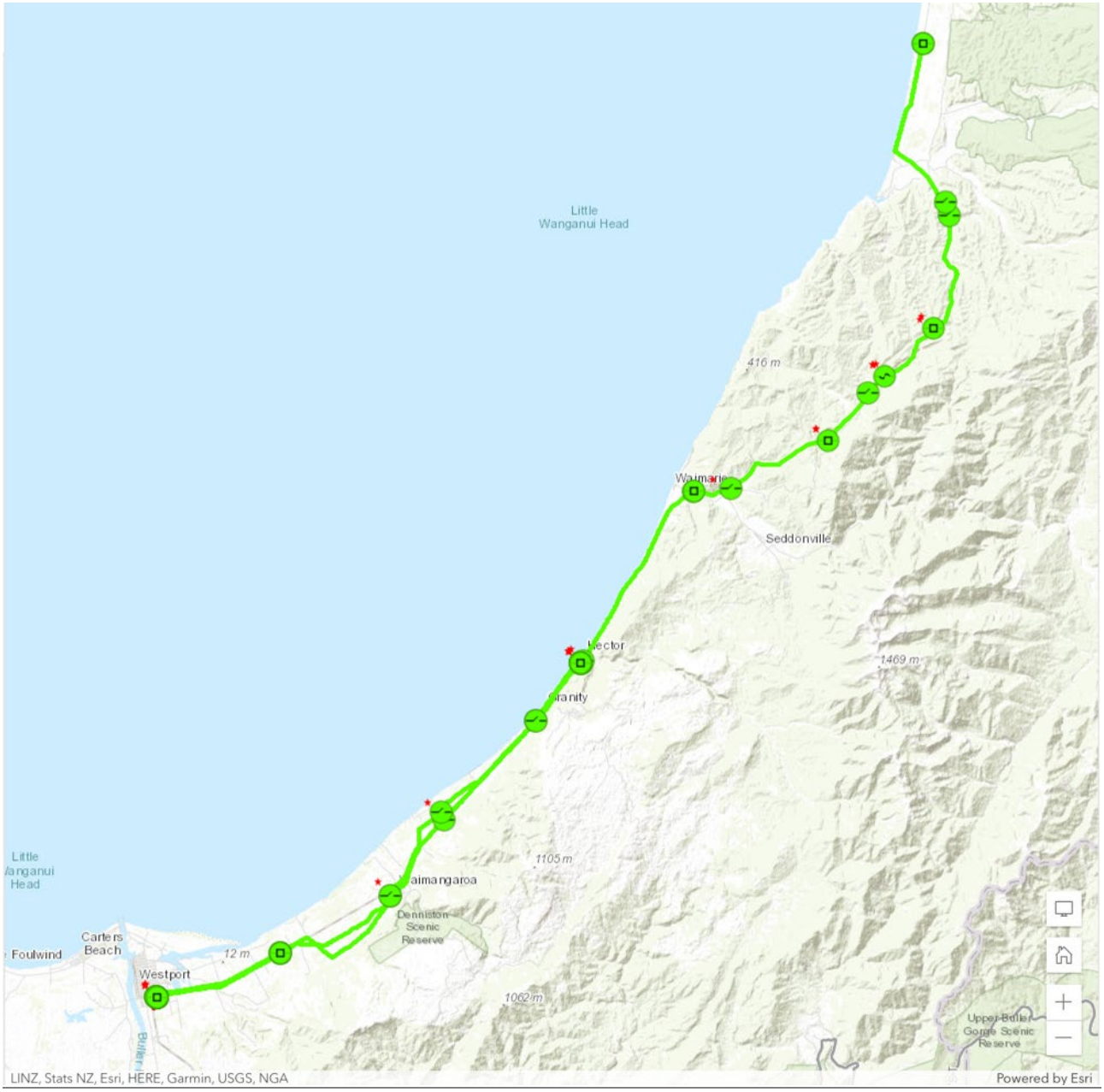


Figure 23. BEL 33kV Subtransmission Network (Source: Adapt Asset Management System).

ROBERTSON STREET SUBSTATION

- Adderley 11kV feeder
- Russell 11kV feeder
- Derby 11kV feeder
- Cape Foulwind 11kV feeder
- Domett 11kV feeder
- Whareatea 11kV feeder

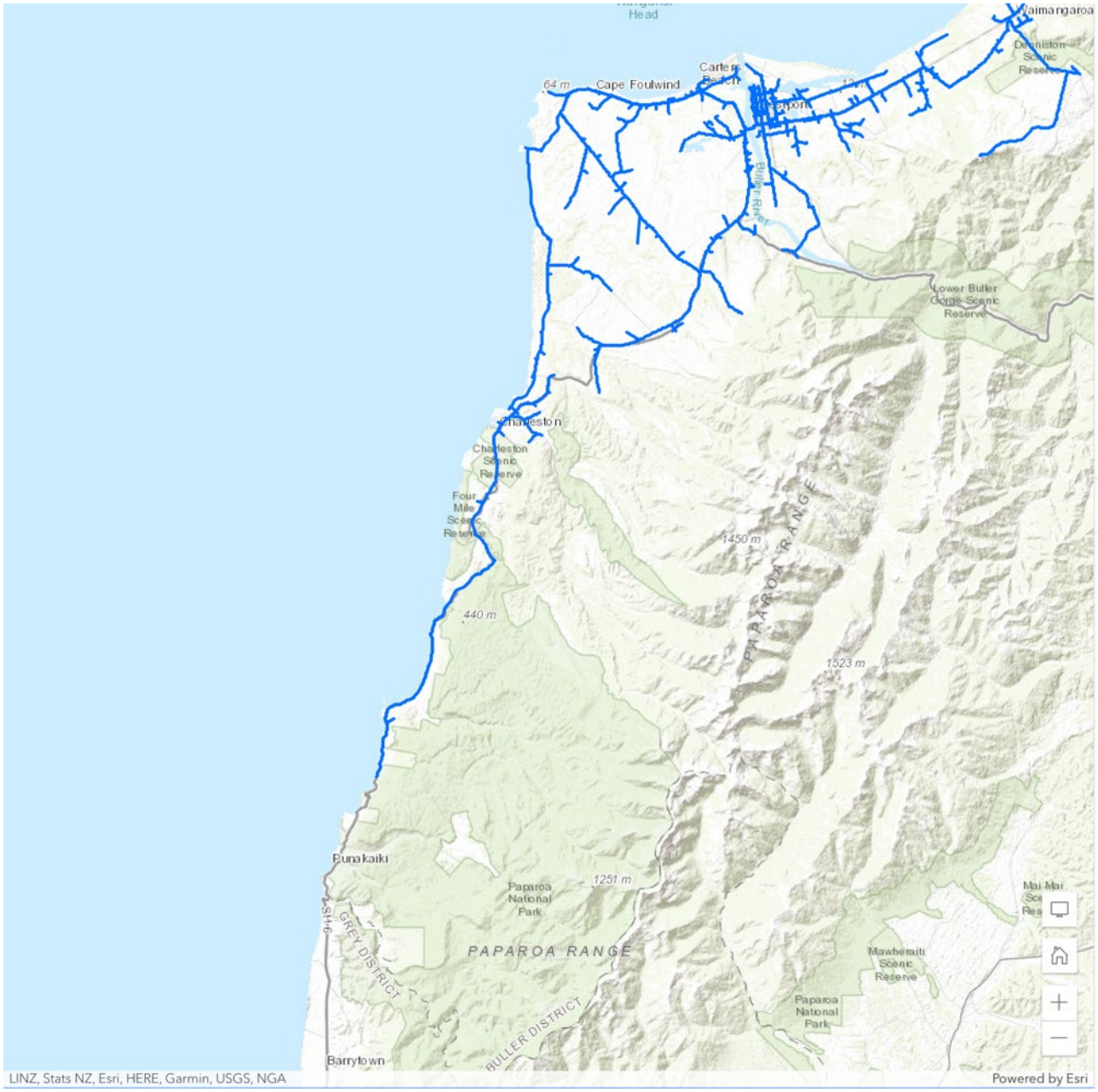


Figure 24. Distribution Feeders supplied from Robertson Street Substation (Source: Adapt Asset Management System).

NGAKAWAU SUBSTATION

- Waimangaroa 11kV feeder
- BT Mining 11kV feeder
- Seddonville 11kV feeder

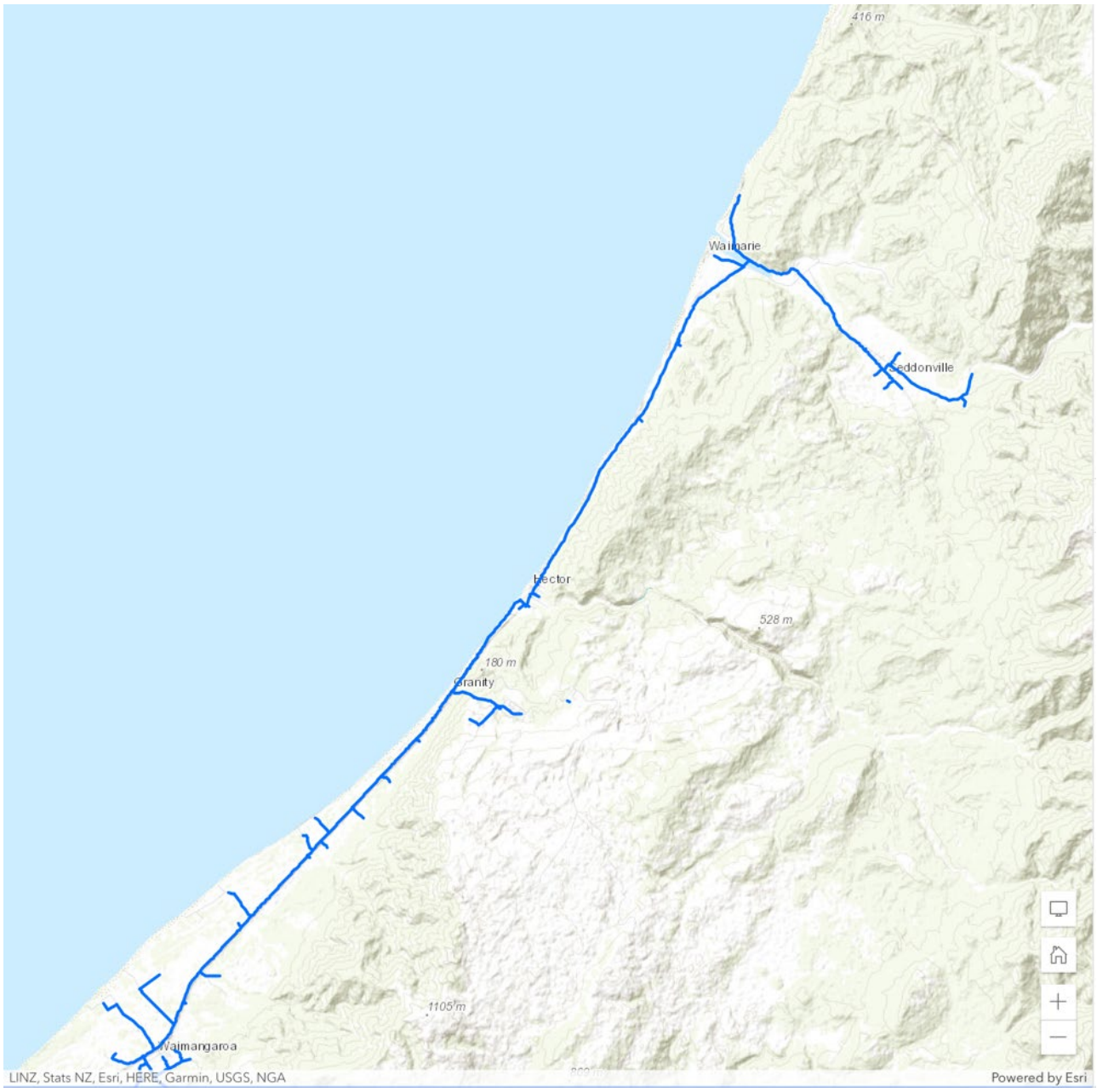


Figure 25. Distribution Feeders Supplied from Ngakawau Substation (Source: Adapt Asset Management System).

KONGAHU SUBSTATION

- Little Wanganui 11kV feeder
- Karamea 11kV feeder

Figure 26. Distribution Feeders Supplied from Kongahu Substation (Source: Adapt Asset Management System).

The 11kV distribution lines are radial, with some interconnection between feeders possible in the Westport township. It is possible to interconnect the Waimangaroa feeder (supplied from Ngakawau Substation) and the Whareatea feeder (supplied from Robertson Street Substation). The majority of 11kV distribution lines are of overhead construction, with small sections in the industrial and wharf areas of Westport township being underground. Additionally, ground mounted transformers are connected with short sections of underground cables to the overhead lines.

BEL's 11kV network has 368 kms of overhead and 22km of underground cable.

LV NETWORK

The LV configuration is as follows:

- Radial LV with extensive meshing available within the Westport CBD area. This is mostly underground.
- Radial LV with some meshing available in the Westport suburban areas. This is a mix of overhead and underground.
- Radial LV in rural subdivisions. This is generally all underground to preserve amenity value.
- Isolated radial Overhead LV in all other rural areas.

BEL's LV network has 108kms of overhead and 38km of underground circuits.

The BEL network has a combined total length of 650km including sub-transmission, distribution and LV lines.

4.4 NETWORK ASSETS

This section describes the network assets by category

4.4.1 ZONE SUBSTATIONS AND GXP

BEL owns and operates three substations within its network, Robertson Street (Also the Grid Exit Point), Ngakawau and Kongahu.

4.4.1.1 ROBERTSON STREET SUBSTATION

Location: Latitude -41.765208° Longitude 171.611109°

Robertson Street Substation in Westport was significantly rebuilt from a 33/11kV zone substation in 2004 to a 110/33/11kV GXP with two new 20/12/8MVA transformers and associated switchgear. The substation has three 11kV feeders that supply Westport Township and three 11kV rural feeders, two that supply Carters Beach, Cape Foulwind and Charleston areas and one that supplies up to Waimangaroa in the North. Exiting the substation are also the two 33kV subtransmission circuits that connect to KEL generation, Ngakawau zone substation and Kongahu zone substation. The substation is designed for an N-1 maximum capacity of 30MVA.

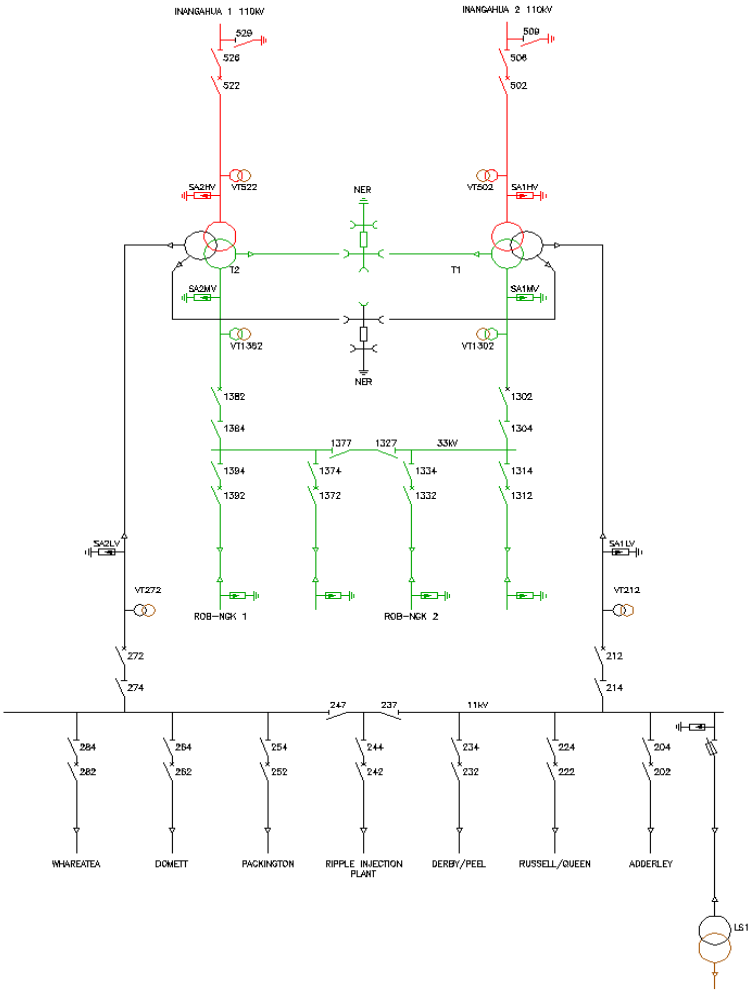


Figure 27. Robertson Street Substation Single Line Diagram.

The demand graph (Figure 28) shows a seven percent increase in the 2017 to 2018 years as BEL transferred load from Transpower's Westport GXP (Now decommissioned) to Robertson Street. Presently only minor base load and EV increases are forecast over the planning period. The dashed orange line shows a possible mining load increase from 2026 of 1.5MW (yet to be confirmed).

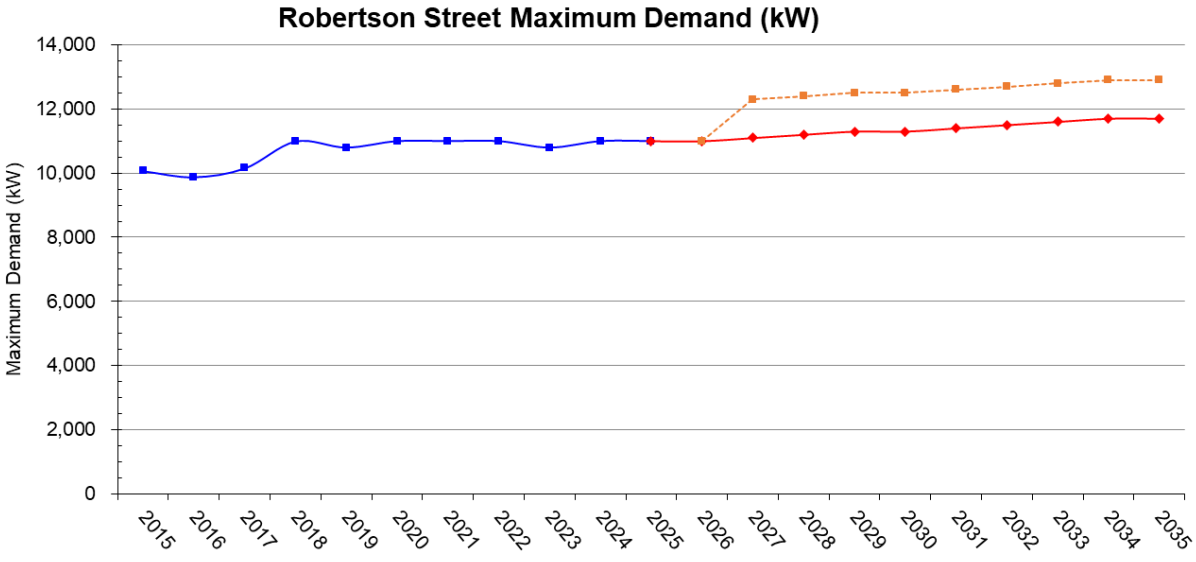


Figure 28. Robertson Street Substation Maximum Demand.

4.4.1.2 NGAKAWAU SUBSTATION

Location: Latitude -41.609271° Longitude 171.875216°

Ngakawau Substation was built in 2004/05. Ngakawau's main consumer (BT Mining) is within 150m of the substation. This substation is supplied via the two 33kV ROB-NGK circuits from Robertson Street substation. This substation has two 33kV feeders, one suppling Kongahu substation in Karamea and the other suppling the BT Mining operation at Stockton. Two 2.0MVA 33/11kV transformers supply an 11kV bus that connects to the Waimangaroa and Seddonville 11kV distribution feeders and the BT mining Ngakawau 11kV supply.. One of the transformers is expected to reach the end of its useful life within the 10-Year planning period and at present will not be replaced due to the low 11kV load supplied from the site. 11kV N-1 security presently can be supplied via the 11kV Whareatea feeder from Robertson Street substation with voltage support capacitors switched in.

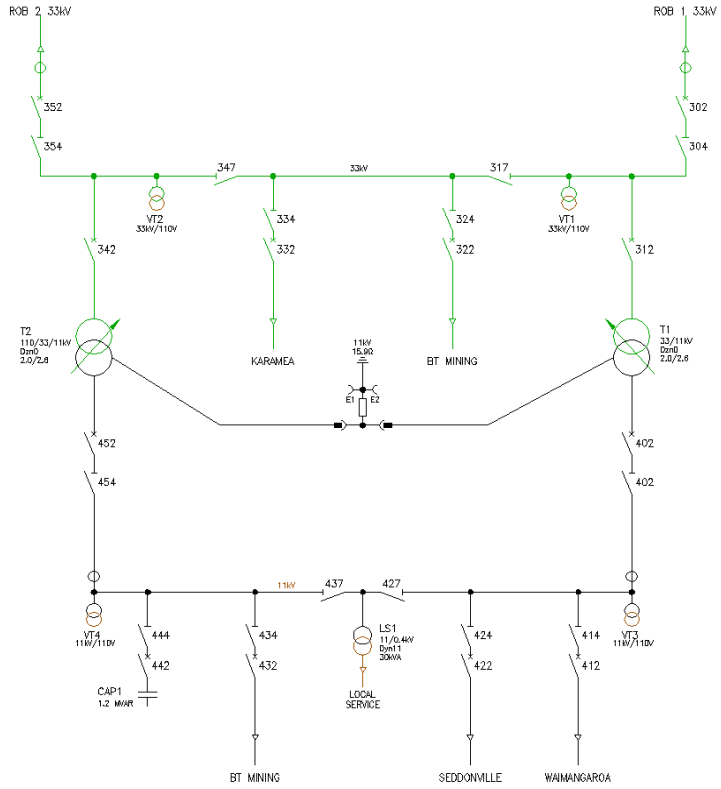


Figure 29. Ngakawau Substation Single Line Diagram.

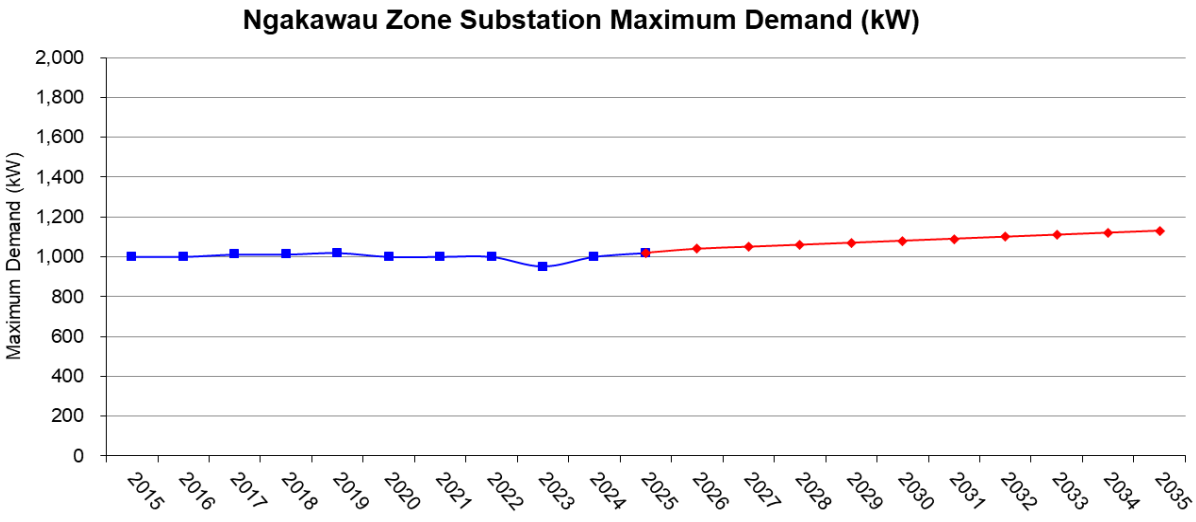


Figure 30. Ngakawau Substation 11kV Maximum Demand.

4.4.1.3 KONGAHU SUBSTATION

Location: Latitude -41.319840° Longitude 172.088723°

Kongahu Zone Substation supplies the Karamea and Little Wanganui Feeders in the northern part of BEL's distribution network. The 11kV bus was rebuilt in 2015 and the main 1.5 MVA 33/11kV power transformer replaced in 2021. Recent dairy farm milk cooling system upgrades have resulted in a 10% increase in the peak load which now totals 1.15 MW. Three standby diesel generators are located within the substation. Two of these are located inside a generator building to protect them from corrosion and the remaining unit located outdoors. These generators provide a security of supply of 1.36MW and are utilised during planned and unplanned outages of the 33kV Karamea Bluff line. The single one outdoor generator is forecast to be replaced in 2026 due to corrosion, current options for replacement include:

- Replacement with like for like
- Replace two generators with one larger unit and install in the generator building.
- Replace the generator with an 800-1000 kwh containerised battery and use only to cover peak periods
- Replace with an 800-100 kwh containerised battery and supplement with 250kW solar PV array

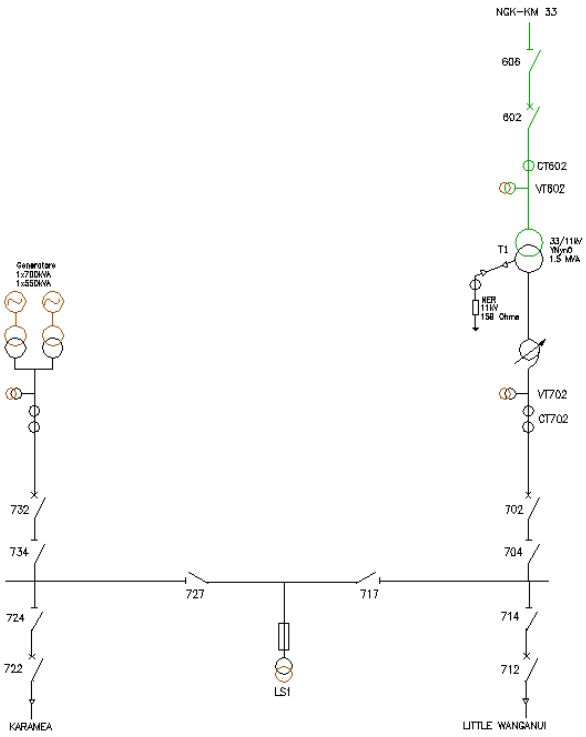


Figure 31. Kongahu Substation Single Line Diagram.

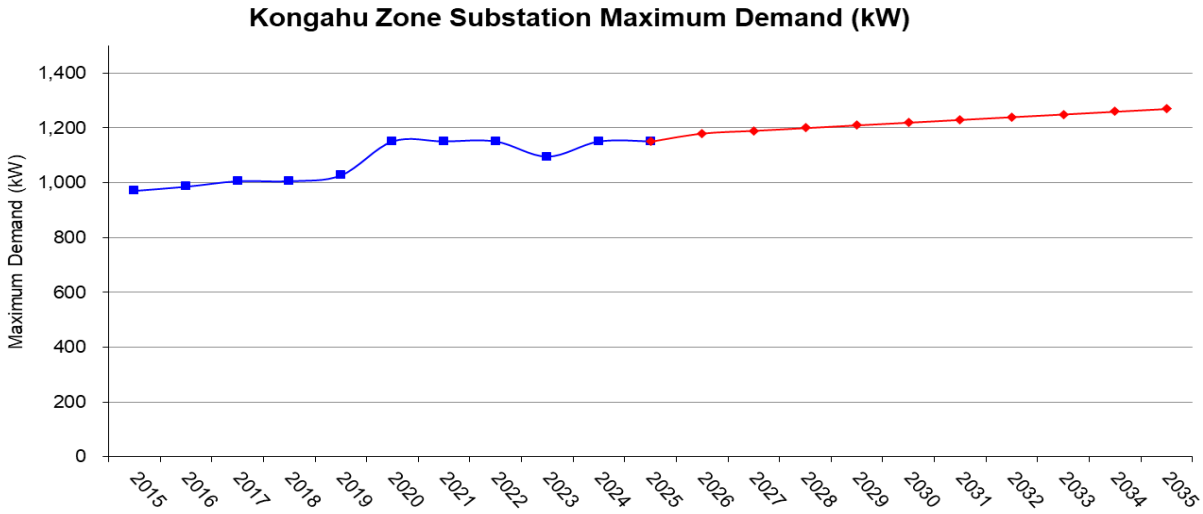


Figure 32. Kongahu Substation Maximum Demand.

4.4.2 POLES AND CROSSARMS AND CONDUCTORS

4.4.2.1 POLES

BEL's overhead transmission and distribution system is mainly populated with concrete poles manufactured in house from the early 1960s through to the mid-1980s. Pole quality is variable, many of the oldest poles are still in very good condition while others have sections of spalling concrete. These poles are replaced for public safety due to the risk of falling concrete rather than lack of pole strength. Pre-stressed concrete poles are utilised since the 1980s and are used wherever access is available with a crane truck. Hardwood poles which weigh less are used in all other areas, as these are more easily handled by an excavator or helicopter. BEL has experienced softwood poles bending over time and although they are within their safe loading zone, the bending is unsightly. Pre-stressed concrete poles will be used for high load service poles.

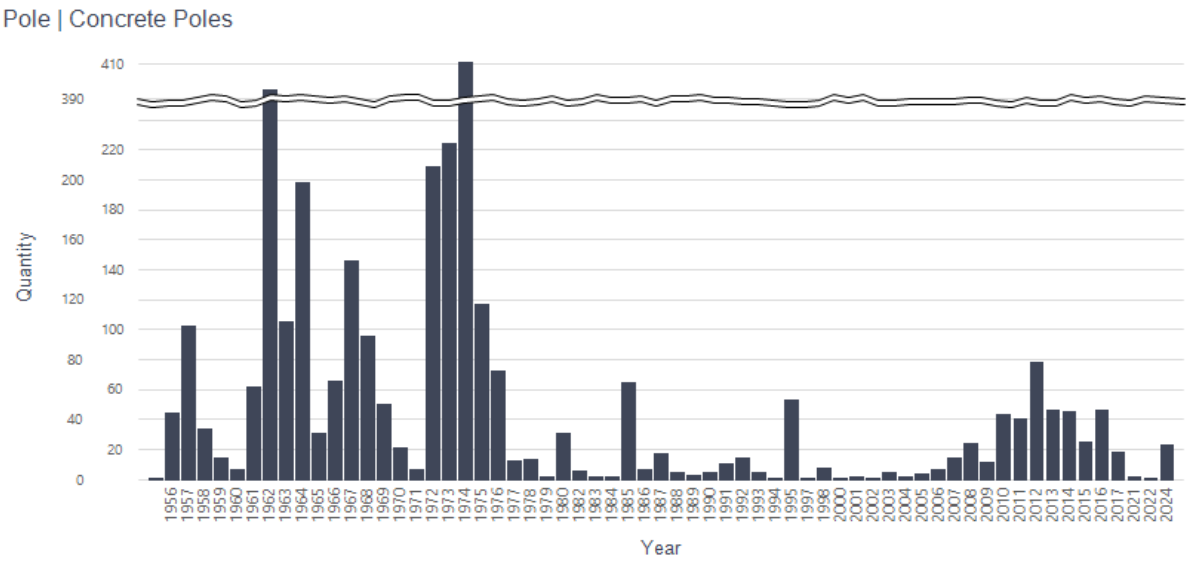


Figure 33. Age Profile of Concrete Poles.

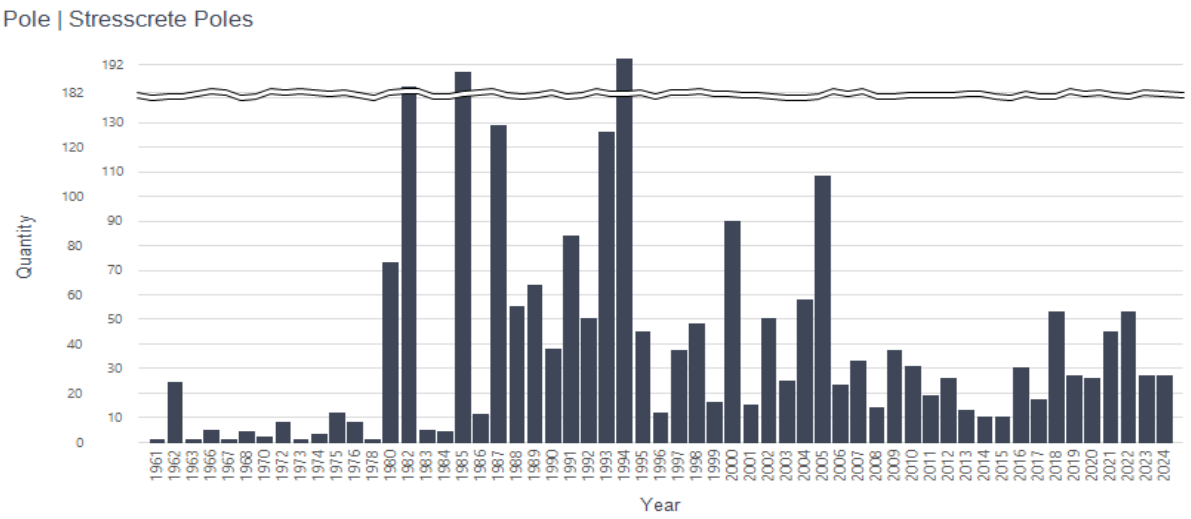


Figure 34. Age Profile of Pre-Stressed Concrete Poles.

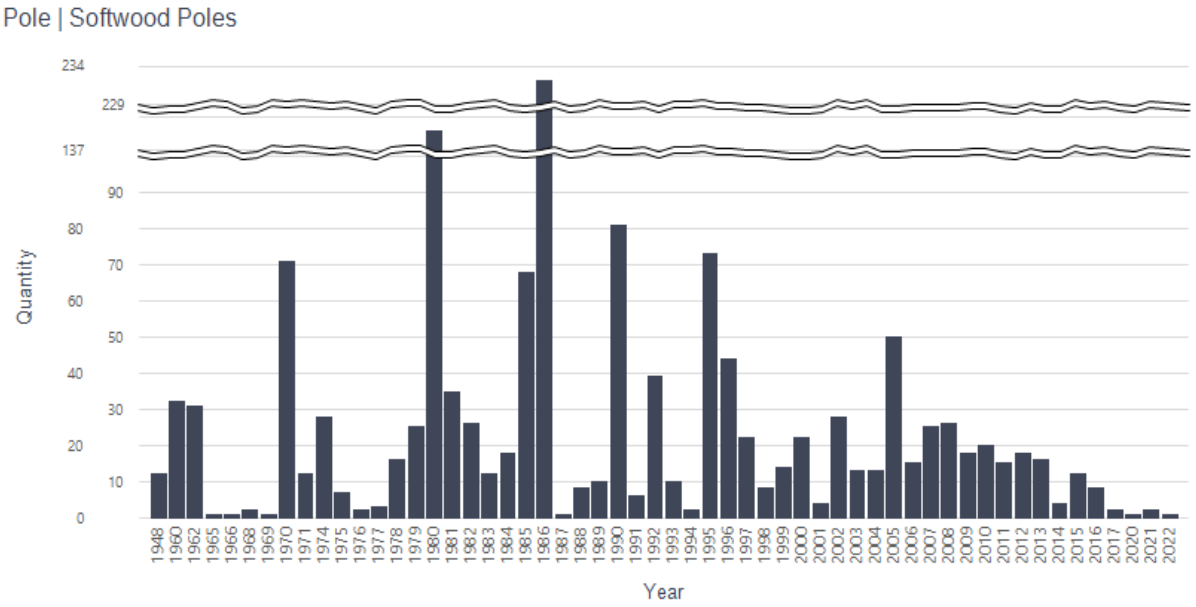


Figure 35. Age Profile of Softwood Poles.

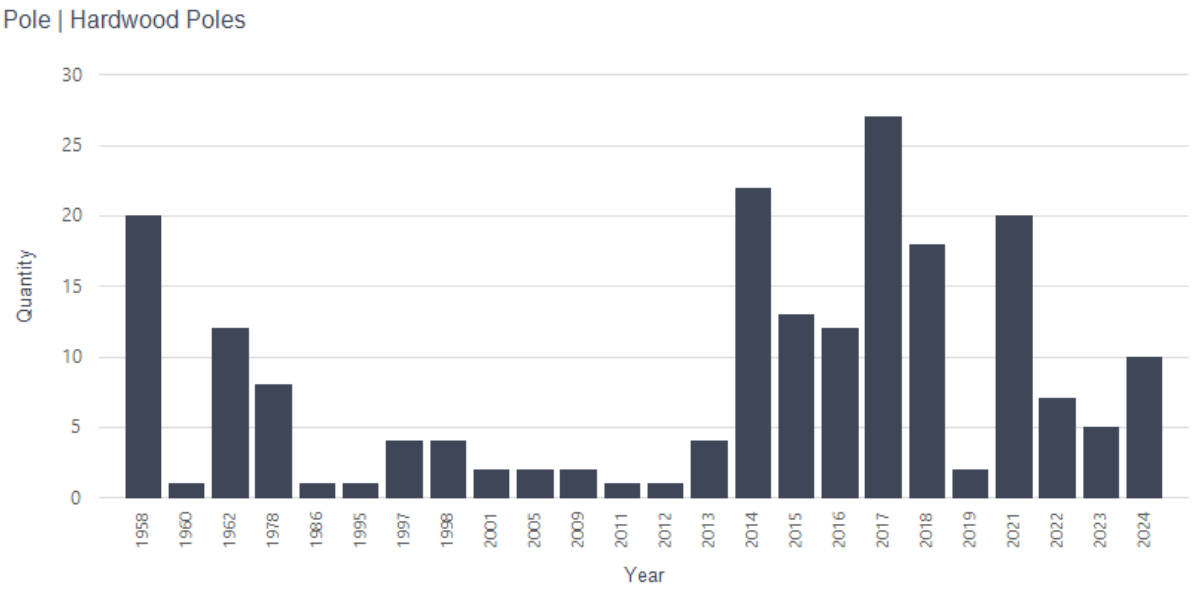


Figure 36. Age Profile of Hardwood Poles.

4.4.2.2 CROSSARMS AND INSULATORS

The majority of crossarms are hardwood with an average lifespan of 35 years. The standard size now used in the network is 100 x100. Insulators are generally of the porcelain type. Due to the high number of lightning strikes and coastal marine environment higher rated insulators are used on overhead lines within 500m of the sea and on mountain plateaus. Polymer strain insulators are used for all 33kV and 11kV terminations.

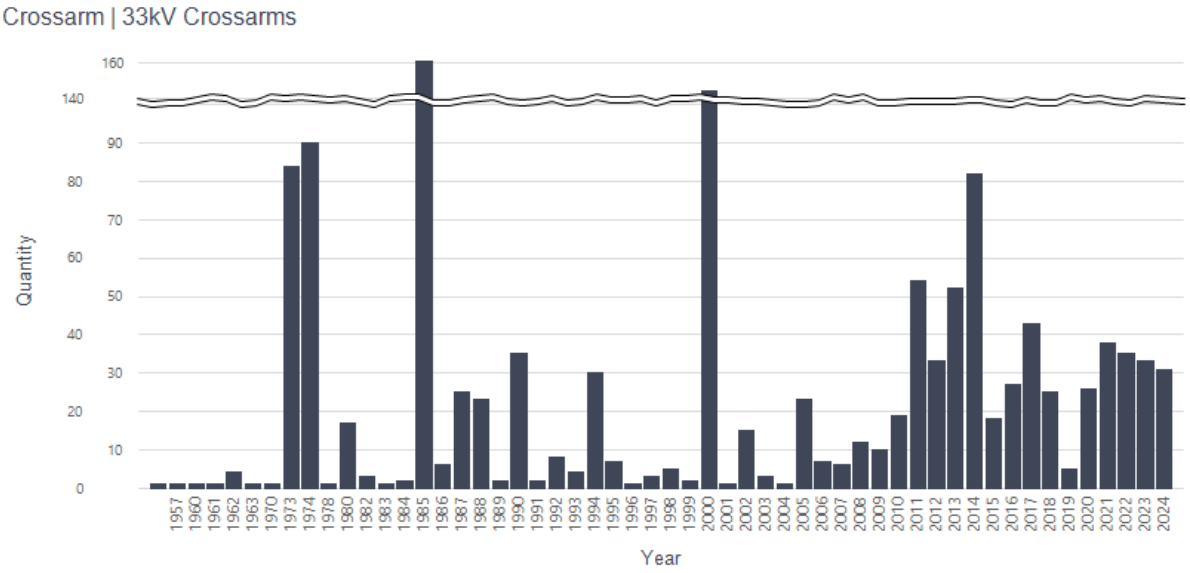


Figure 37. Age Profile of 33kV Crossarms.

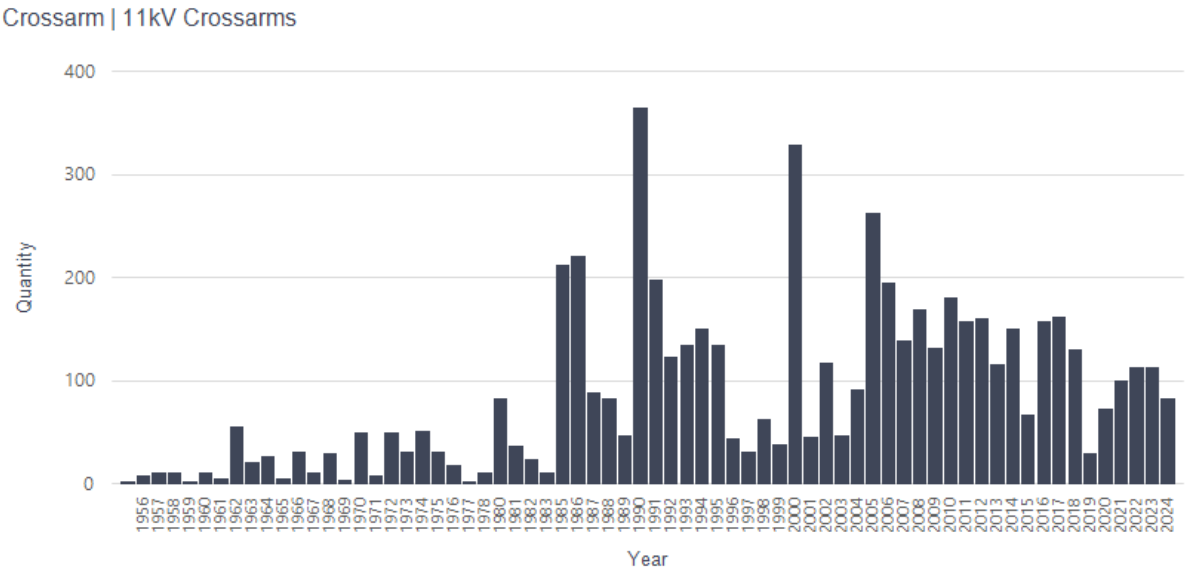


Figure 38. Age Profile of 11kV Crossarms.

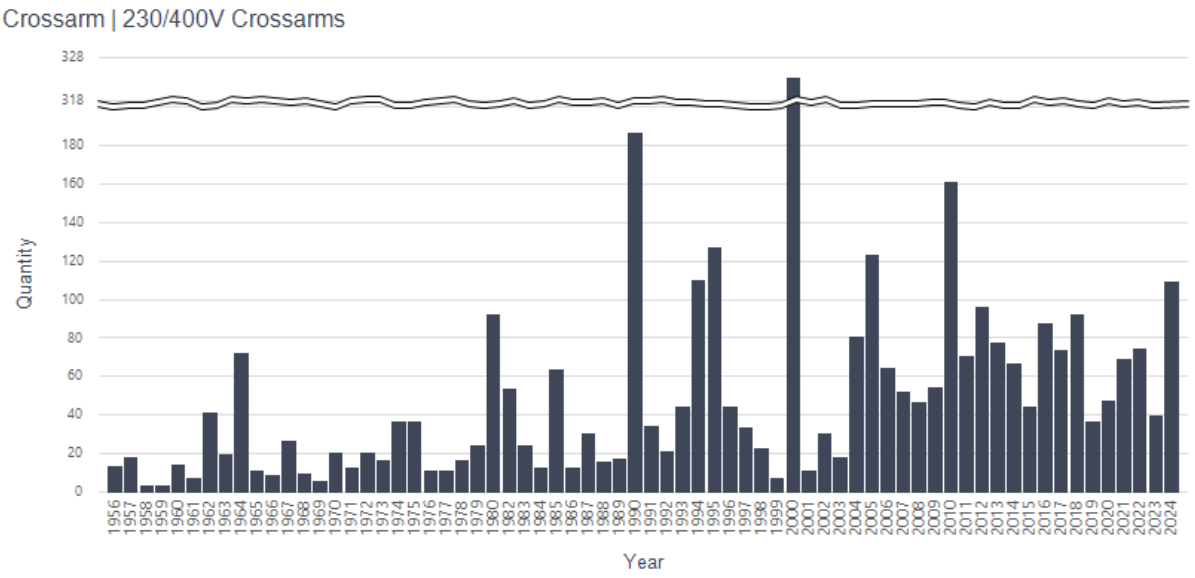


Figure 39. Age Profile of Low Voltage Crossarms.

4.4.2.3 CONDUCTORS

BEL has a mix of overhead conductors and sizes. These are mainly copper (Cu), steel reinforced aluminium (ACSR), and all aluminium alloy (AAAC). Sizes range from 16mm copper through to Krypton (158mm) AAAC.

The lifespan of conductors across the world is typically in the range of 45 to 70 years before replacement is required. BEL has used the ODV lifespan of 60 years for its default replacement age.

Overhead conductors are a critical asset in the distribution network. Unexpected conductor failures can lead to safety hazards, loss of supply and possible environmental damages and capital losses. Conductors deteriorate and lose their strength due environmental conditions such as high winds, vibration, corrosive environments in coastal areas, high-temperature operation and pollutants (acid rains) etc. Current asset management practices heavily rely on visual inspections. Conductor replacement is mainly driven by reactive response to the volume of conductor failure incidents. In general, visual inspections, practical experience, current asset age information and technical knowledge is used to try and predict future overhead conductor replacement dates.

A number of older copper conductor lines are becoming susceptible to strand breakage due to corrosion and high fault levels during fault conditions. These circuits have been pencilled for replacement. The first kilometre of the Whareatea 11kV feeder was replaced in YE 2022 and additional sections are programmed over the next five years. Smaller 16mm conductors are scheduled for replacement where these are installed on the main lines. Replacement of 11kV copper conductors will be with AAAC or ACSR type conductors. Other sections of ACSR and small copper conductors close to and along the coastlines have been inspected for corrosion and scheduled for replacement due to risk of failure and public safety. LV conductors in the Westport area will mainly be replaced with ABC while the smaller rural township areas will be replaced with a mixture of ABC and copper conductors depending on the load and length.

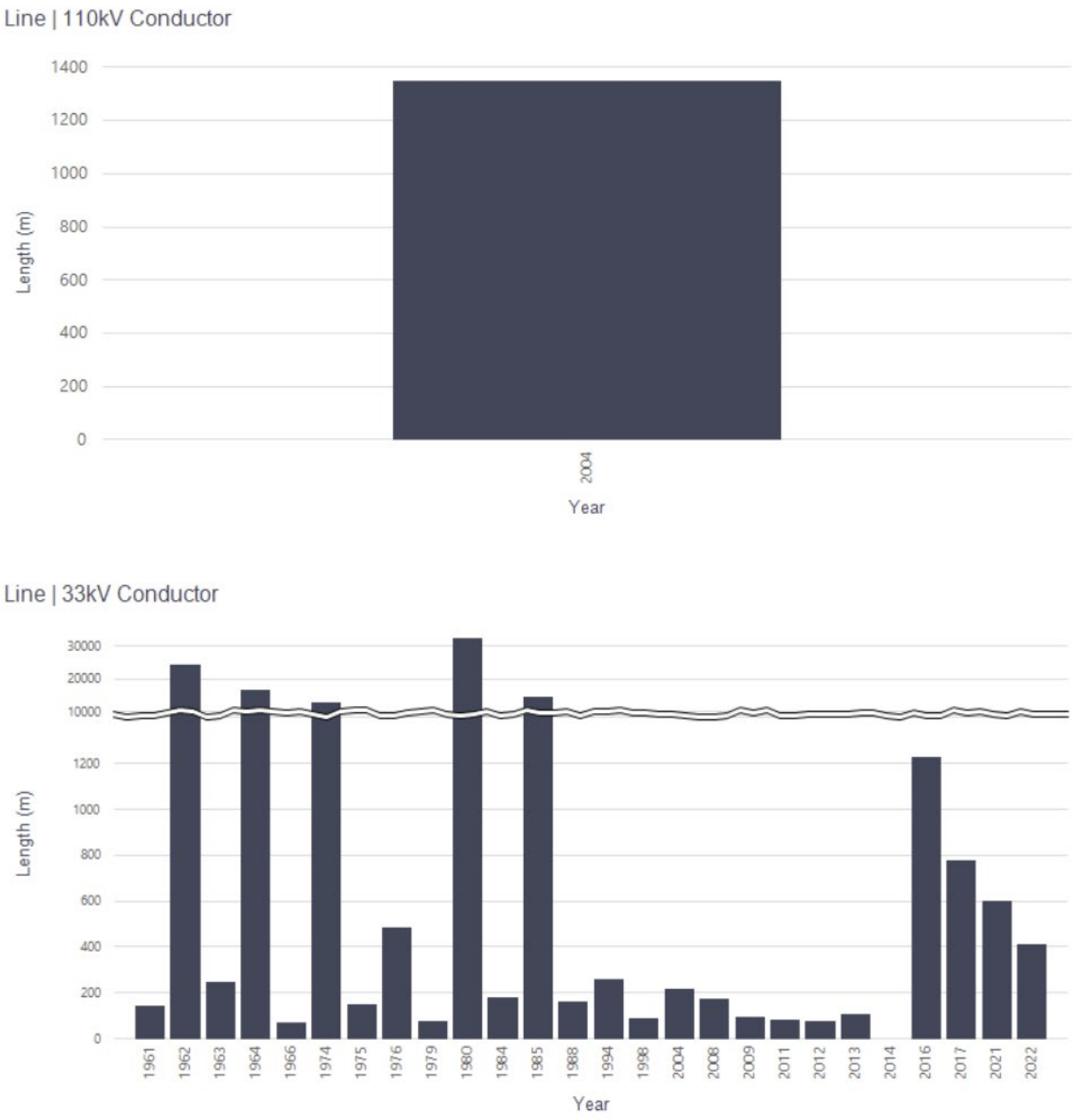


Figure 40. Age Profile of 33kV Conductor.

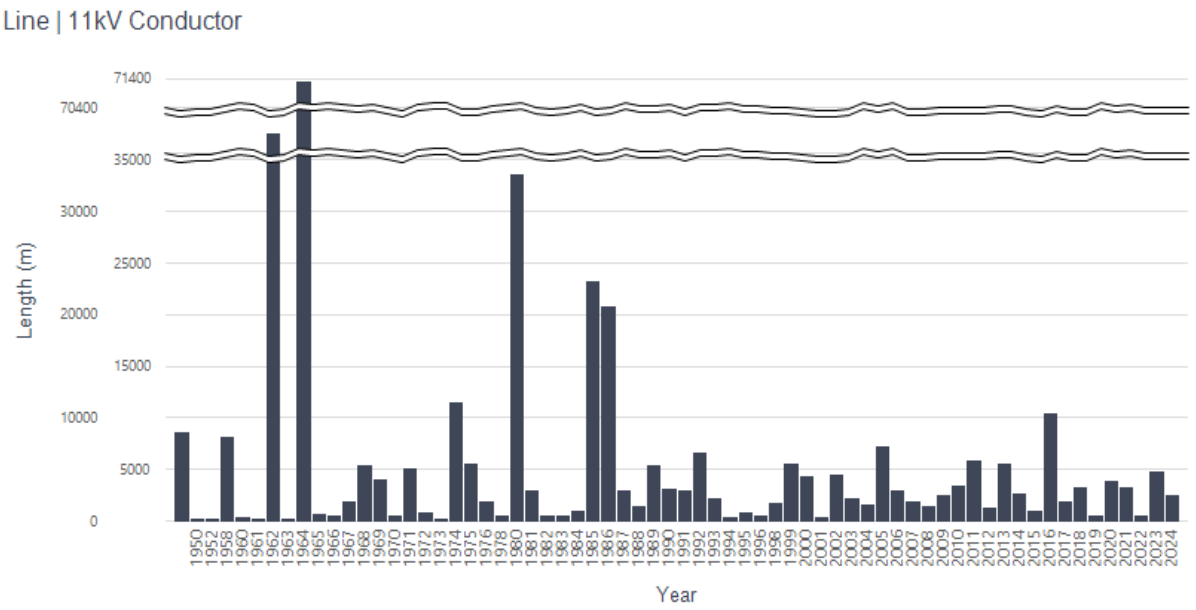


Figure 41. Age Profile of 11kV Conductor.

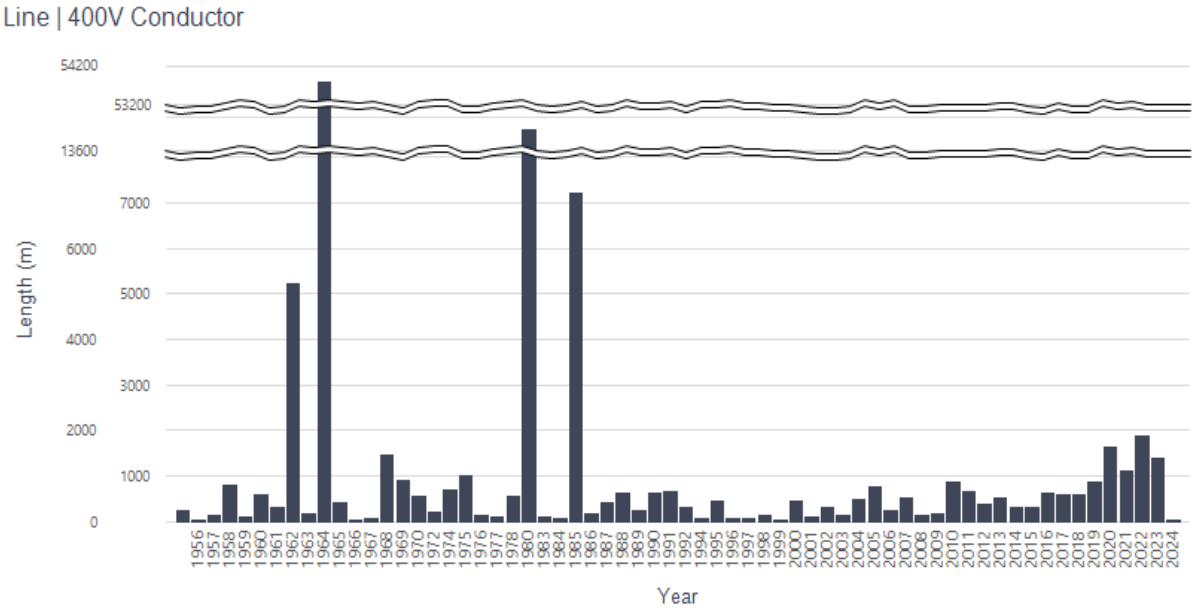


Figure 42. Age Profile of Low Voltage Conductor.

4.4.3 SWITCHGEAR

4.4.3.1 CIRCUIT BREAKERS, RECLOSERS AND SECTIONALISERS

At Robertson Street substation BEL utilises Alstom GL107 SF6 circuit breakers for 110kV line and transformer protection and GL312 SF6 circuit breakers for the 33kV incomers and 33kV feeders.

In all other applications BEL currently utilise Schneider Electric N, U and RL series automatic circuit reclosers and sectionaliser equipment for all feeder and pole mounted protection systems. This switchgear is manufactured for a minimum of a 30-year lifespan. BEL has utilised this equipment since 1995 and currently expects the equipment to have a lifespan of at least 40 yrs. This equipment is located on the 11kV and 33kV networks at strategic positions to enable high voltage fault detection and isolation while also isolating the minimum number of consumers.

These units are manufactured with voltage and current sensors on all high voltage bushings and with appropriate communication equipment can be utilised in intelligent smart grid loop automation or auto changeover schemes.

The digital electronic control and protection module that controls the units currently have proved to be reliable to a maximum of 20 years in the BEL network. BEL currently has 57 units in service, 26 in substation use and 31 in field pole mounted applications in both the 11kV and 33kV networks.

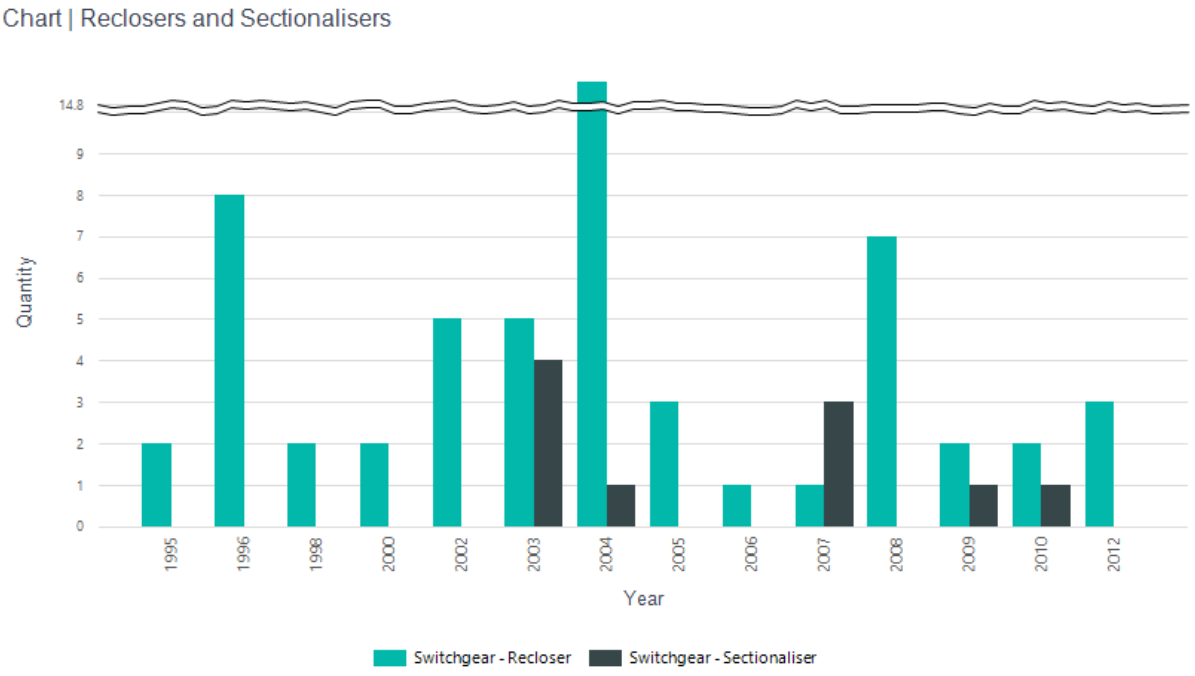


Figure 43. Age Profile of Circuit Breakers, Reclosers and Sectionalisers.

4.4.3.2 AIR BREAK SWITCHES / DISCONNECTORS AND LOAD BREAK SWITCHES

Schneider Electric ABS units are used in all rural areas and where there is minimal public access (no footpath).

Stick operated units are installed in all urban areas (where any asset is located near a footpath). Current ratings are suitable for all connected loads and fault currents. Stick operated units exclude ground-mounted handles, thus eliminating handle setup time and also reducing earthing requirements.

BEL utilise the Noja Power's VISI switch for urban areas where higher load switching is carried out or in high corrosion areas. The switch tank is manufactured from stainless steel and powder coated. Advantages include high load

breaking capability, lower corrosion and ongoing maintenance costs, longer service life and lower risk to staff and public during operation.

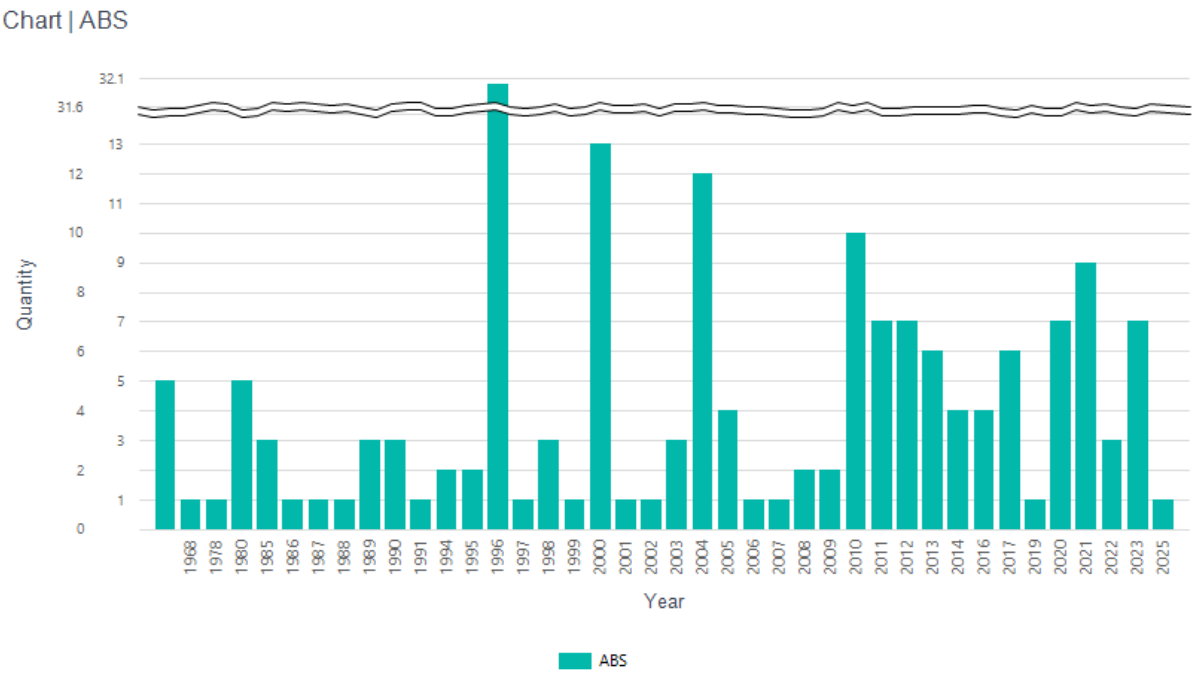


Figure 44. Age Profile of Air Break Switches.

4.4.3.3 DROPOUT FUSES

Dropout fuses protect transformers and 11kV spur-lines. BEL have standardised on the S&C units with a combination lightning arrestor. Stainless fittings are utilised as these best suit BEL's high corrosion areas. All tails entering fuse connections have crimp lug connections to eliminate movement of stranded conductor.

4.4.3.4 LINKS

Standard Schneider Electric (formerly Canterbury Engineering) flat blade units are used. All connections utilise crimp lugs with stainless fittings and bolts where possible.

Figure 45. Age Profile of Fuses and Links.

4.4.4 DISTRIBUTION SUBSTATIONS AND TRANSFORMERS

SINGLE POLE OVERHEAD

Single and three phase units up to 100kVA are used on single poles, these are fused with arrestor combinations and live line connected to the main overhead line.

TWO POLE OVERHEAD

These structures are an old design and accommodate transformer sizes up to 300kVA. There are issues with live 11kV proximity to ground and safe access to hardware (HV, LV fusing, LV conductors).

Each structure will be replaced with a pole and half unit or ground mount, depending on the risks associated with each location.

POLE & HALF OVERHEAD

This structure type is BEL's current standard for transformers over 100kVA in rural areas or where ground mounted units are not suitable.

GROUNDMOUNT ENCLOSURES

Fibreglass enclosure: These units were West Coast manufactured and utilised an overhead transformer between 100 and 200kVA. Some units had standalone LV bus racks while others connected directly to the overhead or underground system. These are being phased out due to fibreglass breakdown, accessibility and safety issues.

PVC hinged: Plastic kiosks suitable for enclosing overhead transformers up to 75kVA. These are no longer used due to security and operational issues.

PVC direct bolt: Plastic units suitable for overhead transformers up to 75kVA. These are no longer used due to security and operational issues.

GROUNDMOUNT PAD

Micro-sub: These are now BEL's standard for 75kVA and below. There are very secure and safe to operate.

MiniPad: This is standard for all ground mounted units from 100kVA to 750kVA. They are purchased with LV fusing for feeders and a generator connection and are also fitted with a power monitoring recorder.

4.4.5 VOLTAGE REGULATORS

These are utilised on the 11kV network to adjust the voltage levels to within acceptable limits and are installed where it is uneconomic to upgrade the line conductor or where the use of fixed capacitors to boost voltage are unsuitable. BEL currently has two regulator sites, one at Karamea and the other on the southern side of Carters Beach.

4.4.6 CAPACITOR BANKS

BEL has installed on the 11kV network switched capacitor banks at various locations to provide voltage boosting and power factor correction at these sites during period of high load.

4.4.7 RIPPLE INJECTION PLANT

BEL has a single ripple injection plant and control system located at the Robertson Street Substation. This is used to manage maximum demand at the GXP and also assist in the control of the upper South Island load. This was installed in 2004 as part of the Robertson Street Substation re-build. The system is also utilised to operate the BDC and Transit NZ street-lighting and provides tariff control for energy retailers. BEL does not own any ripple control receivers at customer premises, these were previously sold to TrustPower in 1998.

4.4.8 GENERATORS

Presently three diesel standby generators are located at the Kongahu Substation at Karamea, a 700, 550 and a 500kVA unit. These are operated in parallel and are utilised for reliability improvement on planned and unplanned shutdowns on the 55km 33kV sub-transmission circuit that traverses the Karamea Bluffs from Ngakawau substation to Kongahu substation.

4.4.9 BATTERY BANKS AND CHARGERS

BEL has installed at its GXP, zone substations and operations control room DC chargers and battery banks that are used to power and operate various 110kV, 33kV and 11kV circuit breakers, protection relays and communication systems. Standardised batteries are sized for a minimum 36-hour backup time and are manufactured for a 12-year design life.

4.4.10 COMMUNICATION SYSTEMS

BEL's communications systems consist of two distinct radio networks and a small amount of fibre optic cabling. This equipment provides bearers for speech, SCADA, general engineering access and protection channels

As the BEL offices and control room are sited next to the Robertson Street GXP, a short 12 pair fibre cable is used for the comm's bearer between the two. All other communications for voice, SCADA and general data use a mix of UHF and VHF radio networks. The VHF radio network is solely used for voice communications while the UHF uses MimoMax digital radios to connect to all zone substations, field SCADA sites and repeaters. BEL has three main repeater sites located at Cape Foulwind, Millerton and Karamea, all sites have battery backup with an expected hold up time of approximately 36-48 hours should mains supply fail. However, if the mains fault should be prolonged portable generators can be connected.

VHF SPEECH NETWORK

A major replacement project of the Voice Repeaters and mobile radios in 2010 extended coverage to approximately 95% of the BEL network with much improved reliability. A mobile repeater was procured in 2017 to be utilised when staff are working in areas not covered by the main repeaters. A simplex channel also provides set to set coverage with range dependent on terrain profile. It is expected that the voice radio repeater equipment will reach the end of its useful life and require replacement in 2030.

UHF DIGITAL NETWORK

The UHF digital network was installed in 2012 to initially provide a comm's channel for protection signalling over the ROB-NGK 33kV circuits for the Kawatiri Energy generation connection and to improve the coordination between the BT Mining's 33kV connection at Ngakawau. As well as providing dual RS232 comm's channels the MimoMax equipment also provides an Ethernet bearer for SCADA data and general engineering access. The digital network has been extended to the Millerton, Karamea and Cape Foulwind repeaters over the last three years to cover the same area as the now replaced SCADA VHF system.

4.4.11 SCADA AND CONTROL SYSTEMS

BEL operates an ADR Controls SCADA package (Previously Abbey Systems) comprising of master and backup PC's located in the BEL server room along with associated communications controller hardware plus configuration and HMI software. Additionally, two SCADA node PC's are located in the Network operations control room. A load management suite of programs provides load control of the local network and contributes to the control of the Upper South Island (USI) load via a link to the USI servers located in the Orion control room in Christchurch.

All control SCADA equipment is powered via an Uninterruptible Power Supply (UPS) which provides a four-hour backup in case of power outages. Additionally, a 50kVA standby generator provides backup power to the BEL offices, control room and servers including the UPS.

Zone substations are fitted with PowerLink or Powercat Remote Terminal Units (RTU's) fitted with multiple serial and digital I/O modules that communicate serially with many protection relays, automatic voltage regulators and other Intelligent electronic devices (IED's). Due to the amount of data available some sites have multiple RTU's fitted.

Communications back to the Master Station uses BEL's UHF digital communications network utilising MimoMax's Dif III Optimised protection variant NDL Radios.

For smaller recloser, automated ABS and regulator sites, Topcat II RTU's are installed or the use of the DNP 3.0 protocol is used direct from the Master. The RTU's have much the same functionality as the Powercat versions but with reduced physical I/O and serial ports. These small remote RTU sites use the MimoMax UHF digital radios to communicate with the SCADA Masters. The SCADA software suite is expected to be replaced in the 2028-2029 years and presently a budget amount of $800k over the two years has been allowed for.

4.4.12 SUPPORTING SECONDARY SYSTEMS

POWER QUALITY RECORDERS

BEL has power quality metering installed at its GXP and zone substations on the 11kV buses to record and monitor power, voltage and current as well as swells, sags, transients and harmonics.

FAULT LOCATION DEVICES

BEL has installed at Robertson Street and Kongahu substations Travelling Wave fault location recorders. These are used to determine fault location on the 106kms of overhead 33kV sub transmission lines within minutes of a fault being detected. These have proved to be accurate to within 300 meters of the fault.

22 sets of clip-on HV overhead line fault indicators are installed throughout the 11kV distribution network at specific sites to assist fault crews with rapid location of overhead line faults. The latest version of the make currently used by BEL have proved unreliable due to condensation or water ingress and as such other makes and models are currently being reviewed.

PORTABLE GENERATION PLANT

BEL owns one 500kVA and one 275kVA 400V diesel generators that are used to supply power during planned shutdowns or extended unplanned outages at specific sites throughout the network. The one permanent trailer mounted 500KVA generator is capable of generating at 11kV or 400V. The majority of Buller's rural 11kV feeders have 70% of the load within the last 20% of the feeder. By connecting the mobile generator at installed 11kV switch points line crews can work on 80% of the feeder whilst only disconnecting 30% of the consumers.

4.4.13 NON-NETWORK ASSETS

Non-network assets are assets owned by BEL but are not part of the electricity network infrastructure and include the following

- Computer and Communications Equipment
  - Cell phones, radios & sat phones
  - Desktops, laptops, printers, tablets, servers & intangibles (software & implementation)
- Furniture and Fittings – for office staff and operations
- Land & Buildings:
  - Offices
  - Workshops
- Plant and Equipment:
  - Chainsaws
  - Chippers
  - Diggers
  - Drills
  - Earthsticks

- Ladders
- Testing equipment - numerous and assorted
- Tools and equipment - numerous and assorted

- Vehicles:
  - Bucket & crane trucks
  - Lines and fault light vehicles
  - Trailers

5 ASSET MANAGEMENT AND LIFECYCLE

5.1 MAINTENANCE PLANS

BELs asset maintenance activities fall in three distinct regimes, Preventative maintenance including inspections and testing, refurbishment maintenance and reactive or fault maintenance.

Maintenance is primarily about replacing consumable components. Examples of the way in which consumable components "wear out" include the oxidation or acidification of insulating oil, pitting or erosion of electrical contacts, perishing of gaskets and pitting of insulators. Continued operation of such components will eventually lead to failure as indicated in figure 9 below. Failure of such components is usually based on physical characteristics and exactly what leads to failure may be a complex interaction of parameters such as quality of manufacture, installation, age, operating hours, number of operations, in field conditions, loading cycle, ambient temperature, previous maintenance history and presence of contaminants – note that the horizontal axis (Figure 46) is not simply labelled "time".

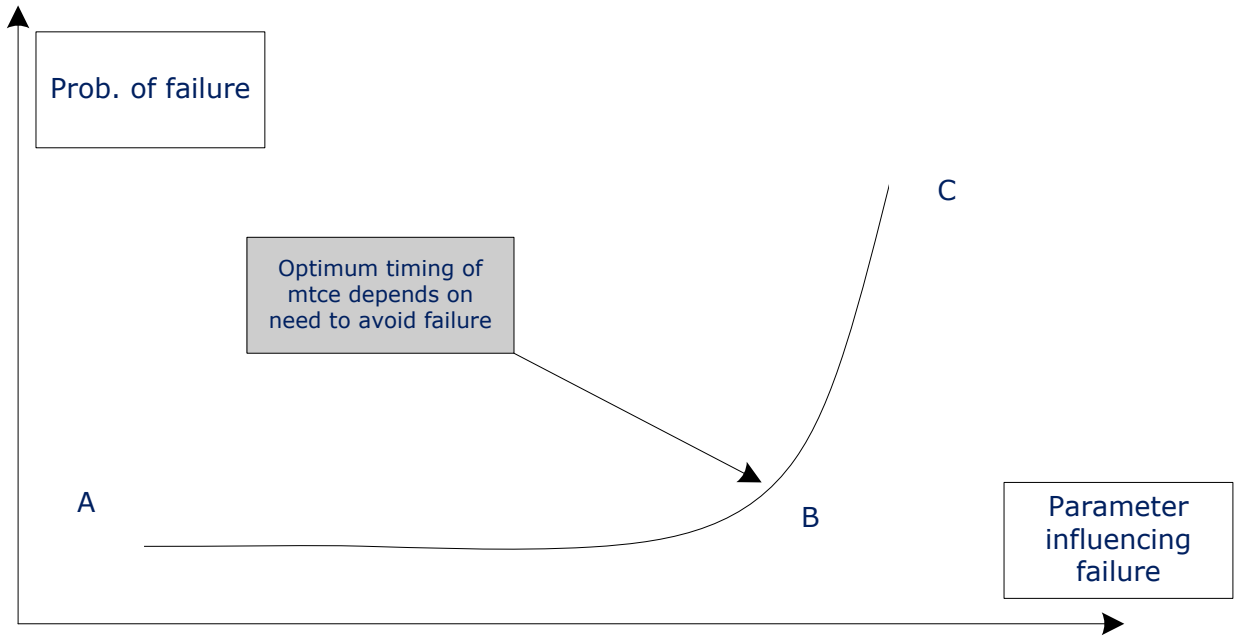


Figure 46. Optimal Maintenance Scheduling.

Exactly when maintenance is performed is determined by the need to avoid failure. For instance, the need to avoid failure of a 10kVA transformer supplying a single consumer is low; hence it might be operated out to point C whilst a

33/11kV substation transformer may only be operated to point B, due to a higher need to avoid failure. The obvious trade-off with avoiding failure is the increased cost of labour and in consumables over the asset lifecycle, along with the cost of discarding unused component life.

Like all of BEL's business decisions, maintenance decisions are made on cost-benefit criteria with the principle benefit being, to avoid supply interruption. The practical effect of this is that assets supplying large customers or large numbers of customers will be extensively condition monitored to avoid supply interruption whilst assets supplying only a few consumers such as a 10kVA transformer will more than likely be run to breakdown.

5.2 MAINTENANCE BUDGETS

The operations Budget (maintenance) includes:

- Fault restoration and standby costs
- Vegetation work
- Routine maintenance and asset inspections
- Refurbishment and renewal
- System operations
- Business Support

Below are the BEL forecasts for maintenance expenditure over the AMP planning period (Table 23).

Table 23. Maintenance Expenditure by Work Category.

Work Category	Maintenance Budgets $000, year ending 31 March									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Faults and Emergencies	288	297	297	297	297	297	297	297	297	297
Vegetation Management	329	339	339	339	339	339	339	339	339	339
Routine and Preventative	371	428	285	329	350	310	330	345	320	317
Refurbishment and Renewal	74	64	64	64	64	64	64	64	64	64
Network Opex	1062	1129	985	1029	1050	1011	1030	1045	1020	1017
System Management	430	497	494	550	520	520	520	550	520	520
Total Network Opex	1491	1625	1479	1579	1570	1530	1550	1595	1540	1537
Business Support	3341	3341	3341	3341	3341	3341	3341	3341	3341	3341
Total	**4833**	**4966**	**4821**	**4920**	**4911**	**4872**	**4891**	**4936**	**4881**	**4878**

Additionally, a subset of the maintenance budgets is broken down by asset class (Table 24).

Table 24. Network Maintenance Expenditure by Asset Class.

Asset Class	Maintenance Budgets $000, year ending 31 March									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Subtransmission	14	14	14	14	14	14	14	14	14	14
Zone Substations	84	209	79	122	115	76	72	109	84	81
Distribution Lines	500	441	435	435	435	435	458	458	458	458
Distribution Cables	3	3	3	3	3	3	3	3	3	3
Switchgear	30	30	30	30	52	52	52	30	30	30
Transformers and Substations	62	44	44	44	44	44	44	44	44	44
Other	369	388	381	382	387	388	387	388	387	388
Totals	**1,062**	**1,129**	**985**	**1,029**	**1,050**	**1,011**	**1,030**	**1,045**	**1,020**	**1,017**

5.2.1 FAULT RESTORATION & STANDBY

This is an estimated based on historical trending of all faults and emergencies involving network assets. The annual cost for staff on standby is also included in the total.

5.2.2 VEGETATION WORK

The Electricity (Hazards from Trees) Regulations 2003 came into force in 2004. These provide a framework of requirements and responsibilities around the issue of trees in proximity to powerlines. Electricity distribution businesses have the responsibility to provide the first cut/trim at their cost for trees that have no prior agreement. Over time the cost of tree cutting will transfer to the tree owner.

BEL operates a tree trimming program based on current regulations and best work practices. Tree work is issued in combination with other section work. Any close trees are cut during planned outages whilst the remainder is trimmed as part of the non-shutdown work. Records are updated as each tree is trimmed / cut.

Forecast expenditure is based on inspection and data collection regimes completed by both the vegetation manager surveys and asset design and survey team during their annual network asset surveys. Budgets are compiled utilising this data in combination with the current labour, transport, and independent contractor per meter rates. Future BEL administration expense has also been incorporated into the forecasts. It is presently assumed that at the current vegetation cutting rate and the associated budget will remain reasonably static for the forecast period.

BEL does not expect a dramatic reduction of tree related outage statistics even with increase in the forecast spend unless proposed changes to the tree regulations come to fruition. This is because most of BEL's tree outage statistics are from vegetation outside of the notice zones as prescribed in the current regulations. Our ongoing improvements in administration and vegetation management along with the forecast expenditure increases will predominantly increase public safety rather than outage improvements.

5.2.3 ROUTINE PREVENTATIVE MAINTENANCE AND INSPECTIONS

This program is driven by BEL's objective to provide a safe and reliable supply and to maximise its asset lives with financial efficiency. BEL continually maintains its assets in accordance with good industry practice.

BEL carries out regular routine maintenance, inspections checks and tests to confirm asset condition. Assets are risk rated for failure in terms of safety and consumer service interruptions, and the frequency of inspections is matched to that risk.

Table 25. Routine Asset Inspections.

Asset Class	Equipment	Frequency	Work tasks
Zone Substations	Total site	Monthly	Routine visual inspections and checks of all structures, fencing buildings and equipment, recording of temperature and cyclo readings of equipment, minor corrective maintenance
	Switchgear, transformers and bus work	Annually	Thermal imaging of all bus work, circuit breaker and transformer connections
	Earthing system	Annually	Earth grid tests
		Five yearly	Earth bonding tests of all structures and equipment
	Power Transformer	Annually	Testing of oil for transformer condition assessment, tests include moisture content, breakdown voltage, acidity, interfacial tension, colour and dissolved gas analysis (DGA) and an estimated degree of polymerization of insulating papers based on Furan levels
		Five yearly	Transformer maintenance, corrosion protection of steelwork and tank, operational checks of Bucholtz, pressure and temperature trips and alarms, insulation, impedance and ratio tests.
		Five Yearly	Transformer Dry out - online de-gas and dry out of the transformer
	Transformer On Load Tap Changer	Annually	Oil testing of the tap changer for diagnostic condition evaluation
		Five yearly or 50,000 operations	Clean out and replacement of oil, condition check and replacement of worn contacts, operational checks and vibro-acoustic testing.
	110kV and 33kV SF6 circuit breakers	Four Yearly	Circuit breaker mechanical lubrication, operational checks. SF6 pressure and dewpoint humidity tests, contact timing and resistance tests, insulation tests.
	110kV, 33kV and 11kV Air Break switches	Four Yearly	Mechanical lubrication and operational checks, corrosion protection of steelwork, insulation tests, contact checks and resistance tests.
	33kV and 11kV Nulec Reclosers	Four Yearly	Operational checks, clean bushings, contact resistance checks, insulation tests, replace controller batteries
	Feeder protection systems	Four Yearly	Operational checks, timing and pickup secondary injection tests

Asset Class	Equipment	Frequency	Work tasks
	Grid Exit protection systems	Four Yearly	Operational checks, timing and pickup secondary injection tests. Review of settings
	Station Battery Banks	Annually	Battery internal impedance tests, contact resistance tests, voltage and charge current tests
		Two Yearly	Discharge and capacity tests
Sub-transmission	110kV and 33kV Overhead lines	Five yearly	Full asset safety and condition assessment inspection,
	33kV Switchgear	Annually	Thermal imaging inspection
		Five yearly	Mechanical lubrication and operational checks, corrosion protection of steelwork, contact checks
Distribution and LV lines	11kV Overhead lines	Five yearly	Full asset safety and condition assessment inspection
Switchgear	All switchgear	Five yearly	Full asset safety and condition assessment inspection
		Five yearly	Earthing system tests
		Five yearly	Thermal imaging inspection
	11kV reclosers and sectionalisers	Four Yearly	Operational checks, timing and pickup secondary injection tests, battery Replacement
	11kV Air Break switches and Links	Five yearly	Mechanical lubrication and operational checks, corrosion protection of steelwork, contact checks
	11kV RMU's	Annually	Safety inspection, labels in good order, doors and covers secure etc
Distribution Substations and transformers	All Transformers and regulators	Five yearly	Full asset safety and condition assessment inspection
		Five yearly	Earthing system tests
	Regulators	50000 operations	Clean out and replacement of oil, condition check and replacement of worn contacts, operational checks
	Ground mounted Transformers ≥ 200kVA	Annually	Safety inspection, labels in good order, doors and covers secure etc.
Other assets	Ripple injection plant	Monthly	Visual inspection
		Annually	Tuning, voltage, current and signal level tests on injector and coupling cell
		Two Yearly	Signal level tests throughout the network
		Five yearly	Clean down of coupling cell and building
	Radio repeaters	Annually	Battery impedance tests
		Two Yearly	Visual inspection of masts and cabinets, battery impedance tests, signal level and SWR checks

Asset Class	Equipment	Frequency	Work tasks
	Standby and mobile Generators	Monthly	Visual inspection and test run
		Annually	Engine service

In addition to asset surveys BEL also operate a defect system for any reported asset defects. Once an asset is defected it is entered into the AMD and then inspected for actual condition. The remedial work is then prioritized and issued. On completion the defect record is updated to reflect that the defect has been rectified.

5.2.4 MAINTAINING THE ASSETS

Component condition is the key trigger for maintenance however the precise conditions that trigger maintenance are very broad, ranging from oil acidity to rot. The table below describes the maintenance triggers BEL have adopted.

Table 26. Maintenance Triggers.

Asset Category	Components	Maintenance Trigger
Overhead Lines	Poles, arms, stays & bolts	Evidence of rot Concrete fatigue, spalling or steel showing Loose bolts, moving stays Rusted hardware Displaced arms
	Pins, insulators & binders	Obviously loose pins Visibly chipped or broken insulators Rusted pins Visibly loose binder
	Enclosures and tanks	Visible rust on hinges and brackets Cracked or worn fibreglass / plastic covers Cracked or broken masonry Excessive rust on tanks
Distribution Transformers	Transformer	Visible signs of oil leaks Excessive moisture in breather Visibly chipped or broken bushings
	Switches & fuses	Visible signs of oil leaks Visibly chipped or broken bushings Excessive rust
	Poles, arms, stays & bolts	Evidence of rot Concrete fatigue, spalling or steel showing Loose bolts, moving stays Rusted hardware Displaced arms
	Pins, insulators & binders	Obviously loose pins Visibly chipped or broken insulators Rusted pins Visibly loose binder

Asset Category	Components	Maintenance Trigger
Distribution Lines & Cables	Conductor	Visibly splaying or broken strands
	Ground mounted switches	Visible signs of oil leaks Excessive moisture in breather Visibly chipped or broken bushings Excessive rust Evidence of interference
	Regulators	Visible signs of oil leaks Excessive moisture in breather Visibly chipped or broken bushings Excessive rust Damaged instrumentation or cabinets Mal-operation
	Fences & enclosures	Evidence of rot Concrete fatigue, spalling or steel showing Loose bolts Rusted hardware
	Buildings	Cracked or broken windows Damaged locks Evidence of birds, rats etc Roof corrosion Rot in timber
Zone Substations	Bus work & conductors	Evidence of corrosion Evidence of heat
	33kV switchgear	Evidence of corrosion Evidence of heat Concrete fatigue, spalling or steel showing Loose bolts Rusted hardware Damaged instruments Perished gaskets or seals History of mal-operation
	Transformer	Excessive oil acidity (500kVA or greater) Visible signs of oil leaks Excessive moisture in breather Visibly chipped or broken bushings Excessive rust
	11kV switchgear	Evidence of corrosion Evidence of heat Concrete fatigue, spalling or steel showing

Asset Category	Components	Maintenance Trigger
		Loose bolts Rusted hardware Damaged instruments Perished gaskets or seals History of mal-operation
	Instrumentation	Faulty readings
	Poles, arms, stays & bolts	Evidence of dry-rot Concrete fatigue, spalling or steel showing Loose bolts, moving stays Rusted hardware Displaced arms
	Pins, insulators & binders	Obviously loose pins Visibly chipped or broken insulators Rusted pins Visibly loose binder
Sub-Transmission Lines & Cables	Conductor	Visibly splaying or broken strands
		Signs of excessive wear Information from historical checks Damaged or deteriorating cabinets or enclosures
Equipment within GXP		

Typical maintenance policy responses to these trigger points are described in the table below.

Table 27. Response to Maintenance Triggers.

Asset Class	Trigger Point	Response to Trigger	Basis of maintenance strategy
GXP Transformer	Oil acidity	Filter oil	Condition as revealed by annual test
	Excessive moisture in oil	Filter oil	Condition as revealed by monthly inspection
	Weighted number of through faults	Filter oil, possibly de-tank and refurbish	Event driven
	General condition of external components	Repair or replace as required	Condition as revealed by monthly inspection
Sub-Transmission Lines	Loose or displaced components	Tighten or replace	Condition as revealed by annual inspection
	Rotten or spalled poles	Brace or bandage pole unless renewal is required	Condition as revealed by annual inspection
	Cracked or broken insulator	Replace as required	Breakdown
	Splaying or broken conductor	Repair conductor unless renewal is required	Condition as revealed by annual inspection

Asset Class	Trigger Point	Response to Trigger	Basis of maintenance strategy
Zone Substation Transformers	Oil acidity	Filter oil	Condition as revealed by annual test
	Excessive moisture in breather	Filter oil	Condition as revealed by monthly inspection
	Weighted number of through faults	Filter oil, possibly de-tank and refurbish	Event driven
	General condition of external components	Repair or replace as required	Condition as revealed by monthly inspection
Distribution Lines	Loose or displaced components	Tighten or replace	Condition as revealed by five yearly inspection
	Rotten or spalled poles	Brace or bandage pole unless renewal is required	Condition as revealed by five yearly inspection
	Cracked or broken insulator	Replace as required	Breakdown
	Splaying or broken conductor	Repair conductor unless renewal is required	Condition as revealed by five yearly inspection
Distribution Reclosers	Calculated contact wear through operations count and fault breaking current	Repair or replace contacts, filter oil if applicable	Event driven
Distribution ABS	Loose or displaced supporting components	Tighten or replace unless renewal is required	Condition as revealed by five yearly inspections
	Seized or tight	Lubricate or replace components as required	Breakdown
Distribution Transformers	Loose or displaced supporting components	Tighten or replace unless renewal is required	Condition as revealed by five yearly inspection
	Rusty, broken or cracked enclosure where fitted	Make minor repairs unless renewal is required	Condition as revealed by five yearly inspection
	Excessive moisture in breather where fitted	Filter oil	Condition as revealed by five yearly inspection
	Visible oil leaks	Remove to workshop for repair or renewal if serious	Condition as revealed by five yearly inspection
	Chipped or broken bushings	Replace	Breakdown or condition as revealed by five yearly inspection
LV Lines	Loose or displaced components	Tighten or replace	Breakdown unless revealed by five yearly inspection
	Rotten or spalled poles	Brace or bandage pole unless renewal is required	Five yearly inspection
	Cracked or broken insulator	Replace as required	Breakdown unless revealed by five yearly inspection
	Splaying or broken conductor	Repair conductor unless renewal is required	Breakdown unless revealed by five yearly inspection

5.2.5 REFURBISHMENT AND RENEWAL

This work is driven from the asset surveys. Work is time and condition based and is divided into primary and secondary assets. Primary assets are replaced as part of the capex expenditure and include:

- Poles
- Switchgear
- HV fuse units
- Surge arrestors
- Transformers
- Pillar boxes
- Earthing Systems
- Crossarms
- Stays
- Conductor

Secondary assets are replaced / maintained as part of the maintenance expenditure and include:

- Insulators
- Service fuses
- Asset labels
- Sundry fittings and fixings
- Parts of assets

Refurbishment of assets is limited to transformers and switchgear including air break switches, links and a select few assets or asset parts due to their criticality and availability of replacements. Transformers and switchgear are refurbished with the aim or maintaining the financial life of the asset by undertaking a mid-life refurbishment. In the Buller region galvanised steel tanks and gasket deterioration are limiting factors for transformer life. Theses typically require refurbishment at 25 to 30 years of age, with some localised areas in the Meybille Bay and Coast Road area requiring refurbishment within 10 to 15 years. Refurbishment work is derived from the five yearly condition assessment surveys as well as annual field surveys.

5.2.6 SYSTEM OPERATIONS

This is not physical work on network assets but operating the network. This involves control room operations such as load monitoring and processing high load, close approach and switching applications from third parties, some safety related disconnections, cable location services, outage notifications to retailers and network modelling. This budget is based on historical trends.

5.2.7 BUSINESS SUPPORT

Business support expenditure relates to staff and buildings utilised to perform business functions such as HR and training, regulation compliance, legal services, invoicing and liaison with retailers and customers etc. CEO and director costs are also included. This expenditure is based on historical costs and trending and projected forward to estimate future budgets.

5.3 NON NETWORK ASSET MAINTENANCE

MAINTENANCE AND RENEWAL

Non-network assets are maintained in good working order during their expected economic life. At the end of their economic life, non-network assets are replaced unless they are rendered obsolete or redundant due to a development initiative.

By adhering to a structured maintenance program, Buller Electricity can minimize unexpected failures, reduce downtime and optimize the overall lifecycle cost of these assets. BEL typically aligns its maintenance activities with best practices and renews assets when needed.

Maintenance involves:

- Regular Inspections: Scheduled assessments of buildings, IT systems, and facilities to identify wear, damage, or outdated components.
- Condition-Based Maintenance: Leveraging data from monitoring systems to predict and address issues before they escalate.
- Preventative Activities: Routine servicing of Air Conditioning units, cleaning of office spaces, and updates to software and IT infrastructure when needed.
- Collaborative Partnerships: Working with specialized contractors for tasks such as plumbing, window cleaners, landscaping, and IT upgrades.

Renewal of Non-Network Assets involves:

- Targeted Replacements: Prioritizing the renewal of high-priority assets, such as outdated IT systems or worn furniture, based on usage and condition assessments.
- Modernization Efforts**:** Upgrading office facilities and introducing energy-efficient systems.
- Asset Optimization**:** Ensuring space utilization and system efficiency align with organizational growth and operational needs.

6 NETWORK RENEWAL AND DEVELOPMENT

6.1 INTRODUCTION

Development plans are driven primarily by:

- Increasing consumer demand (customer led growth or generation either within or outside of the existing network footprint)
- Asset renewal requirements
- Requirements to improve service levels
- Internally generated initiatives to improve service levels and resilience

At its most fundamental level, demand is created by a consumer drawing (or injecting) energy across their individual connection. The demand at each connection aggregates “up the network” to the distribution transformer, then to the distribution network back to the GXP and ultimately through the grid to a power station.

6.2 PRIORITISATION OF NETWORK CAPEX WORK PROGRAMS

Capital projects are generally prioritised using the following criteria:

1. Development or renewal projects that are being undertaken to remove or mitigate a significant public safety hazard
2. Development or renewal projects that are being undertaken to remove or mitigate a high risk of uncontrolled loss of supply to existing consumers. These generally are prioritised by asset criticality gradings which generally in the following order but can change depending on asset location
   a. GXP or zone substation assets
   b. 33kV Subtransmission circuits
   c. 11kV distribution
3. Projects that would have a high-cost benefit to BEL consumers through reduction of energy, transmission or distribution charges
4. Development projects that are required to provide supply capacity for new or existing consumers
5. Projects to correct or improve power supply quality and low voltage issues
6. Projects to correct minor regulatory, legal or outdated design issues
7. Development projects that are being undertaken to generally improve supply reliability

Various projects are not mutually exclusive to a particular criterion and may provide benefits and or mitigate multiple criteria issues.

6.3 PLANNING CRITERIA

6.3.1 QUANTIFYING NEW CAPACITY

The two major issues surrounding constructing new capacity are…

- How much capacity to build? This comes back to the trade-offs between under and over-investment and the associated classes of risk.
- When to build the new capacity? The obvious theoretical starting point for timing new capacity is to build just enough just in time and then add a bit more over time.

However, BEL recognises the following practical issues…

- The need to avoid risks associated with over-loading (which can include catastrophic failure as well as supply interruption)
- The need to limit investment to what can be recovered.

- The standard size of many components (which makes investment lumpy)
- The one-off costs of construction, consenting, traffic management, access to land and reinstatement of sealed surfaces which make it preferable to install large lumps of capacity and not go back to the site.

BEL's guiding principle is therefore to minimise the level of investment ahead of demand whilst minimising the costs associated with doing the work. The following broad criteria is used when sizing new assets;

Table 28. Investment Considerations.

Asset type	Issues considered
Transformers	Requirement to adequately carry load current Requirement to carry additional load during fault restoration and switching Lightning withstand voltage Likely fault current rating
Circuit breakers	Likely fault current rating Lightning withstand voltage
Conductors	Requirement to adequately carry load current Requirement to carry additional load during fault restoration and switching
Insulators	Likelihood of salt spray Possibility of voltage upgrade
Poles	Requirement to support snow and wind loads Possibility of additional load if new feeder is under-built

6.3.2 TRIGGER POINTS FOR PLANNING NEW CAPACITY

The first step in meeting future demand is to determine if the projected demand will result in any defined trigger points for asset location, capacity, reliability, security or voltage being breached. These trigger points are outlined for each asset class (Table 29). If and only if a trigger point is breached will BEL progress to identifying a range of options to bring the assets' operating parameters back to within the acceptable range of trigger points.

Table 29. Summary of Capacity "Trigger Points".

Asset Category	Extension Location Trigger	Growth Capacity Trigger	Growth Reliability Trigger	Security Trigger	Voltage Trigger	Renewal Condition Trigger
LV Lines & Cables	Existing LV lines and cables do not reach the required location.	Insufficient capacity to supply connection.	Voltage complaints	Not applicable	Voltage at consumers' point of supply consistently drops below 0.94pu.	Asset deteriorated to an unsafe condition. Third party requests work. Neighbouring assets being replaced.
Distribution Substations	Load cannot be reasonably supplied by LV configuration therefore requires new distribution lines or cables and sub.	Where fitted, MDI reading exceeds 80% of nameplate rating.	Voltage complaints	Excursion beyond triggers specified in section 5.5.1	Load flow analysis highlights under voltage problem.	Asset deteriorated to an unsafe condition. Third party requests work. Neighbouring assets being replaced.
Distribution Lines & Cables	Load requires new distribution sub that is beyond the reach of existing distribution lines or cables.	Conductor current consistently exceeds 67% of thermal rating for more than 3,000 half-hours per year. Conductor current exceeds 100% of thermal rating for more than 10 consecutive half-hours per year.	More outages than targeted	Excursion beyond triggers specified in section 5.5.1	Load flow analysis highlights under voltage problem.	Asset deteriorated to an unsafe condition. Third party requests work. Neighbouring assets being replaced.
Zone Substations	Load cannot be reasonably supplied by distribution configuration therefore requires new sub-trans	Max demand consistently exceeds 100% of nameplate rating.	Unforeseen expenditure above budget	Excursion beyond triggers specified in section 5.5.1	Voltage and capacity exceeds acceptable level.	Asset deteriorated to an unsafe condition. Third party requests work.

Asset Category	Extension Location Trigger	Growth Capacity Trigger	Growth Reliability Trigger	Growth Security Trigger	Growth Voltage Trigger	Renewal Condition Trigger
	lines or cables and zone sub.					
Sub-Transmission Lines & Cables	Load requires new zone sub that is beyond the reach of existing sub-trans lines or cable.	Conductor current consistently exceeds 66% of thermal rating for more than 3,000 half-hours per year. Conductor current exceeds 100% of thermal rating for more than 10 consecutive half-hours per year.	More outages than targeted	Excursion beyond triggers specified in section 5.5.1	Load flow analysis highlights under voltage problem.	Asset deteriorated to an unsafe condition. Third party requests work.
Network Equipment within GXP	Load cannot be reasonably supplied by system configuration.	Max demand consistently exceeds 80% of nameplate rating.	Load profiles exceed accepted level.	Excursion beyond triggers specified in section 5.5.1	Equipment checks and records highlight concern.	Asset deteriorated to an unsafe condition. Third party requests work.

6.3.3 OPTIONS FOR MEETING DEMAND

The table above defines the trigger points at which the capacity or configuration of each class of assets needs to be altered. Exactly what is done to increase the capacity or configuration of individual assets within these classes can take the following forms (in a broad order of preference):

- Do nothing and simply accept that one or more parameters have exceeded a trigger point. In reality, the do-nothing option would only be adopted if the benefit-cost ratio of all other reasonable options were unacceptably low and if assurance was provided to BEL's Chief Executive and Board that the do-nothing option did not represent an unacceptable increase in risk. An example of where a do-nothing option might be adopted is where the voltage at the far end of an 11kV overhead line falls below the threshold for a few days per year – the benefits (including avoiding the consequences) of correcting such a constraint are simply too low.
- Operational activities, in particular switching the distribution network to shift load from heavily loaded to lightly loaded feeders to avoid new investment or winding up a tap changer to mitigate a voltage problem. The downside to this approach is that it may increase line losses, reduce security of supply, or compromise protection settings.
- Influence consumers to alter their consumption patterns so that assets perform at levels below the trigger points. Examples might be to shift demand to different time zones, negotiate interruptible tariffs with certain consumers so that overloaded assets can be relieved, or assist a consumer to adopt a substitute energy source to avoid new capacity. The effectiveness of line tariffs in influencing consumer behaviour is dampened by the energy retailer's practice of repackaging fixed and variable charges and by the low fixed charge regulations.
- Construct distributed generation so that an adjacent assets performance is restored to a level below their trigger points. Distributed generation would be particularly useful where additional capacity could eventually be stranded or where primary energy is going to waste e.g. water being released from a dam that could be used in a hydro generator, or process steam going to waste. In general, non-dispatchable generation such as wind, solar or run-of-the-river hydro is of little use for this purpose.
- Modify an asset so that the trigger point will move to a level that is not exceeded e.g. by adding forced cooling. This is essentially a sub-set of the final approach described below but with less expenditure. This approach is more suited to larger classes of assets such as 33/11kV transformers.
- Retrofitting high-technology devices that can exploit the features of existing assets. Examples might be using remotely switched air-breaks to improve reliability, using advanced software to thermally re-rate heavily loaded lines, or retrofitting core temperature sensors on large transformers so they can work harder.
- Install new assets with a greater capacity that will increase the assets trigger point to a level at which it is not exceeded. Examples would be replacing a 200kVA distribution transformer with a 300kVA transformer or replacing Squirrel conductor with Mink conductor.
- Non-Network solutions such as demand side management through direct consumer contracts or third-party agents to limit or curtail demand or the installation of third-party battery and solar installations to defer or curtail the need for network upgrades.

In identifying solutions for meeting future demands for capacity, reliability, security and voltage, BEL considers options that cover the above range of categories. The benefit-cost ratio of each option is considered (including estimates of the benefits of environmental compliance and public safety) and the option yielding the greatest benefit is adopted. These approaches are summarised below:

Table 30. Approaches for Meeting Future Demand.

Approach	Effect on Assets Activity Level	Effect on Assets Trigger Point
Do-nothing	Activity level exceeds trigger point	Nil
Construct new assets	Nil	Move, typically upwards
Modify assets	Nil	Move, typically upwards
Retrofit hi-tech devices	Nil	Move, typically upwards
Operational activities	Reduce activity level to below trigger point	Nil
Install embedded generation	Reduce activity level to below trigger point	Nil
Influence consumer behaviour	Reduce activity level to below trigger point	Nil

Criteria for identifying the most suitable option include…

- The risks associated with the option, including the public safety risk of in-service failure
- The investment characteristics

BEL will always try to meet demand by other, less CapEx-intensive means including embedded generation, non-network alternatives and if the risk is considered acceptable do-nothing.

6.4 DESIGNING NEW ASSETS

BEL uses a range of technical and engineering standards to achieve an optimal mix of the following outcomes.

- Meet likely demand growth for a reasonable time horizon including such issues as modularity and scalability
- Minimise over-investment whilst avoiding under-investment
- Minimise risk of long-term stranding
- Minimise corporate risk exposure commensurate with other goals
- Maximise operational flexibility
- Maximise the fit with organisational capabilities such as engineering and operational expertise and vendor support
- Complying with environmental and public safety requirements

Given the fairly simple nature of Buller's network, standardised designs and asset sizes / capacities are generally adopted for all asset classes with minor site-specific alterations. These designs embody local requirements along with current standards, industry guidelines and manufacturers recommendations.

6.4.1 BUILDING NEW ASSETS

The availability of internal staff and their technical expertise dictates if external contractors are used to up-size or extend assets. As part of the building and commissioning process, the information records will be "as-built" and all testing documented.

6.5 NON-NETWORK SOLUTIONS

BEL encourages non-network solutions to meet energy / security demands providing such solutions are economical and practical alternatives to standard network development.

Non-Network solutions include:

- Generation
- Demand side management

6.5.1 UNECONOMIC CONNECTION

BEL undertakes an assessment of each application for connection. If proved to be uneconomic, the connection contribution is required. The connection contribution may encourage the customer to invest in a non-network solution such as generation, demand management, or solar and battery technologies.

6.5.2 DEMAND SIDE MANAGEMENT

6.5.2.1 Load Control

Ripple control is still at present the most effective means of load control for the BEL network. Asset reinforcement can be delayed by utilizing load control to shift or flatten out demand peaks.

BEL does not own ripple control receivers within consumer's premises and therefore has limited ability to control their installation and maintenance.

6.5.2.2 Distributed / Embedded Generation

BEL has an embedded generation policy which is available for viewing on BEL's website.

BEL recognises the value of embedded generation in the following ways:

- Reduction of peak demand at Transpower GXP's, with subsequent savings of upstream investment (including generation)
- Potentially reducing the effect of any existing network constraints
- Avoiding investment in additional network capacity
- Making a very minor contribution to supply security where consumers are prepared to accept that local generation is not as secure as network investment
- Making better use of local primary energy resources thereby avoiding line losses
- Avoiding the environmental impact associated with large scale power generation

The following undesirable effects can also be associated with embedded generation:

- Increased fault levels, requiring protection and switchgear upgrades
- Increased line losses if surplus energy is exported through a network constraint
- Stranding of assets, or at least of part of an assets capacity
- Altering power flows that require re-setting and recalibration of protection and controls
- Adding very large point injections at lightly loaded points on the network

The requirements to connect distributed generation to the network fall under the following headings:

- Distributed generation with capacity above 10kW
- Distributed generation with capacity of 10kW or less
- Fees for connection
- Regulated terms for connection
- Credits and charges
- Connection and generation standards

6.6 LOAD FORECASTS

Load forecasts are based on historical load records with adjustment to reflect one off impacts and future assumptions as listed below. Forecasts are indicative and development requires flexibility to be applied to any future build projects. It is possible BEL's largest consumer may decommission and exit within the 10 Year AMP plan timeframe. This would reduce network demand by up to 2.7 MW and reduce annual consumption by approximately 9.8GWh. This is not shown in the forecast charts as the timing is yet to be confirmed.

6.6.1 FORECAST AND HISTORICAL DEMAND GROWTH

BEL has maintained its base load annual demand growth rate projection of 0.4% for domestic, commercial, and light industrial loads while allowing for moderate increase in load due to the uptake of EVs in the second part of the planning period. In the event of greater or lesser demand, BEL is confident that its Capex procedures and resourcing arrangements are flexible enough to accelerate or defer investment as needed.

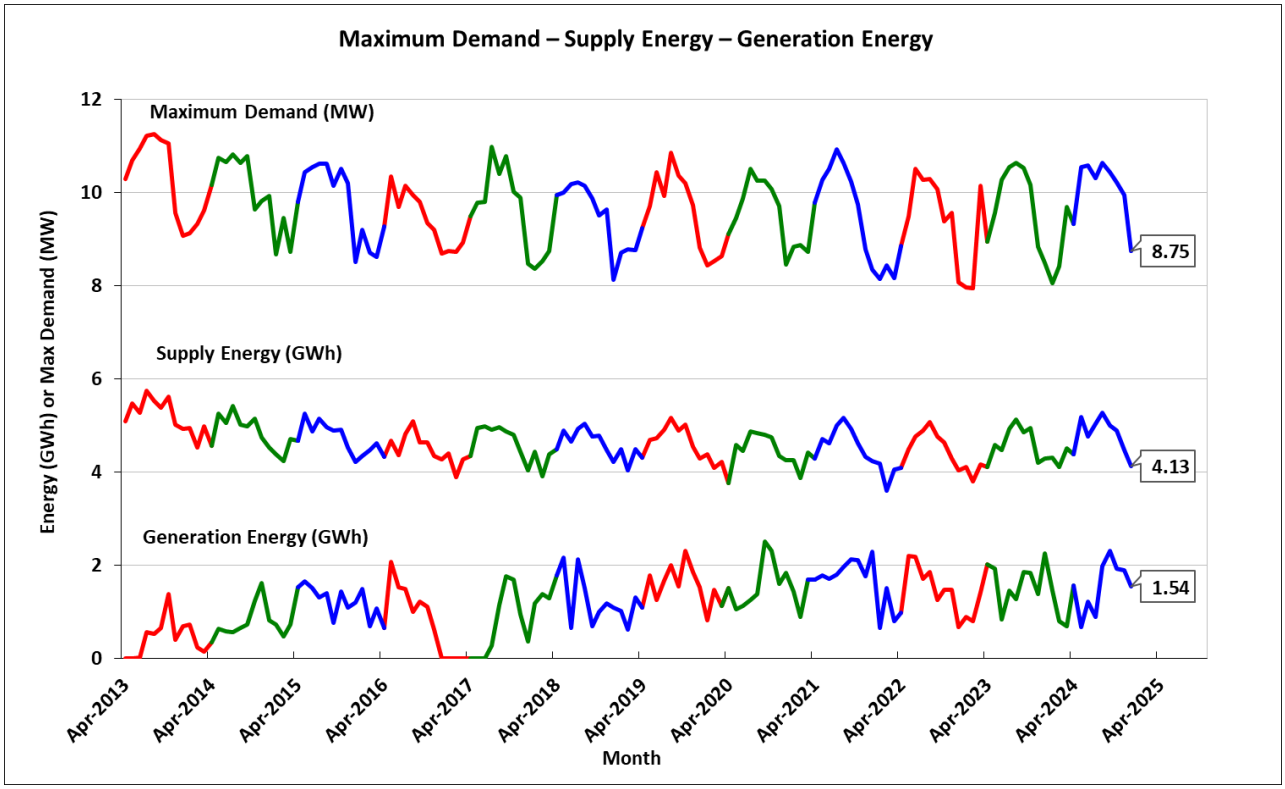


Figure 47. Historical Monthly Energy Volume and Maximum Demand.

6.6.2 FORECASTING ASSUMPTIONS

BEL has adopted the following assumptions for its demand forecasting…

- Buller population is projected to decline at a rate of 0.14% per annum over the next 10 years.
- The 65+ age group of the population will increase at a rate of 0.6% per annum over the next 10 years
- Uptake of domestic rooftop solar is unlikely to be popular for most domestic consumers in the short term due to cost, low feed-in tariffs and payback period
- Electric vehicle uptake will lag behind the national average projections due to limited range and lack of a reliable second-hand EV base but will start to accelerate in the second half of the planning period.
- Peak demand will mostly be able to be offset with the use of existing water heating load control except for one off step changes in load due to one off projects and industrial expansion.
- Per-connection residential demand driven by water and space heating, and cooking will slowly increase on the assumptions that there will be a gradual shift away from wood and coal, through Regulatory changes brought on by Zero Carbon initiatives.
- Further development of subdivisions is expected to occur over the period of this AMP, this is expected to be in the semi-rural areas and may be from people relocating from the flood prone Westport area.

The timing of growth or contractions of large industrial loads such as coal mining will be uncertain. Due to Buller's existing low demand and the light nature of the network, supplying 4 or 5 MW of additional capacity to such a consumer will most likely require up-sizing of existing assets which BEL is not prepared to do without a firm customer commitment. Moreover, the nature of these consumers' activities strongly defines their precise location which may not always coincide with surplus network capacity.

Key energy and demand figures for the YE 31 March 2024 and the forecast for the planning period for the BEL Network were as follows:

Table 31. Energy and Demand Figures.

Parameter	Definition	Value	Unit	Long-term trend (10yr)
Energy Conveyed	Total annual energy conveyed over the network on behalf of all retailers	54.5	GWh	56.4
Max Demand	Highest demand at the GXP	10.77	MW	12.9
Asset Utilisation	Max demand divided by installed capacity	24	%	25
Load Factor	Average demand divided by the max demand	58	%	50
Losses	Energy lost as a percentage of the energy entering the network	7.0	%	5.6

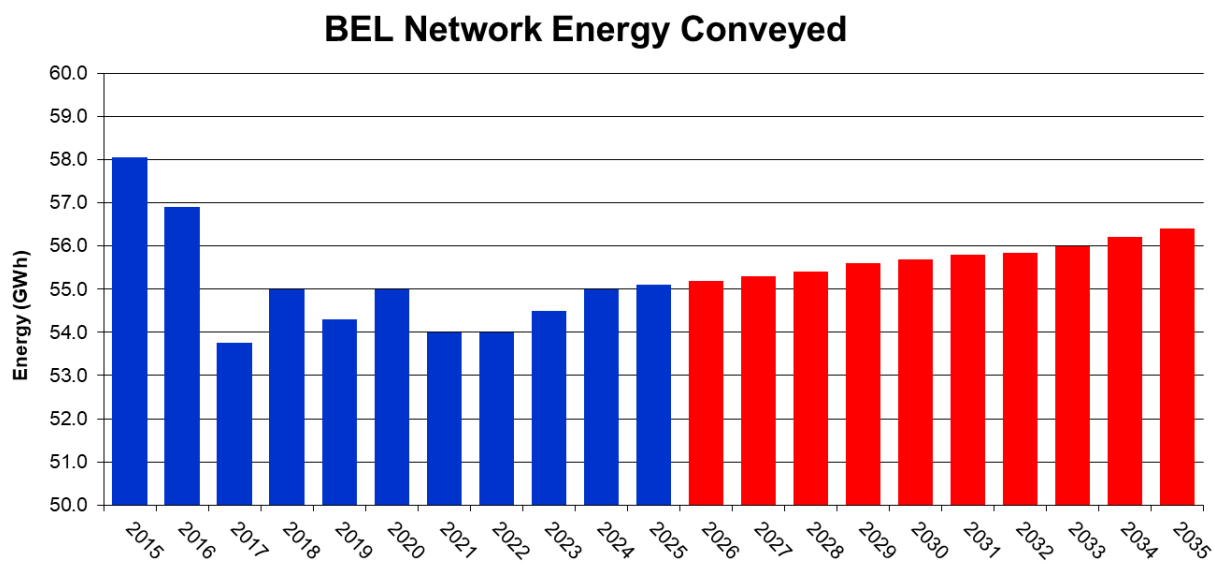


Figure 48. Energy Conveyed.

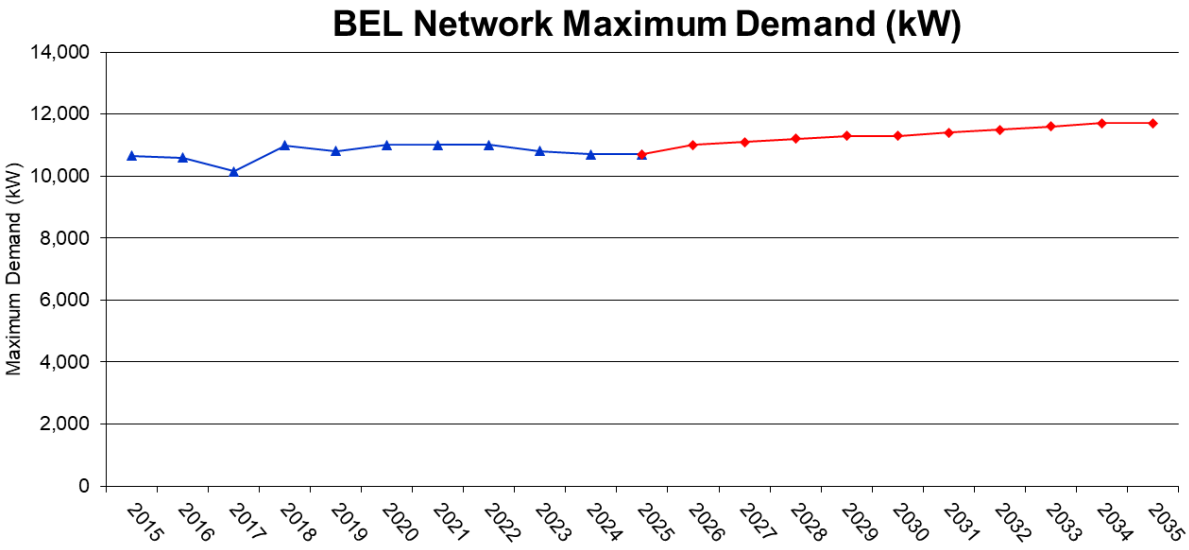


Figure 49. Network Maximum Demand.

The demand characteristics for key localities are broadly described (32).

Table 32. Demand Characteristics for BEL Supply Regions.

Locality	Load Description	Electrical Characteristics
Westport CBD	Mainly commercial.	Exhibits peak demand during weekdays.
Westport Industrial	Mix of heavy and light industrial businesses.	Exhibits peak demand during weekdays.
Westport Suburban	Almost totally residential, still a high dependence on wood and coal fires.	Exhibits peak demand during cold winter mornings and evenings.
Stockton	Mainly heavy industrial.	Exhibits peak demand during intense mining activities, may also include flicker due to large motors starting.

Locality	Load Description	Electrical Characteristics
Granity	Almost totally residential, still a high dependence on wood and coal fires.	Exhibits peak demand during cold winter mornings and evenings.
Karamea and Little Wanganui	Dairy farming area with a mix of residential.	Exhibits peaks at milking time, demand is also seasonal.
Beach Settlements to the South of Westport	Dairy farming area with a mix of residential.	Exhibits peaks at milking time, demand is also seasonal.

6.6.3 ESTIMATED 11KV FEEDER DEMAND GROWTH

The purchase and connection to Robertson Street Substation of a redundant Transpower line for network resilience for the Southwestern side of the Buller River required the reconfiguration of the Westport Township Feeders to allow for the new connection. As such the Pakington Feeder has been decommissioned and load split over the remaining feeders of Russel, Derby and Domett feeders. Adderly is now split and approximately half the load will be supplied from the new Cape Foulwind Feeder BEL expects the demand growth at each of its 11kV feeders as set out in table 33 below.

Table 33. Energy and Demand - Expected Feeder Demand Growth.

Feeder	Existing Demand kW	Forecast Demand kW	Rate & Nature of Growth	Provision for Growth
Russell	2200	2600	Load increase due to transfer from the Pakington Feeder. Only expecting minimal future increase in demand over the planning horizon.	None required
Derby	1730	2350	Load increase due to transfer from the Pakington Feeder. Only expecting minimal future increase in demand over the planning horizon.	None required
Pakington	1550	0	No longer a feeder, load transferred to other Westport Feeders.	None required
Domett	1405	1850	Load increase due to transfer from the Pakington Feeder. Only expecting minimal future increase in demand over the planning horizon.	None required
Whareatea	1100	1200	Only expecting minimal increase of 5-10kW per year over the planning horizon.	None Required
Adderley	1750	900	Load Reduced as half the load is now connected to the new Cape Foulwind Feeder. This feeder has the greatest foreseeable potential for long term demand growth with potential for relocation of Westport load following the Westport flooding events.	None required
Cape Foulwind	0	1050	New feeder as a resilience project. This feeder has the greatest short term foreseeable potential for demand growth with multiple small subdivisions currently being proposed and going through the consent process	None required
Waimangaroa	380	420	Not expecting any major increase in demand over the planning horizon.	None required

Seddonville	317	340	Not expecting any major increase in demand over the planning horizon.	None required
Little Wanganui	301	320	Only expecting minimal increase from the existing demand over the planning horizon.	None required
Karamea	883	950	Only expecting minimal increase from the existing demand over the planning horizon.	None required

It is unlikely that the capacity of any feeders will be exceeded by residential or commercial demand without sufficient time to react.

Table 34 shows the aggregated effect of demand growth at BEL's zone substations.

Table 34. Energy and Demand - Zone Substation Demand Growth.

Zone sub	Existing Demand (MW)	10-YR Forecast Demand (MW)	Rate & Nature of Growth	Provision for Growth
Ngakawau 11kV	1	1.13	Little if any domestic growth, any other class of growth unlikely. Load may reduce if mining activities cease	None required
Kongahu	1.15	1.27	Low domestic growth, any other class of growth unlikely.	None required

6.6.4 ESTIMATED DEMAND AGGREGATED TO GXP LEVEL

Table 35 shows the aggregated effect of demand growth for a 10-year horizon at the GXP's that supply Buller.

Table 35. Energy and Demand – GXP Demand Growth.

GXP	Existing demand (MW)	10-YR Forecast demand (MW)	Rate & nature of growth	Provision for growth
Robertson St	11	11.7	Minimal if any growth expected	None required
		12.9	With possible mining load increase	None Required

6.6.5 ESTIMATED ASSET UTILISATION

BEL expects that its asset utilisation will increase very slowly. This will be achieved not by an increase in load but by the reconfiguration and optimisation of the network through disposal of redundant and underutilised assets.

6.6.6 ISSUES ARISING FROM ESTIMATED DEMAND

The significant issues arising from the estimated forecast demand are:

- The uncertainty of growth or contraction of large industrial demand which BEL cannot reasonably plan for but rather can only respond to when a commitment to take or relinquish supply is made. This type of

one-off demand may also influence supporting light industrial, commercial and domestic activities and growth.

- Industrial demand increases may well have a significant inductive component.
- Such industrial demand may well include large motors continually stopping and starting that are likely to be a source of flicker.

A more important issue not captured by considering simple demand growth at various levels is the shift in power flows that the potential generation could cause. Currently electricity "rolls downhill" from the GXP. Embedded generation would significantly alter the power flows which would require extensive re-setting and recalibration of network protection and controls. There are no known or anticipated future generation projects within the district that would have a material impact on the network over the planning period.

6.7 CONSTRAINTS

6.7.1 ELECTRICAL CAPACITY CONSTRAINTS

Key factors which will determine the growth or decline of electrical energy and demand in the region include:

- Global demand and prices for commodities such as dairy, fish, coking coal and steaming coal
- National and global climate change policies that impact on the costs and regulations for greenhouse gas emissions
- The ability of coal mine operators to obtain resource consents to mine new areas as existing areas become exhausted
- EV uptake, charging capacity and charging at peak times
- Battery storage technologies could mitigate system peaks
- High uptake of solar PV could alter power flows in the LV networks
- The affordability of new technology – solar/batteries, EV's etc.

Assets are considered to be capacity constrained when either of the following occurs:

- 100% of the asset's thermal rating is exceeded for more than 10 consecutive half-hour periods. This allows for abnormal loading of assets during fault recovery events.
- For a meshed feeder, when 66% of the asset's thermal rating is exceeded for >1,500 hours per year. Loading up to 66% allows the entire load on a faulted feeder to be switched to two adjacent feeders.

BEL considers an asset to be voltage constrained when the delivered voltage at a consumers' point of connection drops below 0.94 per unit. Voltage drop rather than current rating dictates the conductor sizing of most of BEL's lines.

The 11kV network currently includes the following network constraints.

Table 36. Network Constraints.

Location	Description	Expected Mitigation
Charleston	11kV line from Cape Foulwind. Existing conductor would not support any growth beyond 150kW (double the present load at Charleston)	Installation of voltage regulators or voltage support capacitor banks when the existing surplus capacity is utilised.

BEL is currently modelling its LV reticulation networks and utilising the Future Grid COMPASS™ platform to assist with analysis and optimisation of the current state and determine the spare capacity and any voltage constraints of the LV networks. Any Westport area network augmentation that may be required to will be incorporated into Westport LV safety related conductor replacement program. BEL has identified a number of potential locations where public EV charging stations may be located in future, all of the presently identified sites currently have 11kV lines within 50 meters of the sites and have sufficient capacity to enable connection of additional transformers if required. Additionally, the known present commercial, transport and logistic company sites that may require EV charging facilities in future would have to have 11kV network extensions to provide the required infrastructure and capacity. It is expected that any network extensions and or upgrades would require a capital contribution from the customer.

6.8 PROPOSED CAPEX PROGRAMME

The following proposed 10-year forecast capex program is based on our current knowledge of assets, reliability and customer expectations. All costs are in constant dollars (no allowance for inflation). The following assumptions and allowances are made for BEL's Network expenditure forecasts.

- No allowance for any possible future one-off major capital projects
- No allowance for future unknown costs such as further regulatory compliance costs, Roading Authority future costs, Additional safety compliance costs, Land access issues etc
- All costs are based on using the current internal recovery rate for labour of $68 per hour, and the current transport and material costs.
- Customer connections that require capital investment will be funded partially or fully by the applicant by way of a capital contribution.

Forecast tables below are grouped as per the information disclosure categories as well as by asset class.

Table 37. Capital Expenditure by Work Category.

Work Category	Capex budgets ($000), year-end 31 March									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Customer connection	100	125	150	175	175	175	175	175	175	175
System growth	51	51	51	51	51	51	51	51	51	51
Replacement and renewal	1493	1901	2043	1839	1783	1498	1669	1494	1428	1527
Asset Relocation	0	0	0	0	0	0	0	0	0	0
Reliability, safety and environment	225	278	292	228	228	193	193	193	193	193
Vested Assets	51	51	51	51	51	51	51	51	51	51
Non System Assets	591	898	575	604	633	634	634	634	634	634
Totals	**2512**	**3304**	**3163**	**2949**	**2922**	**2602**	**2774**	**2599**	**2532**	**2631**

Table 38. Capital Expenditure by Asset Class.

Asset Class	Capex budgets ($000), year-end 31 March									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Subtransmission	257	182	140	140	140	96	96	96	96	96
Zone substations	78	73	127	94	73	20	270	25	20	20
Distribution and LV lines	1241	1330	1476	1222	1597	1504	1456	1470	1419	1368
Distribution and LV cables	27	27	27	27	27	27	27	27	27	27
Distribution substations and transformers	157	228	228	228	233	102	102	102	102	102
Distribution switchgear	108	96	120	120	120	120	120	120	120	120
Other network assets	0	418	418	463	48	48	18	73	63	213
Vested Assets	51	51	51	51	51	51	51	51	51	51
Non Network Assets	591	898	575	604	633	634	634	634	634	634
Totals	**2512**	**3304**	**3,163**	**2,949**	**2,922**	**2,602**	**2,774**	**2,599**	**2,532**	**2,631**

6.8.1 CUSTOMER CONNECTIONS

Forecast customer connection expenditure is based on historical connections and known potential subdivisions that are still in the design or planning stage. There has been no allowance for one-off major industrial or commercial activity connections.

6.8.2 SYSTEM GROWTH

BEL has maintained its base load annual demand growth rate projection of 0.4% for domestic, commercial, and light industrial loads while allowing for moderate increase in load due to the uptake of EVs in the second part of the planning period. Over the last year BEL has seen minor growth in new connections in existing subdivisions, requiring transformer upgrades to allow the new connections. This is the result of some relocation and shift of load due to the Westport flooding events along with some load increase from the dairy sector. As such BEL is forecasting limited load growth and associated capital expenditure for the 2025-35 planning period.

6.8.3 RELOCATIONS

BEL is unaware of any roading authority plans or requirements that would require relocation of network assets. As such no budget has been allowed for in the 10-year plan.

6.8.4 ASSET RENEWAL AND REPLACEMENT

Asset replacement expenditure totals 79% of the BEL network total planning period capital budget. This amounts to a total network asset replacement program cost of $16.6m over the 10-year period.

BEL's asset database holds attributes associated with each individual asset. All assets e.g. poles, crossarms, conductor, transformers etc have the individual age, standard replacement cost and condition assessment data assigned. Forward asset replacement capex projections are presently determined by extracting this data to Excel for further grouping, sorting and refinement. Annual budgets are compiled based the asset standard replacement cost with condition and asset criticality being used for the primary weighting, with longer term budgeting using some age-related data. Other assets that are physically within close proximity to assets requiring replacement are included in the budget if these are within 5 years of their expected replacement. While this may mean disposing of an asset slightly earlier than its expected lifespan, it is generally more cost effective than returning to the same site several years later due to job setup , switching and transport, traffic management costs etc. The feasibility of this approach is evaluated on a case-by-case basis.

Non-network solutions (Solar and battery storage) were investigated for both the ongoing Karamea Bluff 33kV line replacement and the 11kV Mt Rochfort line, but potential non-network solutions have proven at this stage to be uneconomic. We are presently investigating options for the replacement of one of the three Karamea standby diesel generators, these options include direct replacement of the generator, replacement of two generators with a single larger unit or replacement with a solar and battery combination to just cover the peak periods when the generators are operating. The solar and battery option would also provide an additional revenue stream in that this would be in continuous operation unlike the current diesel generator.

The table below describes the significant network asset renewal and replacement projects for the next three years of the planning period.

Table 39. Significant Renewal and Replacement Projects.

Location or Feeder	Project Description $000	YE 2026	YE 2027	YE 2028
Robertson Street Substation	Allowance for replacement of minor communications equipment	8	8	8
	Replacement of digital electronic protection relays	54	54	54
	Replacement of communications and Logic processor equipment			54
ROB-NGK 33kV CCT1	Replacement of deteriorated crossarms from Westport to Waimangaroa	43	50	50
ROB-NGK 33kV CCT2	Replacement of deteriorated crossarms from Westport to Waimangaroa	57	6	6
Ngakawau Zone Substation	Allowance for replacement of minor communications equipment	7	7	7
	Replacement of No 1 110v DC battery bank.	6		
NGK-KON 33kV	Replacement program for the 60km of Karamea Bluff 33kV pole structures.	156	127	85
Kongahu Zone Substation	Allowance for replacement of minor communications equipment	5	5	5
	110V DC battery bank replacement	5		
	Budgetary allowance for the replacement of one of the standby diesel generators due to corrosion deterioration. Alternative options such as a solar and battery are presently being investigated which could increase the replacement cost to $1M		400	
Cape Foulwind	Replacement of 11kV poles and conductor Wilsons Lead to Tauranga Bay	74	74	
	Replacement of deteriorated wooden poles and crossarms on the coastal Meybille Bay 11kV line	26	51	51
	Replacement of 11kV poles and crossarms Tauranga Bay to Okari			114
Carters Beach	Replacement of poles and conductor Westport to Carters Beach	41	40	65
Russell 11kV Feeder	Replacement of Victoria Square Distribution Transformer	55		
	Replacement of at-risk poles in Westport at Gladstone Street	56		

	Replacement of 11kV poles in Westport at the Rail Bridge area	39		
	Replacement of kiosk type ground mount distribution Substation Palmerston Street		61	
Derby 11kV Feeder	Replacement of kiosk type ground mount distribution Substation Derby Street			61
Pakington 11kV Feeder	Replacement of poles Chamberlain and Russel Street area		70	74
Whareatea 11kV Feeder	Powerhouse Road replacement of deteriorated 11kV hardwood poles and realign the line into road reserve	112		
	Replacement of conductor and crossarms due to conductor corrosion and strand breakage of the main line.	58		
	Denniston 11kV line hardwood pole replacements	16	30	30
	Replacement of 11kV conductor and crossarms at Sergeants Hill, this conductor is aged and of small size and has deteriorated to the point that conductor breakages have occurred		40	
Waimangaroa 11kV Feeder	Replacement of poles Waimangaroa township		16	43
Seddonville 11kV Feeder	Replacement of deteriorated poles and correction of low clearance conductors Seddonville	66		51
	Replacement of 11kV conductor and crossarms at Mokihinui	44		
	Ngakawau River crossing structure replacement and reconfiguration, this includes relocation of ABS's and re-termination of 11kV and 33kV cables that are tracking due to salt build-up and to minimise outages, improve safety clearances and replacement of other deteriorated hardware		51	
Little Wanganui 11kV Feeder	Replacement of poles Little Wanganui subdivision		39	38
Karamea 11kV feeder	Reconductor 11kV line North Beach Karamea due to steel core corrosion	57	57	57
	Oparara and North Beach 11kV pole replacements	75	75	101
Westport LV	Replacement of small and deteriorated LV conductor with ABC	82	45	45

	Derby, Coates and Forbes Street LV conductor and Pole Replacements		65	
	Replacement of poles and conductor Russell, Wakefield and Peel Streets			93
General Network Area	Individual spot pole and crossarm replacements throughout the network of defected and H1 condition assets.	225	327	359
	Transformer Replacements. Allowance for replacement of small distribution transformers that are not viable for refurbishment or repair	51	51	51
	Switchgear Replacements. Replacement of H1 condition and defected ABS,'s and links	48	48	48
	Switchgear Replacements. Replacement of 11kV reclosers	26	26	48
SCADA System	Budgetary figure for replacement of Scada system and RTU's. This will be a multiple year replacement project			400

6.8.5 RELIABILITY, SAFETY AND ENVIRONMENT

This covers work programs for reducing outages, safety and legal related requirements. This budget is on average 10 percent of the total planning period capital budget and amounts to $2,047k. Budgets for this work are compiled manually and are primarily based on safety survey data, public safety audit recommendations, reviews of reliability data and fault work along with and forward strategic reviews and reports etc.

Table 40. Reliability, Safety and Environment Projects.

Location or Feeder	Project Description $000	YE 2026	YE 2027	YE 2028
General Network Area	LV service and ownership confirmation program to upgrade and optimise reconfiguration, and determine ownership and responsibility of LV services	45	45	
	Upgrade and replace aged field protection relays and controllers to enable automatic loop automation schemes to improve network reliability	21	24	24
	Earthing system upgrades. As a result of testing regime, earths with high test results will be upgraded to ensure public safety and correct protection operation.	27	27	27
	Installation of monitoring equipment in ground mount distribution substations		18	18

Location or Feeder	Project Description $000	YE 2026	YE 2027	YE 2028
Westport LV	Replacement of the Palmerston Street Pillar boxes. These boxes are of poor design and have safety issues when they need to be worked on. Because of this BEL policy is any work on these assets must be carried out by two people. These are progressively being replaced with pillars of a safer design.	26	26	26
Carters Beach Area	Removal of damaged redundant 11kV pole on Tasman Street and underground a section of LV	20		
	Installation of an ABS on Wilsons Lead Road for reliability improvement and removal of an inaccessible ABS on Bulls Road	12		
	Martins Corner 11kV overhead line replacement due to low clearance of conductors to ground along roadside			64

6.8.6 NON-NETWORK ASSET DEVELOPMENT AND RENEWAL POLICIES

DEVELOPMENT

It is BEL's policy to monitor technological developments in the field of asset information collection and process automation. Any identified non-network asset development project will be carefully analysed and must show operational, consumer benefit and economic justification via a business case to the board.

6.8.7 NON-NETWORK ASSET CAPITAL, AND RENEWAL FORECASTS

The following table details the budgeted replacements/renewals program for the 2026–2028 financial year, including the total expenditure projections.

The 2027 year allows for retailer billing and ICP management software replacements.

Non-Network Expenditure

Non-Network Expenditure $000	YE 2026	YE 2027	YE 2028
Land and building improvements	300	315	331
Vehicles	153	84	88
Plant and Equipment	88	96	101
Computer system software replacements	50	403	55
Total	**591**	**898**	**575**

7 MANAGING BUSINESS RISKS

7.1 UNDERSTANDING BUSINESS RISK

Risk management is a cornerstone of BEL's operations, addressing both physical and regulatory risks inherent to an electrical distribution network. BEL's business is exposed to a wide range of risks. Aside from the obvious physical risks, such as vehicular collisions with infrastructure, vandalism, and storm-related damage, the network business is exposed to ever increasing regulatory risk such as compliance with environmental standards, safety regulations, or energy market changes that imposes new costs and distortions whilst restricting increase of revenue. This section examines BEL's physical risk exposure, describes what BEL has done and will do to mitigate exposure and how BEL will respond when disaster strikes.

BEL's risk management policy is the set of elements contained in its management system concerned with managing risk. It is aligned to BEL's business outcomes and the strategies designed to achieve these outcomes.

The key features of BEL's risk management policy are a framework as follows.

- The culture within BEL accepts that risk management is a critical part of the company operation. The divisional team's acceptance of ownership and accountability to effectively manage agreed risks and take an appropriate degree of mitigating action is an essential part of this culture.
- BEL applies a defined methodology that enables BEL to identify and assess risks and evaluate and implement targeted mitigation strategies.
- BEL has clear statements of BEL's risk management policy, principles and practice.
- BEL's risk management process encompasses identifying and assessing risks, implementing tailored mitigation strategies, and continuously monitoring and refining these efforts.

The following are therefore the key elements of BEL's risk management framework:

- Risk management policy
- Risk analysis procedure
- Delegated risk authorities

7.2 RESPONSE PLANNING

BEL has a Business Continuity Plan that details its response to many events that pose risks to network assets or other critical business operations. This plan outlines Buller Electricity Limited's response and recovery strategy to resume business following natural disasters and catastrophic events on either the Buller Electricity Limited distribution network or the Transpower transmission network.

A major earthquake with an epicentre near Westport is potentially the worst-case natural disaster to plan for. A high probability exists that a major event will occur in the Buller Region within the next 50 years. The BCP describe the steps required to apply adequate resources to re-establish normal business as soon as possible.

The worst-case catastrophic event on the Buller Electricity Limited distribution network would be for the total loss of the Robertson Street GXP (ORO), for example from multiple transformer failures, fire, or earthquake.

The worst-case catastrophic events on the Transpower transmission network are considered to be multiple transformer failures and 110kV transmission tower failures. Either of these will have a major impact on supply availability to the Buller Region. Significant restrictions or total loss of supply for an extended period of several days could result. Effective communication and coordination within the company will be required as well as externally with other line companies, Civil Defence, Energy Retailers and Transpower.

Under a declared Civil Defence Emergency significantly impacting on electricity supplies, or major catastrophic events to the local distribution or transmission networks, a previously established Emergency Management Team would go into action to coordinate Buller Electricity Limited's response and recovery. The Emergency Management Team (EMT)

is responsible for coordinating BEL's response to declared Civil Defence emergencies or major catastrophic events, ensuring effective communication, resource allocation, and recovery planning. The Emergency Management Team will comprise:

- Chief Executive (Team Leader)
- Operations Manager (alternate for Chief Executive)
- Network Asset Manager (alternate for Operations Manager)
- OH&S Administration Services Manager
- Civil Defence and/or Local Body representatives (as appropriate)

Events for which the Emergency Management Team is to be activated include:

- Civil Defence warnings or declared emergencies likely to result in a major loss of electricity supplies in the Buller District for an extended period;
- Major or catastrophic events on either the Buller Electricity Limited or Transpower network likely to result in loss of electricity supplies in the Buller District for an extended period;
- Multiple generator failure likely to result in a loss of electricity supplies in the Buller District for an extended period.

The appendices of the BCP detail essential services, communication details, contractor resources, emergency stock, alternative equipment and material suppliers.

Key elements in any disaster recovery plan will be to establish:

- resource and manpower requirements if an extended loss of supply over several days is likely
- effective media liaison
- communication with Energy Retailers
- communication with Transpower
- coordination of recovery activities

The purpose of the BCP is to set out and document clearly the initial actions to be implemented relating to Buller Electricity Limited's distribution network in the event of either natural disasters or catastrophic events in order to restore normal business as soon as possible.

Specific Emergency Procedures for Buller Electricity & Electro Services Ltd exist, and these cover the specific actions required in the advent of the following;

- Accidents
- Heart Attack / Chest Pain
- Earthquake
- Fire
- Flood & Tsunami
- Major & Minor Oil Spill
- Pandemic
- Major zone substation failure
- Ripple injection plant failure
- Chemical Spill
- Structural Failures
- IT systems failure and recovery
- Transpower outages and recovery plans

Copies of these Procedures are kept in the BEL Depot workshop, Front Main Office, ESL Office, Depot smoko room and Control Room. Original documents are stored on the Public Occupational Health & Safety directory on the BEL server.

The CEO is responsible to ensure the BCP is reviewed and updated on an annual basis. This review involves consideration and input from the Executive Assistant, Operations Manager, Network Asset Manager. This document is used in all emergency situations and any changes or improvements arising from those events are noted by the CEO and included in the next annual release of the BCP. As this is a living document, the continued use in such events ensures Buller Electricity Limited staff are trained and aware of its contents and requirements. The latest revisions of the BCP are shown (Table 41).

Table 41. Schedule of Business Continuity Plan Updates.

Date	Person	Amendment
May 2017	E Ginley	• Complete revision of Manual • Update of Lifelines contacts • Inclusion of Connetics and other supplier information • Inclusion of the Buller UHF/VHF Repeater system details • Inclusion of relevant details from National & Regional Civil Defence plans
March 2018	E Ginley	• Clarification of Roles & Responsibilities in an Emergency • Addition of organizational lessons learned from Cyclone Fehi & Gita • Addition of lessons learned regarding a major structural failure event • Inclusion of requirements for structural failure events • Update for Appendix 1 Essential Services regarding their Generator status
April 2018	K M Adams	• Updated all Appendices, including all contact details, etc. • Updating list of ESL/BEL Generators • Updating Vehicle Equipment list
May 2019	KMA / EJG / D Ross	D Ross updated main text body of BCP • Updated all Appendices, including all contact details, etc. • Added Appendix 18 – South Island EDB Radio Frequencies & Available Generators
August 2019	E Ginley	• Added Appendix 19 – AF8 Alpine Fault Event Information
May 2020	EJG / DLR / KMA	• K Adams updated EMT, vehicles, Control Rm contingency, Org Structure, etc • E Ginley updated Pandemic / Covid-19 related procedures developed, various Civil Defence / Lifelines related information updates, & Transpower Black Start scenario. D Ross reviewed and updated main body of text. • BEL Board inputs from draft review on 28th May 2020, including Appendix 19
Mar 2023	DR / AH	Restructure of document, addition of detail for scenarios, development of critical spares policy
Apr-23	DR / AH	Addition of Covid plan, Issues schedule, change request form, formatting revised.
June-24	SMT	• Updated all Appendices, including all contact details, etc. • Clarification of Roles & Responsibilities in an Emergency

7.3 EMERGENCY EVENTS

This section details the major emergency events as identified during risk identification and analysis reviews that are held annually.

7.3.1 NATURAL DISASTERS

Expected natural disasters are outlined (Table 42) below.

Table 42. Schedule of Natural Disasters.

Event	Likelihood	Impact	Comments
Earthquake	87% probability of mm force 7 in next 50yrs, 67% probability of mm force 8 in next 100yrs	High	Most serious natural disaster for Buller Electricity to prepare and respond to. Liquefaction in Westport's North Beach area and at Kongahu Sub and Karamea Township
High Winds	Medium	High	Would result in a large number of lines down
Lightning Storm	Medium	Medium	Would most likely affect a large number of rural transformers. Possible damage to zone substations
Landslide	Medium	Low	Likely to be localised
Fire	Medium	Low	Could affect 33kV feeders and other 11kV supplies
Flooding	High	Low	Relatively low impact on the electricity network- flooding may restrict restoration. May need to consider cutting power to certain feeders to ensure Public Safety.

Other less likely natural events are outlined (Table 43).

Table 43. Less Likely Natural Events.

Event	Likelihood	Impact	Comments
Tornadoes	Unlikely	Medium	Only relatively small tornadoes known to exist. A large tornado would cause major localised damage
Eruptions	Unlikely	Low	No active volcanoes but ash from eruption could impact on overhead lines and transmission lines to the Buller Region
Tsunami / Tidal Surges	Unlikely	Medium	Would affect low lying areas along coastal margins. May need to consider cutting power to certain feeders to ensure Public Safety. Pillar boxes may be a particular issue with sea water ingress/immersion.

7.3.2 BULLER ELECTRICITY LIMITED DISTRIBUTION NETWORK

The following events are considered to be of a major and catastrophic nature (Table 44).

Table 44. Major Catastrophic Scenarios.

Event	Likelihood	Impact	Comments
Robertson Street GXP (ORO) Failure	Low	High	Possible mechanisms include earthquake, GXP fire, and multiple transformer failures.
Zone 33 or 11kV Bus Failure	Low	Medium	Kongahu has full diesel backup. Ngakawau has sub 11kv could be by-passed and fed from ORO GXP, apart from Solid Energy site. Ngakawau sub has 3 x 33kv bus sections, so there is redundancy.
Multiple underground 33 or 11kV cable failures	Low	High	Main underground cables at risk are those from ORO GXP to the feeders. We do not have multiple cables running in open trenches. Only foreseeable event to cause this would be a major earthquake.
Zone substation fire	Low	High	Substation fire alarms are monitored via SCADA.
Sabotage	Low	High	Requires vigilance to maintain existing security standards and protocols on our network.
Major oil spill	Low	Medium	Transformers in subs are fully bunded and alarmed. Procedures and spill kits exist for handling oil spills at all our sites. Refer to Emergency Procedures.
IT Systems Failure	Low	Medium	BEL's IT provider has a disaster recovery plan in place. This is detailed in the BCP

7.4 TRANSPOWER TRANSMISSION NETWORK

The following events on the Transpower are considered to be of a major and catastrophic nature ().

Table 45. Major and Catastrophic Transmission Events.

Event	Likelihood	Impact	Comments
Multiple transformer failures	Low	High	External Party
110kV tower failures	Low	High	External Party
Substation bus failure - Kikiwa	Low	High	External Party

7.4.1 GENERATION

The following generation events are considered to be of a major and catastrophic nature (Table 46).

Table 46. Major and Catastrophic Generation Related Events.

Event	Likelihood	Impact	Comments
Low SI Generation	Medium	Medium	Possible prolonged hot water cutting and rolling blackouts
Total system collapse	Low	High	Deploy available portable generators to essential services. Karamea area supplied from standby diesel generators at Kongahu substation. Potential to operate KEL hydro generation in islanded configuration to allow some power supply to the District (ca. 1 MW on an ongoing basis), but this would be weather and lake level dependent supply.

7.5 HIGH IMPACT SPECIFIC LOCATION NETWORK ASSET RISKS

7.5.1 GRANITY, NGAKAWAU AND HECTOR SEA EROSION

Sea erosion over the last few years been progressively encroaching towards one of BEL's 33kV sub transmission circuits and an 11kV circuit that supplies the Ngakawau substation along with the consumers in the Granity area. The initial response has been to protect the at-risk poles with rock protection works and then relocate them to a safer position in the current Road reserve. Longer term this erosion could affect both the 33kV circuits that supply Ngakawau and Kongahu substations and the Waimangaroa and Seddonville 11kV circuits. The potential longer-term erosion could also affect housing, roading, rail and BT mining operations in the area. BEL is considering the options for long-term replacement or relocation for the circuits and or supply options for the affected areas. This will involve consultation with the district and regional councils, other infrastructure asset owners and the wider community.

7.5.2 WESTPORT AND CARTERS BEACH FLOODING

Various scenario-based flooding models for the Westport and Carters Beach areas have been developed. Initial response planning is to replace low height pillar boxes and transformers that were inundated in the Cyclone Fehi flooding in February 2018 with a design that will give a higher safety margin against water ingress. Other relocation options are being considered. BEL is also taking these flooding scenarios into consideration for the longer-term Network development and replacement planning.

7.5.3 LOSS OF ROBERTSON STREET GXP TRANSFORMERS

The loss of both of Robertson Street substation transformers would initially cut power to all of BEL consumers. Karamea customers would then be supplied via the Kongahu diesel generators. It is expected that to procure a replacement transformer from a manufacturer would take a minimum of nine months. If repairs to the existing transformers were not feasible BEL would in the first instance, try to obtain Transpower's 110/33/11kV mobile substation. If this was unavailable BEL have a mutual aid agreement with Westpower to utilise a transformer from their Reefton substation until a replacement can be sourced.

7.6 MITIGATING RISK EXPOSURE

Individual network assets are allocated a risk rating based on their condition, and a criticality rating based on individual asset type and associated attributes, asset inspection and test result data and location within the network,. This is based the EEA Criticality Guide but adapted to suit BEL's risk rating categories. This uses a combination of asset condition or health (H Scale) and Criticality (C Scale) to provide a risk rating (R Scale). This rating this is used to provide input for work programs and budgets to minimise BELs risk to asset failure related risks.

Asset Risk Matrix			Asset Health				
		Asset Condition	As New	Normal inservice deterioration	End of life drivers for replacement present (onset of unreliability)	End of life drivers for replacement present (probability of failure the maximum that would normally be tolerated)	Replacement required
	Asset Failure Consequence	Rating	H5	H4	H3	H2	H1
CRITICALITY	Assets where failure would cause extreme risk or actual instance of serious harm,fatality and/or property damage to the value of > $2 mio or cause long term outages for all consumers Note : In the case of a fatality arising, this is always classed as "Extreme" consequence, regardless of Likelihood.	C1	R3	R3	R2	R1	R1
	Assets where failure would cause major risk or actual instance of serious harm (permenant injury) and/or property damage of up to $2mio or long term outages for up to 500 consumers	C2	R3	R3	R2	R1	R1
	Serious risk or actual instance of serious harm (LTI) and/or property damage of up to $500k or cause outages between 8 and 24 hrs for over 500 consumers	C3	R3	R3	R2	R2	R2
	Moderate risk or actual instance of harm (requiring medical assistance) and/or property damage of up to $200k and may cause outages up to 1 day for < 500 consumers	C4	R4	R4	R3	R3	R3
	Minor risk or actual instance of harm (requiring first aid) and/or property damage of up to $20k.	C5	R5	R5	R5	R4	R3

Figure 50 Asset Risk Rating Matrix

BEL acquired a section of the redundant 110kV H pole line that extends from the Orowaiti Tee to the now decommissioned Westport GXP at Cape Foulwind. This nine-kilometre line is seen as a strategic asset in that it minimises risk provides resilience and for supply to the Western side of the Buller River. This line and can be connected to the existing 11kV network at multiple locations and will provide reliability improvements and voltage support over the single line that supplies the cables across the Buller Bridge. Additionally, should future load increase with multiple proposed subdivisions and the potential long term relocation of Westport to the Western side of the river due to river flooding and sea level rise this line could be reconfigured to operate at 33kV and supply a future Zone substation should the need arise. BEL has already identified possible suitable sites but ultimate location would be determined by where any load growth occurs.

Other key risk exposures and mitigations are classified (Table 47).

Table 47. Operational and Asset Related Risks.

Lifecycle Stage	Activities	Key sources of risk	Key Mitigations
Operations	Switching	Control room error Field staff error Drawing error Asset labelling error	Checking of switching instructions Confirmation of switching instructions before action Review and checking of drawings before issue Checking of all asset labels
	Manual load control	Failing to understand the RCPD principle of load control	Training in RCPD issues Automation of load shedding

Lifecycle Stage	Activities	Key sources of risk	Key Mitigations
		Miss-timing shedding of load	
	Issuing clearances	Errors in compiling instructions Transcription errors	Checking of switching instructions Confirmation of switching instructions before action
Maintenance	Inspections	Systematic over or under assessment of asset condition	Photographic guide to asset condition Use of experienced staff Correlation to actual condition of failed assets
	Routine Maintenance	Switching error Falls Electrocution Inadvertent component damage Errors in recording and storing asset condition and work done Poor understanding of activity's impact on lifecycle	Checking of switching instructions Confirmation of switching instructions before action Training in safe working practices Provision of safety equipment Regular inspections of tools, vehicles and equipment Following manufacturer's recommended practices Training in regard to specific assets Prescribed formats for recording asset condition and work done Improved understanding of asset lifecycles
	Major Maintenance	Switching error Falls Electrocution Inadvertent component damage Incorrect activities performed Errors in recording and storing asset condition and work done Poor understanding of activity's impact on lifecycle	Checking of switching instructions Confirmation of switching instructions before action Training in safe working practices Provision of safety equipment Regular inspections of tools, vehicles and equipment Following manufacturer's recommended practices Training in regard to specific assets Prescribed formats for recording asset condition and work done Improved understanding of asset lifecycles
	Tree Trimming	Electrocution Cuts Falls Breach of regulations Erosion of public image	Training in safe working practices Training in Tree Regulation requirements Regular inspection of tools, vehicles and equipment Training in PR
Renewals	Planning	Pre-mature replacement of components Incorrect assessment of demand life (stranding)	Photographic guide to asset condition Use of experienced staff Random moderation of results Correlation to actual condition of failed assets Risk assessment model Consumer commitments to continue taking supply
Upsizing	Planning	Incorrect estimate of demand growth	Robust demand growth forecasts Pro-forma cost-benefit template

Lifecycle Stage	Activities	Key sources of risk	Key Mitigations
		Incorrect estimates of key cost-benefit parameters such as value of lost load Stranding Optimisation	Board-approved parameters Independent peer review of significant business cases
Extending	Planning	Stranding Optimisation	Customer contribution or guarantee Use standardised designs
Enhancing reliability	Planning	Risk of spurious trippings More assets to fail	Use of proven technologies

7.7 EMERGENCY STOCK

Minimal emergency stock such as poles, transformers, line hardware etc is held at Buller Electricity Limited. A list is prepared specifying the items and stock levels required and also specify at which other locations these stocks are situated. This list takes into account the type of construction in each supply area and also the possibility that road access to some areas could be blocked under certain crisis conditions e.g. the Karamea Bluff highway. Stock levels at Karamea are set around that required for only a limited restoration exercise lasting up to 2 days. This period being the expected maximum delay before stocks could be brought into the area from sources outside the region. Given such a crisis it would be expected that external contracting resource would also be required.

Critical Spares for site specific assets at locations such as Robertson Street, Ngakawau and Kongahu substations are kept onsite to ensure minimal delays for when repairs of replacement are required.

The Network Critical and Emergency Stock list is included in the BCP. Additional equipment and material that BEL may require can be obtained from suppliers as detailed in the BCP.

7.8 FINANCIAL

7.8.1 IMPLICATIONS

Civil Defence or major catastrophic events affecting the Buller Electricity Limited network are likely to have major financial implications. The Emergency Management Team is to document and assess the likely impact and notify the Chairman and Directors as soon as possible of the implications.

7.8.2 AUTHORITY LIMITS

Under Civil Defence or major catastrophic events prompt decision making will be essential. The following delegated authority limits apply per event:

Chairman and CEO (Jointly) $750,000.00

Network Asset Manager and Operations Manager (Jointly) $400,000.00

7.8.3 DECLARED CIVIL DEFENCE EMERGENCIES

It is unlikely that in the event of a declared Civil Defence emergency any funding will be available from central or local government directly for restoration of the distribution network except for goods or services or property requisitioned

under the Civil Defence Emergency Management (CDEM) Act 2002. This could include the provision of standby generators to essential services.

7.8.4 FINANCIAL RECORDS

The BEL Corporate Services team are required to ensure records of all contractual services or material requested from external organisations that have a financial implication are documented and recorded along with the estimated commitment. Also, where chargeable work is carried out it is important that information be recorded accurately.

7.8.5 ASSET RELATED PUBLIC SAFETY RISKS

For high level public safety risk assessment BEL utilise the visual risk assessment calculator as shown below to determine BELs risk exposure.

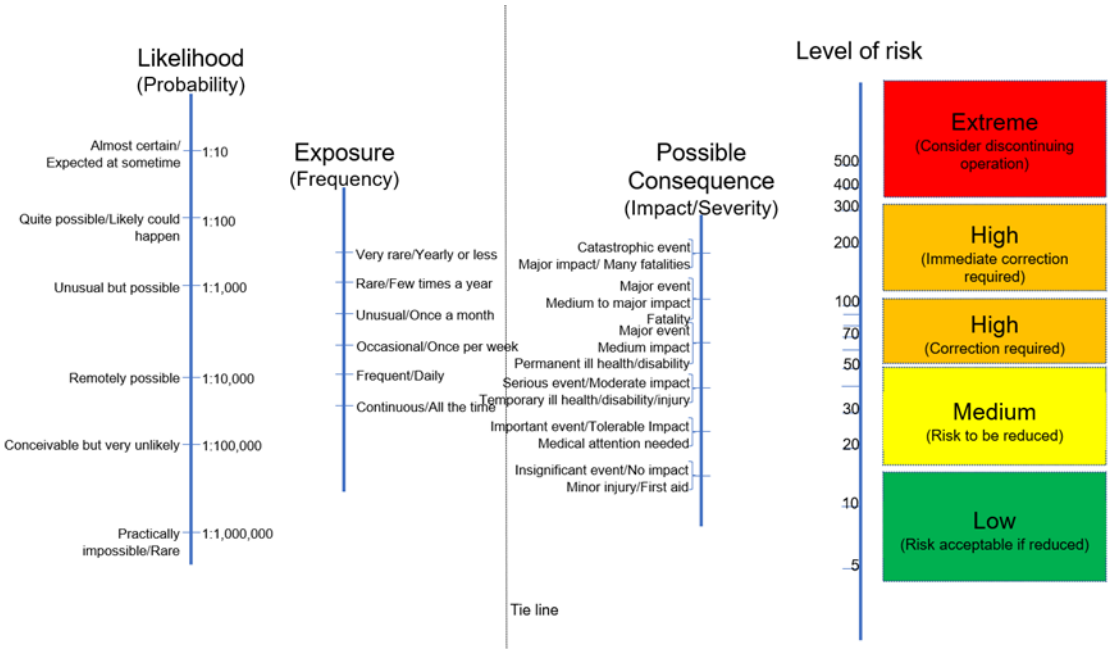


Figure 51 Public Safety Visual Risk Calculator

Below is a list of the major public safety risks

1. Risk of substation restricted areas and switchyard fenced area being left unlocked minimized due to specific locking instructions
2. Overhead line risk is electric shock from fallen conductors, crushing injuries from falling components caused by rotten or failed concrete poles or rusted components, loss of stay wires or cars crashing into poles along the roadside
3. Risk of unauthorized climbing of overhead lines and structures remains a risk that BEL minimises through eliminating climbable features
4. Trees growing too close to lines also remain a risk that BEL minimises through its vegetation management program
5. Electric shock or arc flash burns from unauthorized access to ground mount assets. Work procedures include specific locking instructions and kiosks are inspected for security
6. Theft of copper conductors from earthing systems poses an electric shock risk
7. Risk of electrocution or burns from third party excavation of live cables
8.

7.8.6 SAFETY BASED ASSET INSPECTIONS AND REVIEWS

BEL carries out safety and security-based asset inspections on a regular basis to minimise its risk exposure. These include:

- Grid Exit and Zone substation security inspections on a monthly basis
- HV ground mounted equipment safety and security inspections every six months
- Annual vegetation control inspections
- Earthing system inspections and testing are carried out on a five yearly cycle to ensure earthing is at a low level to ensure protection systems operation and public safety

7.8.7 PROTECTION SYSTEMS REVIEWS

Bi-annual reviews of all distribution protection settings are carried out to ensure that the circuit breaker protection settings and fuse ratings are appropriate for the circuits and equipment they protect and that they are operate in the minimum amount of time possible to ensure public safety whist still co-ordinating effectively.

Grid exit point protection reviews and testing is completed at four yearly intervals per the Electricity Industry Participation Code.

7.8.8 ARC-FLASH REVIEWS

Arc-Flash review and analysis is completed Bi-annually as per BEL's Arc-Flash policy. All HV ground mounted equipment has detailed Arc-Flash labels attached that include calculated incident energy and protection boundaries as well as the personal protective equipment required for operation.

7.9 HEALTH SAFETY AND WELLBEING POLICY

BEL is committed to providing a healthy working environment for its employees, visitors and sub-contractors by maintaining and constantly improving a Health Safety and Wellness Management System.

BEL's Board of Directors have introduced a Health Safety and Wellness Governance Charter confirming their support for continuous health and safety improvement.

Buller Electricity Limited

Buller Electricity Limited Health, Safety and Wellness Governance Charter

Buller Electricity Ltd (BEL) is an electricity distribution company that owns, manages and operates the distribution network in the Buller District excluding the Reefton and Punakaiki areas. The network is mainly made up of overhead lines and some underground cables. There are also substations, switches and connection assets that distribute electricity from the single grid exit point for Buller, which is owned by BEL and located at Robertson Street.

Buller Electricity also owns a subsidiary company Electro Services Limited (ESL), an electrical contracting business based in Westport.

Vision

This charter confirms support for the continuous improvement in the Health, Safety and Wellness of Buller Electricity's workspaces, staff and stakeholders. It explains the Board's vision for Health, Safety and Wellness within the Company and the commitment of all Directors to this.

- Buller Electricity Limited is a company where we promote a healthy and safe workplace
- Buller Electricity Limited has established a culture that ensures health, safety and wellness commitment from all levels within the company
- Buller Electricity Limited strives to achieve "Zero Harm" within its workplaces

Objectives

- Maintain a healthy and safe workplace
- Recognise and manage risk
- Have a fit for purpose Health and Safety Management System (HSMS)
- Comply with all relative legislation, regulatory requirements and good industry practice
- Promote a culture which embraces inclusion and diversity

Roles & Responsibilities

- Subscribe to the principle that nothing is more important than health, safety and wellness of employees, contractors, customers, visitors and the wider community
- Establish clear strategic goals, health and safety culture and policy
- Ensure appropriate resources are provided for the HSMS
- Monitor strategy implementation and performance
- Provide support and governance support to the CEO and management
- Monitor CEO for implementation of policy, objectives and the HSMS
- Ensure that the HSMS is effective
- Review vision, objectives and outcomes as appropriate

Review

This charter will be reviewed annually as part of our ongoing commitment and improvement:

- Health and Safety Management team
- CEO and board chair
- Board of Directors

F T Dooley, Chairman
M W Frost, Director
B D Gemmell, Director
S K Hollis, Director
C M Scanlon, Director

Figure 52. Health Safety and Wellness Charter.

Specifically, BEL will:

- Set and review annually health safety and wellbeing objectives and performance criteria for all managers as part of their performance review process
- Actively encourage all employees to participate in improvement of health and safety in the workplace and acknowledge those who show innovation
- Actively encourage accurate and timely recording of all incidents and injuries
- Investigate all reported incidents to ensure contributing factors are identified and where appropriate, formulate plans to take corrective action
- Provide systems to identify and inform employees of existing and new hazards and take all practicable steps to eliminate, isolate or minimise exposure to those hazards
- Ensure that changes to asset features or configurations include consideration of public safety risks
- Ensure all employees are adequately trained to enable them to perform their duties in a safe manner
- Meet BEL's obligations under the Health and Safety at Work Act 2015, The Health and Safety in Employment Regulations 1995, Codes of Practice, and any relevant Standards or Guidelines
- Ensure that Health and Safety Representatives receive appropriate training
- Every employee of the company is expected to share in the commitment to health and safety
- Every manager, supervisor or foreperson has a responsibility for the health and safety of those employees working under their direction
- Each employee including managers and supervisors are expected to play a vital and responsible role in maintaining a safe and healthy workplace through:
    - Observing safe work procedures, rules and instructions;
    - Ensuring no action or inaction will cause harm to self and or others;
    - Undertaking training and instruction to maintain a safe working environment;
    - Taking an active role in the company's rehabilitation plan, to ensure an "early and durable return to work;"
    - The responsibility is to report all incidents, injuries and hazards to the appropriate person; and
    - Wearing of personal protective equipment as provided by BEL
- Staff must only carry out duties:
    - For which they are currently deemed competent as detailed on their competency certification card;
    - They feel it is safe to do so;
    - Are familiar with the equipment; and
    - Clearly understand what is required of them.

7.9.1 HEALTH SAFETY AND WELLBEING COMMITTEE

The Health Safety and Wellbeing Committee includes senior management representatives and employees. The committee is responsible for the implementation, monitoring, review and planning of health and safety policies, systems and practices. Committee meetings are held monthly and safety meetings for all staff held every Friday morning.

7.9.2 CONTROL ROOM OPERATIONS

Control room operators hold meetings approximately four times a year to review recent faults, switching operations and planning to further improve safety and outage performance. Discussions also revolve around any issues relating to SCADA and switchgear operation, network performance and improvement, future training requirements, network safety, switching standards and documentation is reviewed and updated on an ongoing basis.

7.10 PUBLIC SAFETY MANAGEMENT SYSTEM

BEL completed a Public Safety Management System (PSMS) as a requirement under the Electricity (Safety) Regulations 2010. BEL adopted NZS 7901 to meet its obligations.

Audit requirements: NZS 7901 requires each owner of an electricity distribution system to establish and maintain a three-pronged program of audits to ensure that its PSMS has been implemented, is being used as intended, is producing the desired safety outcomes and provides improvement opportunities.

Table 48. Public Safety Management System Audit and Review Status.

Event	Date	Unattained	Partially Attained	Opportunities for Improvement
Stage 1 Audit	24 February 2012	0	5	4
Stage 2 Audit	21/22 March 2012	0	131	30
Certification	19 April 2012	Original Certification of Registration		
Review	1 November 20113	0	8	9
Review	3 April 2014	0	7	14
Review	4 March 2015	0	10	6
Review	14 August 2015	0	2	2
Review	27 June 2017	0	0	6
Review	7 May 2018	0	4	12
Review	17 May 2019	0	2	7
Review	22 July 2020	0	2	5
Certification	24 July 2020	Notice of Continued Registration		
Review	15 March 2022	0	0	4
Review	24 April 2023	0	0	3
Certification	15 March 2024	0	0	5

[1] Care must be taken in reading this table as TELARC have re-used the Partially Attained numbers.

8 PLAN IMPROVEMENTS AND MONITORING

8.1 INTRODUCTION

This section shows a review of Buller's performance against set targets for the year ended 2024 and proposed plan improvements

8.2 PERFORMANCE AGAINST TARGETS

8.2.1 NETWORK RELIABILITY

Both the SAIDI and SAIFI performance measures have consistently trended downward, remaining below the forecast. This downward trend has been sustained over time, reflecting improved network reliability. However, BEL has decided to increase the forecast for unplanned outages due to the impact of adverse weather events, including windstorms and lightning, as well as car-versus-pole incidents. These were one-off events that temporarily caused performance charts to trend above the forecast. Adjusting the forecast ensures a more realistic reflection of potential future disruptions while maintaining BEL's commitment to reliability.

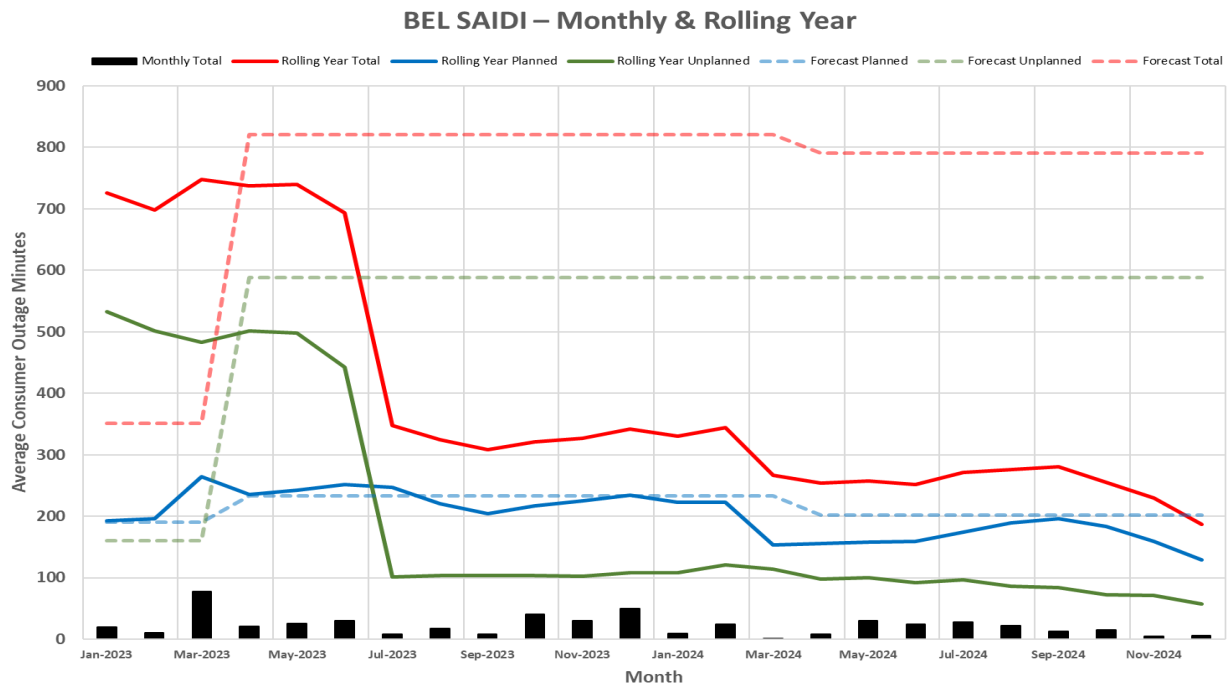


Figure 53. SAIDI Performance.

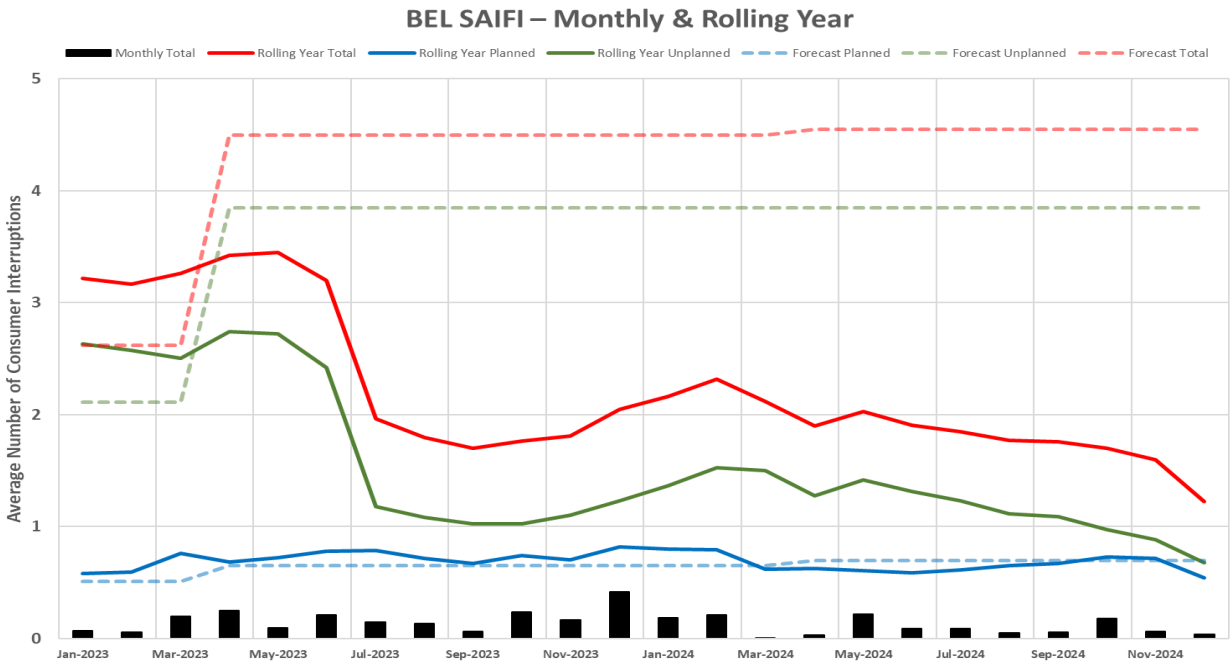


Figure 54. SAIFI Performance.

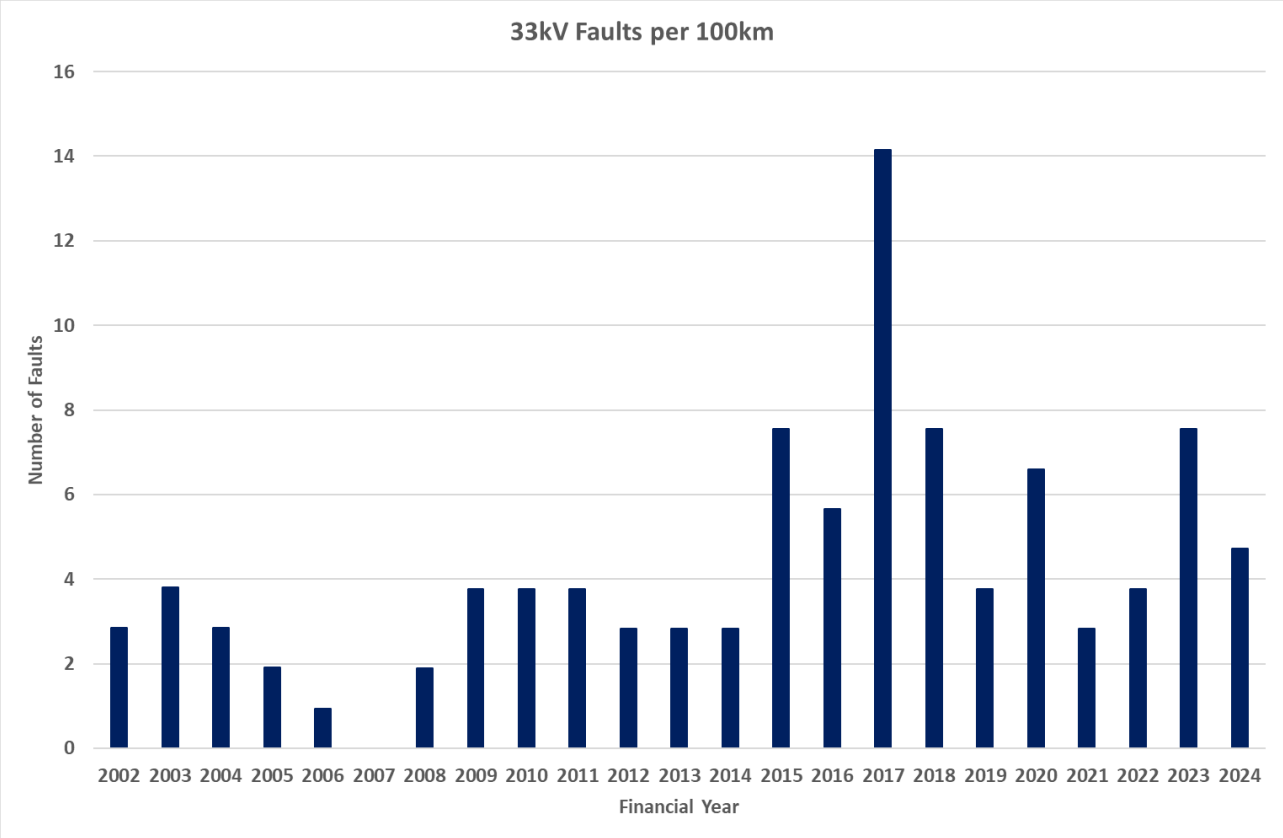


Figure 55. 33kV Network Faults per 100km.

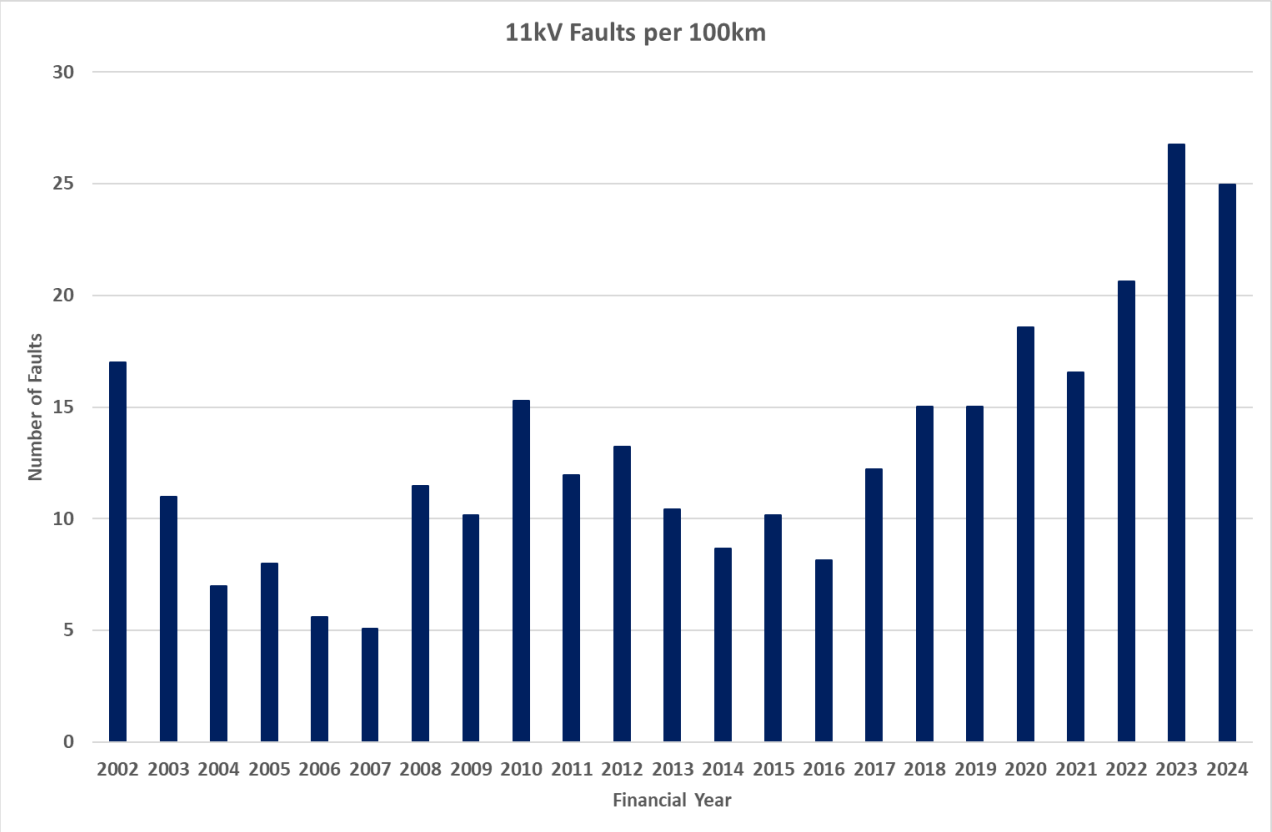


Figure 56. 11kV Network Faults per 100km.

Planned outages will remain steady as it is more efficient to isolate rural line sections rather than use temporary generators. BEL will continue this approach provided consumers are comfortable with the notification period and outage times.

VEGETATION CONTROL

BEL has updated its vegetation process and systems and use a Fulcrum App for mobile data capture and recording of vegetation related activities. This information syncs to the Buller Electricity fulcrum site, where cut or trim notices are issued and recorded.

Below is a chart of BELs outage statistics caused by tree contact. The major 2015- and 2018-years outages were caused during high wind and storm events were and most tree contact was caused by vegetation outside of the minimum distance as described in the regulations.

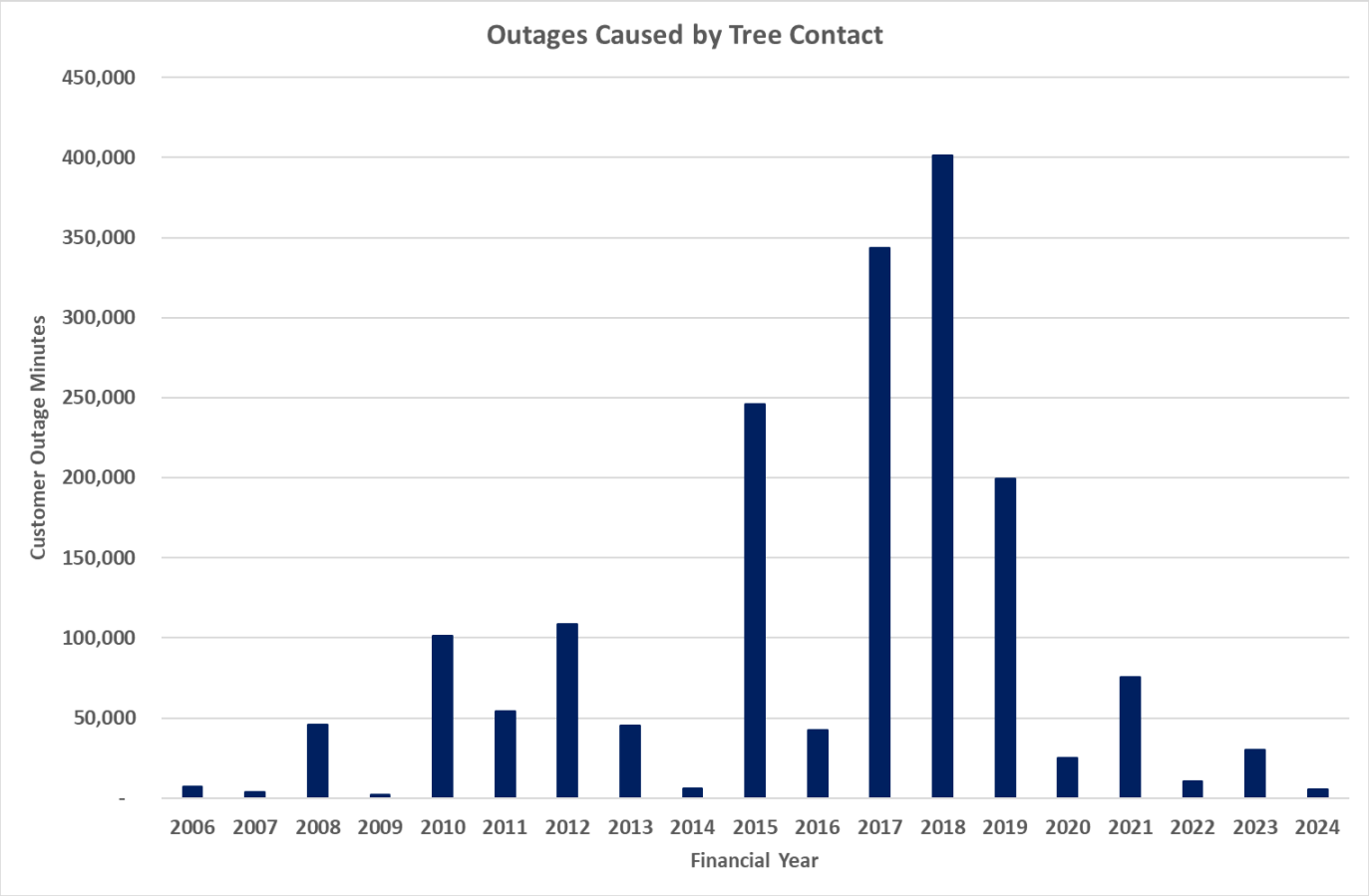


Figure 57. Outage Minutes Caused by Tree Contact.

Wherever economically possible and with the tree owners consent vegetation and trees within falling distance of overhead high priority lines are removed or trimmed to minimise trees falling across line or vegetation debris blowing into the lines during high wind events.

8.2.2 FINANCIAL PERFORMANCE

BEL was on target for capex but underspent against the operational maintenance budget forecast for the 2023-2024 Year.

Expenditure Class	Forecast ($000)	Actual ($000)	Comment
Consumer Connections	261	283	Consumer connection works exceeded expectations with a variation from budget of 8%. The main areas of new connection work was for new subdivisions in Queen Street Westport and Limestone Road Cape Foulwind. In addition, the only major commercial connection was for a sand mining operation at the Okari. New connections are difficult to forecast with any degree of accuracy and occur sporadically in the Buller region.
System Growth	26	65	Unexpected Network growth occurred mainly due to load increases to subdivisions at the outlying subdivision areas of Cape Foulwind and Waimea Terrace. Additionally minor load growth

			due to upgrades of dairy farms at Karamea required the upgrading of some transformers.
Asset Replacement and renewal	1144	1132	A 1% variance compared to the forecast AMP budget. BEL achieved most of its asset replacements works during the year, one reconductor job on McKenna's Road was delayed and not completed due to consent delays during the year. To offset this and keep staff utilised , some other minor work was brought forward and incorporated into the current year.
Asset relocations	0	0	No budget had been allowed for as relocation work is extremely rare on the BEL network.
Reliability, safety and environment	414	354	15% underspend mainly due to a delay in the purchase of a redundant Transpower 110kV line and connection to the BEL 11kV distribution network as a resilience project.
Total Network Capex	**1,844**	**1,833**	**Overall, a 1% variation in Network Capex**
Non-Network Capex	1,784	881	Forecast spend did not materialise as planned.
Service interruptions and emergencies	277	286	A minor 3% overspend for the year.
Vegetation Management	337	178	A 47% variation and underspend for the year. This underspend was mainly due to the delay of track cutting and tree felling control work in the Karamea Bluff while other options such as aerial spraying were being considered to alleviate the high cost and manual labour input required for this area.
Routine and corrective maintenance and inspection	329	318	3% variation, a minor underspend. Some minor asset testing work was not completed at Robertson Street Substation due to the unavailability of technical staff for work that had been planned for the last week of the Year.
Asset Replacement and renewal	92	41	A 55% variance was mainly due to delays with the purchase of replacement parts for some switchgear and transformer refurbishments.
Total Network Opex	**1,036**	**823**	**Overall a 21 % variation in Network Opex**
System operations and support	389	298	A minor variation for the year overspend for network operations costs during December and January due to staff restructure and changing roles.
Business support	2689	3125	A minor variation for the year.

8.2.3 INDUSTRY COMPARISON

BEL compares its performance with other EDB's with similar ICP's / km to benchmark its own performance.

The following graphs show BEL's reliability compared to other line companies for the 2023/24 year. BELs outage duration for unplanned work was significantly lower than anticipated. The forecast target allows for extreme weather and environmental events that have not occurred during the year but have been more frequent over the last 10 years. The SAIDI and SAIFI planned work interruptions was well below target due to two main shutdowns not going ahead due to the later than expected ownership transfer of a Transpower 110kV line and reconnection to the BEL network. Additionally, a higher percentage of Live Line and Glove & Barrier work being undertaken than anticipated.

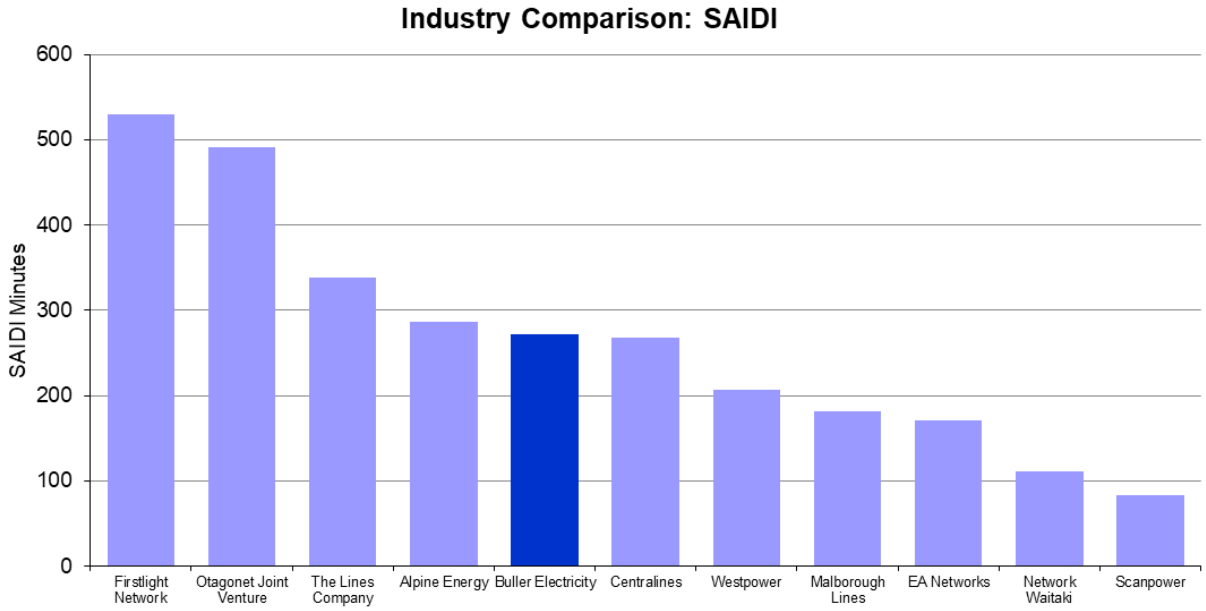


Figure 58. BEL Unplanned SAIDI Performance Compared with Other EDBs.

BEL's loss ratio (kWh lost in the network during the year / kWh entering the network during the year) was 5.8% for the 23/24 year and is presently at 6.99% on a one year rolling average basis.

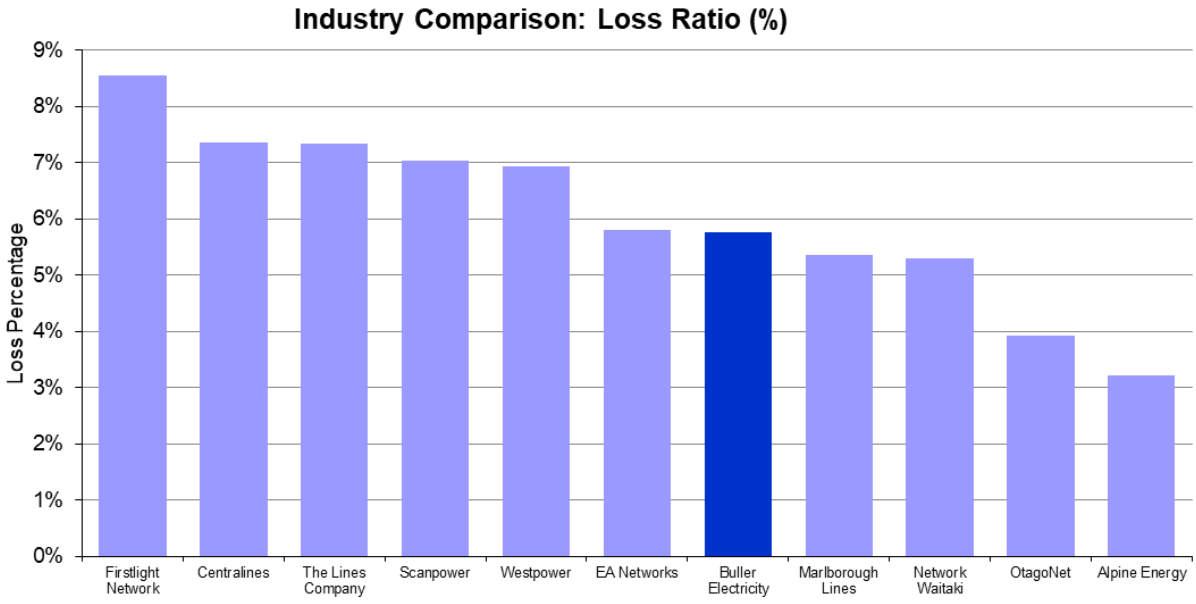


Figure 59. Energy Loss Ratio Compared with Other EDBs.

BEL's costs per km are generally high compared to most similar line companies, the major reasons for our normal high costs are:

- The majority of BEL's assets are affected by severe corrosion due to the harsh coastal environment.
- The high proportion of the network requiring vegetation control work.
- BEL has one of the highest lightning strike rates in New Zealand.
- Contractor competition is low due to Buller's isolation from major contracting markets.
- General overhead and business support costs are disproportionately high due to BEL's small scale.

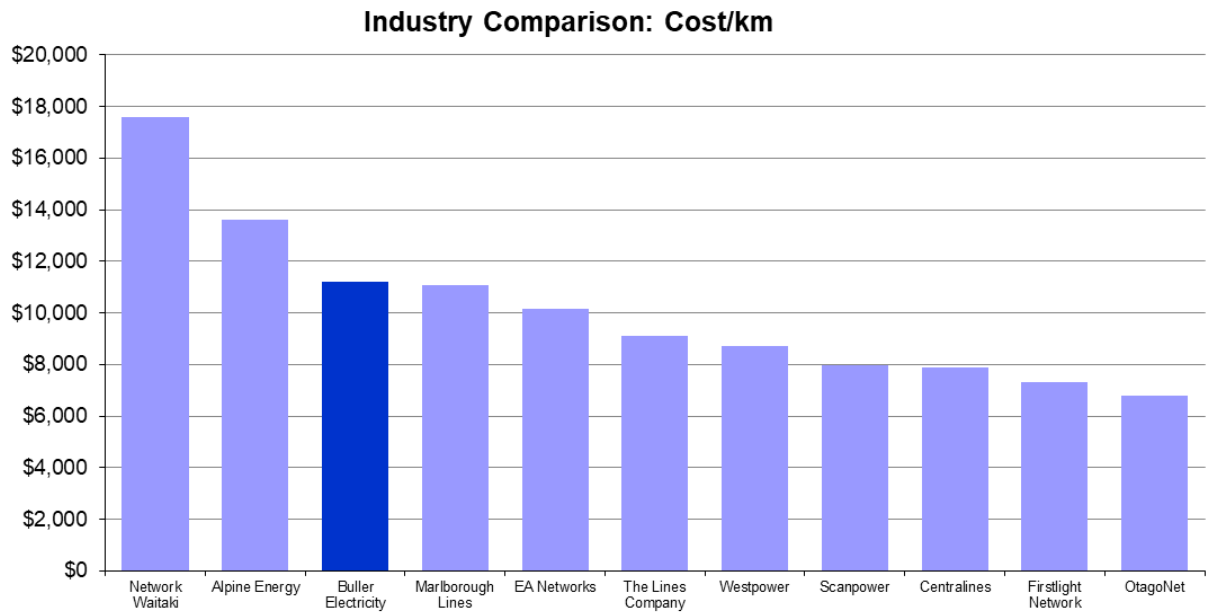


Figure 60. Financial Cost per km for Y/E 2024 Compared with Other EDBs.

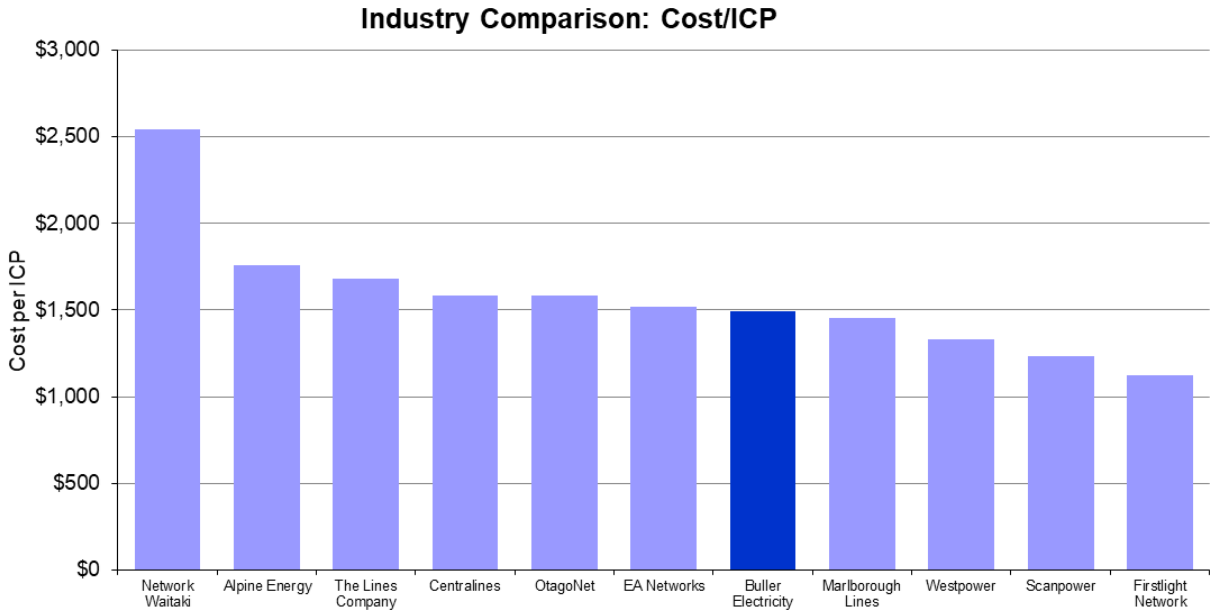


Figure 61. Financial Cost per ICP for Y/E 2024 Compared with Other EDBs.

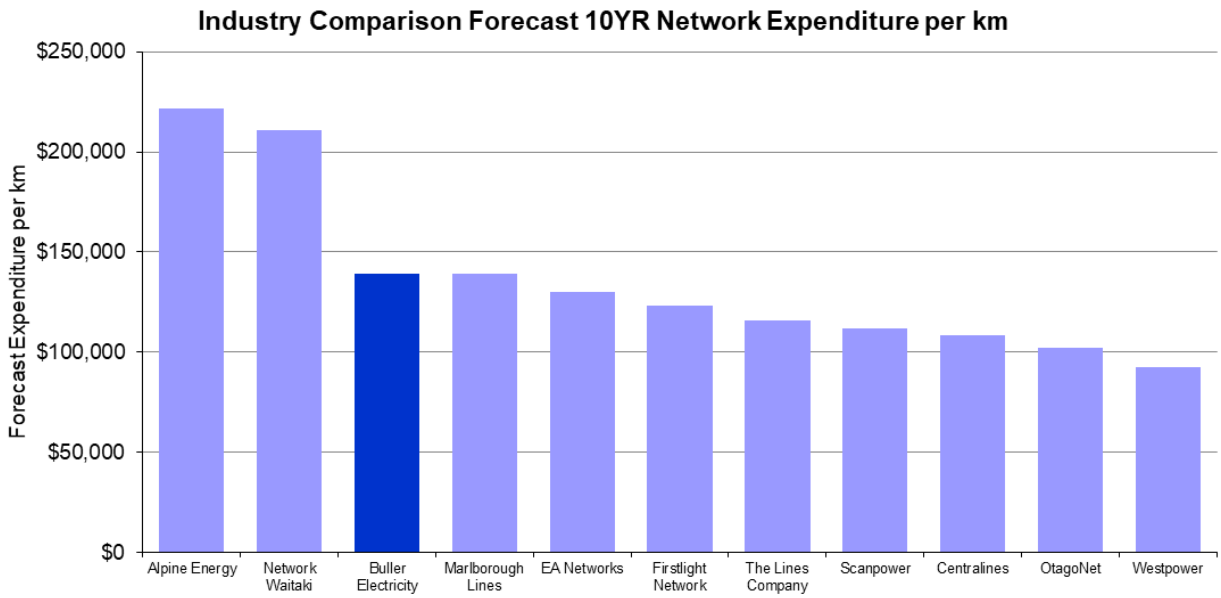


Figure 62. 10 Year Financial Forecast Comparison with Other EDBs.

8.2.4 CONSUMER EVALUATIONS

BEL conducted its most recent customer survey in late 2021 to understand customer preferences and expectations. The survey targeted both commercial and domestic customers, and the findings indicated that customer expectations have remained consistent since the previous survey. Overall, consumers expressed satisfaction with the reliability and power quality of BEL's network. Given this high level of satisfaction and the stability of customer expectations, BEL has decided not to conduct another survey at this time. However, this decision will be reviewed in the first half of 2025.

8.3 PROPOSED IMPROVEMENTS

8.3.1 CONDITION ASSESSMENT AND SYSTEMS

Following an internal audit of asset condition assessment records in late 2017, a list of assets was compiled and prioritised for immediate inspection where assets that had out of date condition and attribute information, or questionable condition assessment data.

An improved scope for data collection was developed based on the BEL asset condition and defect standard as well as the EEA guide to asset condition assessment. Data collection was implemented using the Fulcrum data collection app. Survey forms were designed for both asset survey and defect data collection and vegetation management. Training and asset surveys started in August 2018. Ongoing spot checks and audits are carried out to ensure data accuracy and consistency. This program is ongoing and data cleansing is being carried out on existing data to coincide with the AMD replacement.

GIS/AMD PLATFORM

Buller Electricity has upgraded its GIS platform to ESRI ArcGIS Online. The Adapt AMD is undergoing further development, the objective is to have a sustainable asset management system that contains the asset information required, to the level of detail required by the business, and which is integrated into our business processes and, used routinely by all the stakeholders required, and improves the productivity of the business.

The 13 Root Causes or project catalysts identified by BEL are:

1. Concern about accuracy of the Asset Management Database (AMD)
2. Lack of update of information in recent years
3. Questions over current data integrity and accuracy of certain assets
4. Some data is not available on the current system
5. Some concerns over the age and ongoing appropriateness of the database supporting our AMD
6. The system is not being used to the extent it could or should be within our business
7. We need to codify our asset management information. Too much relies on personal recollections
8. Increased regulatory concern and examination of AMP and asset management systems
9. System integration opportunities and current deficiencies
10. Asset management system design
11. GIS functionality, user friendliness, etc
12. App developments mean opportunities to improve GIS and AMD exist
13. Current system captures information but only the basics. Not used for any higher-level tasks such as control room switching design / decisions, engineering designs / calculations

ADAPT SOLUTIONS TECHNOLOGY (AS-ASSETS)

The Adapt Platform has been developed as a line of business application and can be run on Windows 10, Android and iOS devices. The core asset data architecture and migration have been completed, and the GIS asset parameters are supplied from the Adapt platform.

Data is stored off premise, hosted by Adapt with data available for off-line use in the event of internet outage.

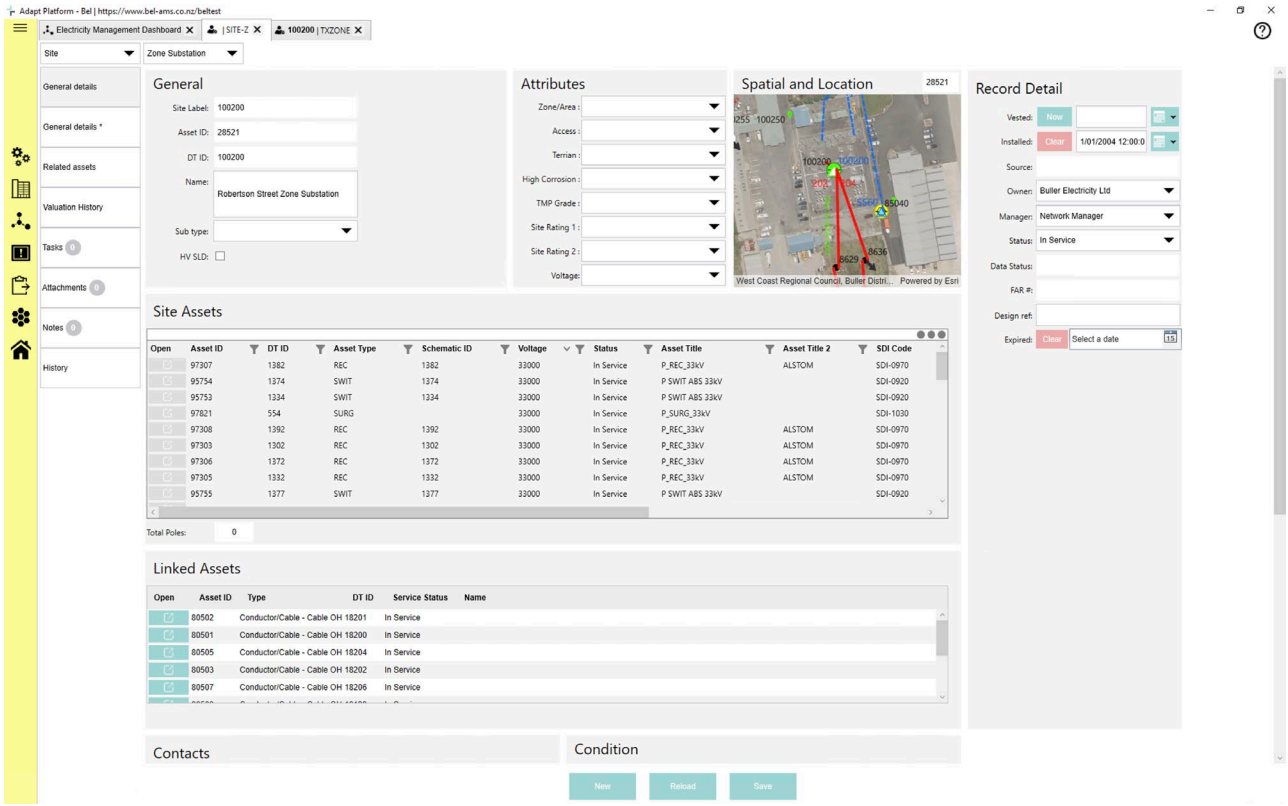


Figure 63. Adapt Application View of Zone Substation Site Asset Details.

NETWORK ENERGY AND OUTAGE DATABASES

Both of these Microsoft Access based databases are proposed to be replaced with up to date fit for purpose “off the shelf” systems. This will also ensure any regulatory and audit requirements are satisfied and minimise in house software expertise requirements. As other EDBs use the same systems this will also broaden user knowledge and potential support though

8.3.2 LONGER TERM NETWORK ISSUES

WESTPORT FLOODING AND LOAD SHIFT

The shifting of residential load to the western side of the Buller Bridge has the potential to require major development of additional distribution infrastructure. Should load increase beyond 2-3MW in this area an additional zone substation may be required. The utilisation of the former Transpower Buller River crossing to enhance resilience of the 11kV network may potentially be reconfigured to 33kV to supply to an additional zone substation.

EV AND SOLAR IMPACT

The uptake of domestic solar and EVs is considered a longer-term issue in the Buller region. LV monitoring and network analysis are being implemented to facilitate any required work programs to pre-empt potential future LV constraints.

LOSS OF LOAD

Opportunities for Load Growth are explored – BEL has historically been exposed to loss of major customer connections. Government carbon policies directly affect the sustainability of BEL’s largest single consumer.

8.3.3 SERVICE LEVELS & MAJOR EVENT PREPAREDNESS

Following Cyclone Ita in 2014, Fehi and Gita in February 2018 and then the Westport flooding event of July 2021, BEL has improved and updated the Business Continuity Plan (BCP) and clarified and redefined roles and responsibilities in the areas of safety, logistics, planning, communications and community relations for senior and control room staff.

BEL will continue to monitor and improve its service levels by:

- Analysing each outage to best target expenditure for the greatest reliability performance
- Update the Business Continuity Plan and undertake regular training exercises
- Developing a smart grid philosophy, firstly through loop automation schemes of MV circuit breakers and reclosers and progressing to LV including metering if effective and efficient
- Staff development: training and upskill staff
- BEL has reformatted the BCP in 2023 to make it more user friendly ensure it is easy to action.

8.3.4 ASSET MAINTENANCE

The focus will be to effectively maintain equipment by:

- Undertaking regular asset inspections
- Combining asset replacement and maintenance outages so that as much work is completed in the least outage time
- Using standard prices for all asset work which will highlight any construction inefficiencies

8.3.5 NETWORK DEVELOPMENT

The following initiatives are being worked on to deliver further improvements to asset performance, planning and safety improvements:

- Improving internal planning functions and deliverables
- Investigate alternative materials and equipment for new works
- Equipment installed to be Live Line user friendly
- Investigate alternative methods of supply for uneconomical lines
- 11kV distribution reduction
- Distributed generation
- Continued upgrading of earthing systems to reduce earth potential rise during fault conditions
- Review of protection systems and tighten the coordination of protective devices to improve public safety during fault conditions
- Review of asset and pole locations to minimise vehicle vs pole incidents
- BEL continually reviews all safety processes and systems as part of the Public Safety Management Plan
- Training schedules will be forecasted 12 months in advance and where possible conducted in-house

8.3.6 RISK MANAGEMENT

Continually updating BEL's risk management system as part of the Public Safety Management incentives, monthly safety meetings and risk management audits. Details and descriptions of risk processes and matrixes are to be updated and included in the AMP.

8.3.7 RESILIENCE REVIEW

In 2020 BEL engaged Mitton Electronet to carry out an independent review of the state of Buller Electricity's existing emergency preparedness plans and overall network residence status. This was in the context of the so-called "4 R's" of emergency preparedness, relating to electricity networks. The 4R's being defined as

- Reduction (of risk) -What Vulnerabilities are identified.
- Readiness - What is your adaptive capacity.
- Response - How will you deal with the immediate loss of quality of service.
- Recovery - How are you going to manage the long-term restoration of service levels.

Below are the remaining outstanding priority items to complete:

- Assessment of overhead two pole substations earthquake resilience
- Diesel and other fuel supply availability

8.4 RESOURCING THE WORK

Without skilled, committed, and dedicated people Buller's business in its current form is not sustainable. In the face of huge renewal and upsizing programs in other areas that are paying electrical trades and engineers well beyond what BEL could effectively afford to pay there needs to be a clearly developed strategy for recruiting and retaining trades, technical and professional staff.

The following table is the minimum number of required field asset staff for the next 10 years.

Table 49. Field Staffing Requirements.

Division Requirement	2026	2027	2028	2029	2030	2031	2032	2033	2034	**2035**
Design, Consents & Project Management	6	6	6	6	6	6	6	6	6	6
Line Mechanics, Traffic Management and vegetation control staff	10	10	10	10	10	10	10	10	10	10
Electrical / Tech	2	2	2	2	2	2	2	2	2	2

While the staffing levels in the above table are forecast to be the minimum required to complete the planned and normal expected fault work, BEL has additional staff and resources that can be called upon for unforeseen and extreme events. These staff are normally utilised for external electrical contracting work. The additional staff available comprise of line mechanics, inspectors and electricians so can be easily utilised if required in emergency situations.

8.4.1 STRATEGIES TO RETAIN & RECRUIT

In order to address any future shortfalls, the following strategies are in place:

- Providing electrical trade apprenticeships and scholarships for local people in the expectation that they will either stay in the Buller area or, less preferably, return after a few years away
- Promoting the free and easy low-cost lifestyle of the Buller and emphasising that it is a great place to live, raise kids and eventually retire
- Offering flexible working regimes for staff
- Providing a safe and secure working environment
- Providing regular training and upskilling programs
- Advertise positions for biggest exposure
- Providing up to date working systems, vehicles and tools

9 APPENDIX A – GLOSSARY OF TERMS

A	Ampere
AAAC	All Aluminium Alloy Conductor
AAC	All Aluminium Conductor
ABS	Air Break Switch
AC	Alternating Current
ACSR	Aluminium Conductor Steel Reinforced
ADMA	After diversity Maximum Demand
AMD	Asset Management Database
AMP	Asset Management Plan
AMS	Asset Management System
BCP	Business Continuity Plan
BEL	Buller Electricity Ltd
BIL	Basic Insulation Level
CAIDI	Customer Average Interruption Duration Index
CAPEX	Capital Expenditure
CB	Circuit Breaker
CT	Current Transformer
DG	Distributed Generation
DGA	Dissolved Gas Analysis
EDB	Electricity Distribution Business
EV	Electric Vehicle
GIS	Geographical Information System
GPS	Global Positioning System
GWh	Gigawatt Hour
GXP	Grid Exit Point
HDBC	Hard Drawn Bare Copper
HV	High voltage
ICP	Installation Control Point
KM	Kilometre
KPI	Key Performance Indicator
kV	Kilovolt
kVA	Kilovolt Ampere
kVAr	Kilovolt Ampere (reactive)
kW	Kilowatt
kWh	Kilowatt Hour

LTI	Lost Time Injury
LV	Low Voltage
MD	Maximum Demand
MDI	Maximum Demand Indication
MVA	Megavolt Ampere
MW	Megawatt
ODV	Optimised Deprival Value
OH	Overhead
OLTC	On Load Tap Changer
OPEX	Operational Expenditure
PV	Photovoltaic
RMA	Resource Management Act
RMU	Ring Main Unit
RTU	Remote Terminal Unit
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SCADA	Supervisory Control and Data Acquisition
SF6	Sulphur Hexafluoride
UG	Underground
V	Volt

10 APPENDIX B – MANDITORY EXPLANATORY NOTES

Company Name Buller Electricity Ltd

For Year Ended 31 March 2025

– **Schedule 14a Mandatory Explanatory Notes on Forecast Information**

(In this Schedule, clause references are to the Electricity Distribution Information Disclosure Determination 2012 – as amended and consolidated July 2023.)

1. This Schedule requires EDBs to provide explanatory notes to reports prepared in accordance with clause 2.6.6.

2. This Schedule is mandatory—EDBs must provide the explanatory comment specified below, in accordance with clause 2.7.2. This information is not part of the audited disclosure information, and so is not subject to the assurance requirements specified in section 2.8.

Commentary on difference between nominal and constant price capital expenditure forecasts (Schedule 11a)

3. In the box below, comment on the difference between nominal and constant price capital expenditure for the current disclosure year and 10 year planning period, as disclosed in Schedule 11a.

Box 1: Commentary on difference between nominal and constant price capital expenditure forecasts

BEL utilised a combination of forecast data projections from the Reserve Bank, Treasury and Banking institutions to apply an uplift index to the constant prices for all expenditure categories to produce the nominal prices. Different inflationary rates are applied for labour, transport and material costs and combined to provide an overall uplift. As the proportion of materials used is higher on capex work and material price percentage increases have been higher the capex uplift is proportionally higher than for opex.

Indexation Summary (Capex)	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
	2.25	4.76	7.43	10.22	13.14	15.69	18.29	20.95	23.67	26.45

Commentary on difference between nominal and constant price operational expenditure forecasts (Schedule 11b)

4. In the box below, comment on the difference between nominal and constant price operational expenditure for the current disclosure year and 10 year planning period, as disclosed in Schedule 11b.

Box 2: Commentary on difference between nominal and constant price operational expenditure forecasts

BEL utilised a combination of forecast data projections from the Reserve Bank, Treasury and Banking institutions to apply an uplift index to the constant prices for all expenditure categories to produce the nominal prices. Different inflationary rates are applied for labour, transport and material costs and combined to provide an overall uplift.

Indexation Summary (Opex)	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
	2.00	4.35	6.75	9.20	11.79	14.48	16.77	19.10	21.48	23.91

		Company Name	**Buller Electricity Ltd**
		AMP Planning Period	

SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e., the value of RAB additions)

EDBs must provide explanatory comment on the difference between constant price and nominal dollar forecasts of expenditure on assets in Schedule 14a (Mandatory Explanatory Notes). EDBs must express the information in this schedule (11a) as a specific value rather than ranges. Any supporting information about these values may be disclosed in Schedule 15 (Voluntary Explanatory Notes).

This information is not part of audited disclosure information.

sch ref		*Current Year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
9	**11a(i): Expenditure on Assets Forecast**	**$000 (in nominal dollars)**										
10	Consumer connection	233	102	131	161	193	198	202	207	212	216	221
11	System growth	71	53	54	55	57	58	59	61	62	64	65
12	Asset replacement and renewal	896	1,526	1,991	2,195	2,027	2,018	1,733	1,975	1,808	1,766	1,930
13	Asset relocations	-	-	-	-	-	-	-	-	-	-	-
14	Reliability, safety and environment:											
15	Quality of supply	177	35	25	26	26	27	28	28	29	30	30
16	Legislative and regulatory	141	-	68	138	72	74	35	35	36	37	38
17	Other reliability, safety and environment	367	195	198	149	153	157	161	164	168	172	176
18	**Total reliability, safety and environment**	684	230	291	313	252	258	223	228	234	239	244
19	**Expenditure on network assets**	1,885	1,911	2,467	2,724	2,529	2,532	2,217	2,471	2,316	2,285	2,460
20	**Expenditure on non-network assets**	996	604	941	618	666	716	733	749	766	784	801
21	**Expenditure on assets**	2,881	2,515	3,408	3,342	3,194	3,249	2,950	3,221	3,082	3,068	3,261
22												
23	*plus* Cost of financing											
24	*less* Value of capital contributions	233	102	131	161	193	198	202	207	212	216	221
25	*plus* Value of vested assets	50	52	54	55	56	58	59	60	62	63	65
26												
27	**Capital expenditure forecast**	2,698	2,465	3,331	3,236	3,058	3,108	2,807	3,074	2,932	2,915	3,105
28												
29	Assets commissioned	2,931	2,568	3,461	3,398	3,251	3,306	3,010	3,281	3,143	3,131	3,327

		Current Year CY	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
30												
31												
32		**$000 (in constant prices)**										
33	Consumer connection	233	100	125	150	175	175	175	175	175	175	175
34	System growth	71	51	51	51	51	51	51	51	51	51	51
35	Asset replacement and renewal	896	1,493	1,901	2,044	1,840	1,783	1,498	1,669	1,494	1,428	1,527
36	Asset relocations	-	-	-	-	-	-	-	-	-	-	-
37	Reliability, safety and environment:											
38	Quality of supply	152	34	24	24	24	24	24	24	24	24	24
39	Legislative and regulatory	75	65	65	129	65	65	30	30	30	30	30
40	Other reliability, safety and environment	223	191	189	139	139	139	139	139	139	139	139
41	**Total reliability, safety and environment**	450	290	278	292	228	228	193	193	193	193	193
42	**Expenditure on network assets**	1,650	1,934	2,355	2,537	2,294	2,237	1,917	2,088	1,913	1,847	1,946
43	Expenditure on non-network assets	996	941	548	575	604	633	634	634	634	634	634
44	**Expenditure on assets**	2,646	2,876	2,903	3,112	2,898	2,870	2,551	2,722	2,547	2,481	2,580
45												
46	**Subcomponents of expenditure on assets (where known)**											
48	Energy efficiency and demand side management, reduction of energy losses											
49	Overhead to underground conversion											
50	Research and development											
52												

Company Name	**Buller Electricity Ltd**
AMP Planning Period	

SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e., the value of RAB additions)

EDBs must provide explanatory comment on the difference between constant price and nominal dollar forecasts of expenditure on assets in Schedule 14a (Mandatory Explanatory Notes). EDBs must express the information in this schedule (11a) as a specific value rather than ranges. Any supporting information about these values may be disclosed in Schedule 15 (Voluntary Explanatory Notes).

This information is not part of audited disclosure information.

sch ref		Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
53												
54	**Difference between nominal and constant price forecasts**	**$000**										
55	Consumer connection	-	2	6	11	18	23	27	32	37	41	46
56	System growth	-	2	3	4	6	7	8	10	11	13	14
57	Asset replacement and renewal	0	33	90	151	187	235	235	306	314	338	403
58	Asset relocations	-	-	-	-	-	-	-	-	-	-	-
59	Reliability, safety and environment:											
60	Quality of supply	25	1	1	2	2	3	4	4	5	6	6
61	Legislative and regulatory	65	(65)	3	10	7	9	5	5	6	7	8
62	Other reliability, safety and environment	144	4	9	10	14	18	22	25	29	33	37
63	**Total reliability, safety and environment**	235	(60)	13	22	23	30	30	35	41	46	51
64	**Expenditure on network assets**	235	(23)	112	188	234	295	300	383	403	438	514
65	Expenditure on non-network assets	-	(337)	393	43	62	83	99	116	133	150	168
66	**Expenditure on assets**	235	(360)	505	230	296	378	400	499	535	588	682
67												
68	**Commentary on options and considerations made in the assessment of forecast expenditure**											
69	*EDBs may provide explanatory comment on the options they have considered (including scenarios used) in assessing forecast expenditure on assets for the current disclosure year and a 10 year planning period in Schedule 15*											
70												
71												
72												

		Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
73	**11a(ii): Consumer Connection**						
74	*Consumer types defined by EDB**	**$000 (in constant prices)**					
75	Residential Users	233	100	125	150	175	175
76	[EDB consumer type]						
77	[EDB consumer type]						
78	[EDB consumer type]						
79	[EDB consumer type]						
80	**include additional rows if needed*						
81	**Consumer connection expenditure**	233	100	125	150	175	175
82	*less* Capital contributions funding consumer connection	233	100	125	150	175	175
83	**Consumer connection less capital contributions**	-	-	-	-	-	-
84							
85	**11a(iii): System Growth**						
86	Subtransmission						
87	Zone substations						
88	Distribution and LV lines						
89	Distribution and LV cables						
90	Distribution substations and transformers	71	51	51	51	51	51
91	Distribution switchgear						
92	Other network assets						
93	**System growth expenditure**	71	51	51	51	51	51
94	*less* Capital contributions funding system growth						
95	**System growth less capital contributions**	71	51	51	51	51	51
96							

Company Name	**Buller Electricity Ltd**
AMP Planning Period	

SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e., the value of RAB additions)

EDBs must provide explanatory comment on the difference between constant price and nominal dollar forecasts of expenditure on assets in Schedule 14a (Mandatory Explanatory Notes). EDBs must express the information in this schedule (11a) as a specific value rather than ranges. Any supporting information about these values may be disclosed in Schedule 15 (Voluntary Explanatory Notes).

This information is not part of audited disclosure information.

sch ref			Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
97								
98								
99	**11a(iv): Asset Replacement and Renewal**		**$000 (in constant prices)**					
100		Subtransmission	287	257	182	140	140	140
101		Zone substations	25	78	73	127	94	73
102		Distribution and LV lines	480	978	1,062	1,169	953	1,328
103		Distribution and LV cables	-	-	-	-	-	-
104		Distribution substations and transformers	51	106	112	112	112	116
105		Distribution switchgear	48	74	72	96	96	96
106		Other network assets	5	-	400	400	445	30
107		**Asset replacement and renewal expenditure**	896	1,493	1,901	2,044	1,840	1,783
108	*less*	Capital contributions funding asset replacement and renewal						
109		**Asset replacement and renewal less capital contributions**	896	1,493	1,901	2,044	1,840	1,783
110								

			Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
111								
112								
113	**11a(v): Asset Relocations**							
114		*Project or programme**	**$000 (in constant prices)**					
115		[Description of material project or programme]						
116		[Description of material project or programme]						
117		[Description of material project or programme]						
118		[Description of material project or programme]						
119		[Description of material project or programme]						
120		*include additional rows if needed						
121		All other project or programmes - asset relocations						
122		**Asset relocations expenditure**	-	-	-	-	-	-
123	*less*	Capital contributions funding asset relocations						
124		**Asset relocations less capital contributions**	-	-	-	-	-	-
125								

			Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
126								
127								
128	**11a(vi): Quality of Supply**							
129		*Project or programme**	**$000 (in constant prices)**					
130		Installation of additional ABS Wilsons Lead		12				
131		Upgrade of Field Protection Relays	24	22	24	24	24	24
132		Connection of ex Transpower Buller River Crossing line	128					
133		[Description of material project or programme]						
134		[Description of material project or programme]						
135		*include additional rows if needed						
136		All other projects or programmes - quality of supply						
137		**Quality of supply expenditure**	152	34	24	24	24	24
138	*less*	Capital contributions funding quality of supply						
139		**Quality of supply less capital contributions**	152	34	24	24	24	24
140								

Company Name	**Buller Electricity Ltd**
AMP Planning Period	

SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e., the value of RAB additions)

EDBs must provide explanatory comment on the difference between constant price and nominal dollar forecasts of expenditure on assets in Schedule 14a (Mandatory Explanatory Notes). EDBs must express the information in this schedule (11a) as a specific value rather than ranges. Any supporting information about these values may be disclosed in Schedule 15 (Voluntary Explanatory Notes).

This information is not part of audited disclosure information.

sch ref

11a(vii): Legislative and Regulatory

	*Project or programme**	**$000 (in constant prices)**	*Current Year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
	Replacement of low clearance two pole overhead substations			65	65	65	65	65
	Correction of low clearance conductors					63		
	Correction of Hector LV voltage		42					
	Utopia Road LV line clearance correction		34					
	[Description of material project or programme]							
	*include additional rows if needed							
	All other projects or programmes - legislative and regulatory			-				
	Legislative and regulatory expenditure		75	65	65	129	65	65
less	Capital contributions funding legislative and regulatory							
	Legislative and regulatory less capital contributions		75	65	65	129	65	65

11a(viii): Other Reliability, Safety and Environment

	*Project or programme**	**$000 (in constant prices)**	*Current Year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
	Replacement of Pillarboxes		26	27	27	27	27	27
	Remove redundant HV pole and underground LV carters Beach			20				
	LV service upgrade and ownership confirmation		99	50	50			
	Asset data capture programme		71	67	67	67	67	67
	Earthing system upgrades		27	27	27	27	27	27
	Transformer load and capacity monitoring				18	18	18	18
	*include additional rows if needed							
	All other projects or programmes - other reliability, safety and environment							
	Other reliability, safety and environment expenditure		223	191	189	139	139	139
less	Capital contributions funding other reliability, safety and environment							
	Other reliability, safety and environment less capital contributions		223	191	189	139	139	139

11a(ix): Non-Network Assets

Routine expenditure

	*Project or programme**	**$000 (in constant prices)**	*Current Year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
	Land & Buildings		56	300	315	331	347	364
	Vehicles		260	153	84	88	93	97
	Plant and Equipment		80	88	96	101	106	111
	Furniture and Fittings		15					
	Computer and Communications Equipment		85	50	53	55	58	61
	*include additional rows if needed							
	All other projects or programmes - routine expenditure							
	Routine expenditure		496	591	548	575	604	633

Atypical expenditure

	*Project or programme**							
	Asset management and GIS system Upgrade		500		-	-	-	-
	Retailer Billing and ICP Management Software Replacement			350		-	-	-
	[Description of material project or programme]			-				
	[Description of material project or programme]			-				
	[Description of material project or programme]			-				
	*include additional rows if needed							
	All other projects or programmes - atypical expenditure							
	Atypical expenditure		500	350	-	-	-	-

Company Name	**Buller Electricity Ltd**
AMP Planning Period	

SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e., the value of RAB additions)

EDBs must provide explanatory comment on the difference between constant price and nominal dollar forecasts of expenditure on assets in Schedule 14a (Mandatory Explanatory Notes). EDBs must express the information in this schedule (11a) as a specific value rather than ranges. Any supporting information about these values may be disclosed in Schedule 15 (Voluntary Explanatory Notes).

This information is not part of audited disclosure information.

sch ref							
194	**Expenditure on non-network assets**	996	941	548	575	604	633

												Company Name: **Buller Electricity Ltd**
												AMP Planning Period:

SCHEDULE 11b: REPORT ON FORECAST OPERATIONAL EXPENDITURE

This schedule requires a breakdown of forecast operational expenditure for the disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms.

sch ref			Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
9	**Operational Expenditure Forecast**		**$000 (in nominal dollars)**										
10	Service interruptions and emergencies		283	294	310	317	324	332	340	347	354	361	368
11	Vegetation management		329	335	354	362	370	379	388	396	404	412	420
12	Routine and corrective maintenance and inspection		347	378	447	304	359	391	355	385	411	389	393
13	Asset replacement and renewal		85	75	67	69	70	72	74	75	77	78	80
14	**Network Opex**		1,044	1,082	1,178	1,052	1,123	1,174	1,157	1,203	1,246	1,240	1,261
15	System operations and network support		401	438	518	527	600	581	595	607	654	631	644
16	Business support		3,054	3,408	3,487	3,567	3,649	3,735	3,825	3,902	3,980	4,059	4,140
17	Non-network solutions provided by a related party or third party	*Not Required before DY2025*											
18	**Non-network opex**		3,455	3,846	4,005	4,094	4,249	4,316	4,420	4,508	4,634	4,690	4,784
19	**Operational expenditure**		4,499	4,928	5,183	5,146	5,372	5,490	5,577	5,711	5,880	5,930	6,045

			Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
22			**$000 (in constant prices)**										
23	Service interruptions and emergencies		283	288	297	297	297	297	297	297	297	297	297
24	Vegetation management		329	329	339	339	339	339	339	339	339	339	339
25	Routine and corrective maintenance and inspection		347	371	428	285	329	350	310	330	345	320	317
26	Asset replacement and renewal		85	74	64	64	64	64	64	64	64	64	64
27	**Network Opex**		1,044	1,062	1,128	985	1,029	1,050	1,010	1,030	1,045	1,020	1,017
28	System operations and network support		401	430	497	494	550	520	520	520	550	520	520
29	Business support		3,054	3,341	3,341	3,341	3,341	3,341	3,341	3,341	3,341	3,341	3,341
30	Non-network solutions provided by a related party or third party	*Not Required before DY2025*											
31	**Non-network opex**		3,455	3,771	3,838	3,835	3,891	3,861	3,861	3,861	3,891	3,861	3,861
32	**Operational expenditure**		4,499	4,833	4,966	4,820	4,920	4,911	4,871	4,891	4,936	4,881	4,878
33	**Subcomponents of operational expenditure (where known)**												
35	Energy efficiency and demand side management, reduction of energy losses												
36	Direct billing*												
37	Research and Development												
38	Insurance												
39			255	286	286	286	286	286	286	286	286	286	286

41 ** Direct billing expenditure by suppliers that direct bill the majority of their consumers*

			Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
45	**Difference between nominal and real forecasts**		**$000**										
46	Service interruptions and emergencies		-	6	13	20	27	35	43	50	57	64	71
47	Vegetation management		-	6	15	23	31	40	49	57	65	73	81
48	Routine and corrective maintenance and inspection		-	7	19	19	30	41	45	55	66	69	76
49	Asset replacement and renewal		-	1	3	5	6	8	10	11	13	14	16
50	**Network Opex**		-	20	50	67	94	124	147	173	201	220	244
51	System operations and network support		-	8	21	33	50	61	75	87	104	111	124
52	Business support		-	67	145	225	307	394	484	560	638	718	799
53	Non-network solutions provided by a related party or third party	*Not Required before DY2025*	-	-	-	-	-	-	-	-	-	-	-
54	**Non-network opex**		-	75	166	259	358	455	558	647	743	829	923
55	**Operational expenditure**		-	95	216	326	452	579	705	820	944	1,049	1,167

57 **Commentary on options and considerations made in the assessment of forecast expenditure**

58 *EDBs may provide explanatory comment on the options they have considered (including scenarios used) in assessing forecast operational expenditure for the current disclosure year and a 10 year planning period in Schedule 15.*

Company Name	**Buller Electricity Ltd**
AMP Planning Period	

SCHEDULE 12a: REPORT ON ASSET CONDITION

This schedule requires a breakdown of asset condition by asset class as at the start of the forecast year. The data accuracy assessment relates to the percentage values disclosed in the asset condition columns. Also required is a forecast of the percentage of units to be replaced in the next 5 years. All information should be consistent with the information provided in the AMP and the expenditure on assets forecast in Schedule 11a. All units relating to cable and line assets, that are expressed in km, refer to circuit lengths.

sch ref

7						Asset condition at start of planning period (percentage of units by grade)							
8	Voltage	Asset category	Asset class	Units	H1	H2	H3	H4	H5	Grade unknown	Data accuracy (1–4)	% of asset forecast to be replaced in next 5 years
9												
10	All	Overhead Line	Concrete poles / steel structure	No.	0.70%	2.85%	15.23%	77.44%	3.78%		3	
11	All	Overhead Line	Wood poles	No.	1.62%	3.85%	34.89%	50.69%	8.95%		3	
12	All	Overhead Line	Other pole types	No.	-			100.00%			4	-
13	HV	Subtransmission Line	Subtransmission OH up to 66kV conductor	km							[Select one]	
14	HV	Subtransmission Line	Subtransmission OH 110kV+ conductor	km				100.00%			4	
15	HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	km			63.54%	36.46%			4	
16	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Oil pressurised)	km							[Select one]	
17	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Gas pressurised)	km							[Select one]	
18	HV	Subtransmission Cable	Subtransmission UG up to 66kV (PILC)	km							[Select one]	
19	HV	Subtransmission Cable	Subtransmission UG 110kV+ (XLPE)	km							[Select one]	
20	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Oil pressurised)	km							[Select one]	
21	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Gas Pressurised)	km							[Select one]	
22	HV	Subtransmission Cable	Subtransmission UG 110kV+ (PILC)	km							[Select one]	
23	HV	Subtransmission Cable	Subtransmission submarine cable	km							[Select one]	
24	HV	Zone substation Buildings	Zone substations up to 66kV	No.				66.66%	33.34%		4	
25	HV	Zone substation Buildings	Zone substations 110kV+	No.				100.00%			4	
26	HV	Zone substation switchgear	22/33kV CB (Indoor)	No.							[Select one]	
27	HV	Zone substation switchgear	22/33kV CB (Outdoor)	No.				100.00%			4	
28	HV	Zone substation switchgear	33kV Switch (Ground Mounted)	No.							[Select one]	
29	HV	Zone substation switchgear	33kV Switch (Pole Mounted)	No.				100.00%			4	
30	HV	Zone substation switchgear	33kV RMU	No.							[Select one]	
31	HV	Zone substation switchgear	50/66/110kV CB (Indoor)	No.							[Select one]	
32	HV	Zone substation switchgear	50/66/110kV CB (Outdoor)	No.				100.00%			4	
33	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (ground mounted)	No.							[Select one]	
34	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (pole mounted)	No.				100.00%			4	
35												

Company Name	**Buller Electricity Ltd**
AMP Planning Period	

SCHEDULE 12a: REPORT ON ASSET CONDITION

This schedule requires a breakdown of asset condition by asset class as at the start of the forecast year. The data accuracy assessment relates to the percentage values disclosed in the asset condition columns. Also required is a forecast of the percentage of units to be replaced in the next 5 years. All information should be consistent with the information provided in the AMP and the expenditure on assets forecast in Schedule 11a. All units relating to cable and line assets, that are expressed in km, refer to circuit lengths.

sch ref						Asset condition at start of planning period (percentage of units by grade)							
	Voltage	Asset category	Asset class	Units	H1	H2	H3	H4	H5	Grade unknown	Data accuracy (1–4)	% of asset forecast to be replaced in next 5 years
39	HV	Zone Substation Transformer	Zone Substation Transformers	No.		12.50%	37.50%	25.00%	25.00%		4	
40	HV	Distribution Line	Distribution OH Open Wire Conductor	km	0.76%	2.48%	30.08%	54.63%	11.94%	0.11%	3	3.95%
41	HV	Distribution Line	Distribution OH Aerial Cable Conductor	km							4	
42	HV	Distribution Line	SWER conductor	km							[Select one]	
43	HV	Distribution Cable	Distribution UG XLPE or PVC	km			74.86%	23.30%	1.84%		3	
44	HV	Distribution Cable	Distribution UG PILC	km							2	
45	HV	Distribution Cable	Distribution Submarine Cable	km							[Select one]	
46	HV	Distribution switchgear	3.3/6.6/11/22kV CB (pole mounted) - reclosers and sectionalisers	No.				100.00%			4	
47	HV	Distribution switchgear	3.3/6.6/11/22kV CB (Indoor)	No.							[Select one]	
48	HV	Distribution switchgear	3.3/6.6/11/22kV Switches and fuses (pole mounted)	No.							[Select one]	
49	HV	Distribution switchgear	3.3/6.6/11/22kV Switch (ground mounted) - except RMU	No.							[Select one]	
50	HV	Distribution switchgear	3.3/6.6/11/22kV RMU	No.							[Select one]	
51	HV	Distribution Transformer	Pole Mounted Transformer	No.							[Select one]	
52	HV	Distribution Transformer	Ground Mounted Transformer	No.		4.88%	7.32%	67.07%	20.73%		3	
53	HV	Distribution Transformer	Voltage regulators	No.				100.00%			4	
54	HV	Distribution Substations	Ground Mounted Substation Housing	No.				100.00%			3	7.60%
55	LV	LV Line	LV OH Conductor	km	0.24%	1.56%	18.74%	77.18%	2.26%	0.02%	2	2.22%
56	LV	LV Cable	LV UG Cable	km		0.01%	65.37%	10.14%	24.46%	0.02%	2	
57	LV	LV Streetlighting	LV OH/UG Streetlight circuit	km							[Select one]	
58	LV	Connections	OH/UG consumer service connections	No.							[Select one]	
59	All	Protection	Protection relays (electromechanical, solid state and numeric)	No.		35.10%	14.90%	23.00%	27.00%		4	38.00%
60	All	SCADA and communications	SCADA and communications equipment operating as a single system	Lot							4	53.80%
61	All	Capacitor Banks	Capacitors including controls	No.				100.00%			4	
62	All	Load Control	Centralised plant	Lot				100.00%			4	
63	All	Load Control	Relays	No.							[Select one]	
64	All	Civils	Cable Tunnels	km							[Select one]	

Company Name: **Buller Electricity Ltd**

AMP Planning Period:

SCHEDULE 12b: REPORT ON FORECAST CAPACITY

This schedule requires a breakdown of current and forecast capacity and constraints for each zone substation. The data provided should be consistent with the information provided in the AMP. Information provided in this table should relate to the operation of the network in its normal steady state configuration.

sch ref

12b(i): System Growth - Zone Substations

Existing Zone Substations	Current peak load (MVA)	Installed firm Capacity (MVA)	Security of Supply Classification (type)	Transfer Capacity (MVA)	Utilisation of Installed Firm Capacity %	Installed Firm Capacity +5 years (MVA)	Utilisation of Installed Firm Capacity + 5yrs %	Installed Firm Capacity Constraint +5 years (cause)	Current peak load period	Installed operating capacity (MVA)	Current security of supply classification (type)	Current constraint type	Current available capacity (MVA)	Peak load period +5 yrs	Available capacity +5 yrs (MVA)	Security of supply classification +5 yrs (type)	Peak load period +10 yrs	Min. available capacity +10 yrs (MVA)	Max. available capacity +10 yrs (MVA)	Security of supply classification +10 yrs (type)	Forecast constraint type	Year of any forecast constraint	Constraint primary cause	Constraint solution type	Constraint solution progress	Temporary constraint solution remaining lifespan	Explanation
	Not Required after DY2024	Not Required after DY2024	Not Required after DY2024	Not Required after DY2024	Not Required after DY2024	Not Required after DY2024	Not Required after DY2024	Not Required before DY2025	Not Required before DY2025	Not Required before DY2025	before DY2025	before DY2025	Not Required before DY2025	Not Required before DY2025	Not Required before DY2025	Not Required before DY2025	Not Required before DY2025	Not Required before DY2025	Not Required before DY2025	Not Required before DY2025	Not Required before DY2025	Not Required before DY2025	Not Required before DY2025	Not Required before DY2025	Not Required before DY2025	Not Required before DY2025	
Robertson Street	11	20	N-1	1	55%	20	55	No constraint within	Winter	20	N-1	No constraint	9	Winter	7.5	N-1	Winter	7	8	N-1	No constraint	None	Not applicable	Not applicable	Not applicable	Not applicable	
Ngakawau	1	2	N-1	1	50%	2	54	No constraint within	Winter	2	N-1	No constraint	0.98	Winter	0.92	N-1	Winter	0.85	0.83	N-1	No constraint	None	Not applicable	Not applicable	Not applicable	Not applicable	
Kongahu	1	2	N-1 Switched		77%	2	81	No constraint within	Summer	2	N-1 switched	No constraint	0.35	Summer	0.28	N-1 switched	Summer	0.21	0.25	N-1 switched	No constraint	None	Not applicable	Not applicable	Not applicable	Not applicable	
[Zone Substation_04]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	
[Zone Substation_05]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	
[Zone Substation_06]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	
[Zone Substation_07]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	
[Zone Substation_08]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	
[Zone Substation_09]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	
[Zone Substation_10]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	
[Zone Substation_11]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	
[Zone Substation_12]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	
[Zone Substation_13]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	
[Zone Substation_14]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	
[Zone Substation_15]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	
[Zone Substation_16]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	
[Zone Substation_17]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	
[Zone Substation_18]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	
[Zone Substation_19]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	
[Zone Substation_20]					-			[Select one]	[Select one]		[Select one]	[Select one]		[Select one]		[Select one]	[Select one]			[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	[Select one]	

[1] *Extend table as necessary to disclose all capacity and constraint information by each zone substation*

Company Name	**Buller Electricity Ltd**
AMP Planning Period	

SCHEDULE 12c: REPORT ON FORECAST NETWORK DEMAND

This schedule requires a forecast of new connections (by consumer type), peak demand and energy volumes for the disclosure year and a 5 year planning period. The forecasts should be consistent with the supporting information set out in the AMP as well as the assumptions used in developing the expenditure forecasts in Schedule 11a and Schedule 11b and the capacity and utilisation forecasts in Schedule 12b.

sch ref

12c(i): Consumer Connections

Number of ICPs connected during year by consumer type

Number of connections

	Current Year CY	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
*Consumer types defined by EDB**						
Residential Users	73	20	20	20	20	20
Non Residetial Small ≤ 15kW				1		
Non Residential Medium > 15kW	1					
Non Residential Large > 69kW	1					
[EDB consumer type]						
Connections total	75	20	20	21	20	20

**include additional rows if needed*

Distributed generation	*Current Year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
Number of connections made in year	11	10	12	15	20	30
Capacity of distributed generation installed in year (MVA)		0	4	0	0	0

12c(ii): System Demand

	Current Year CY	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
Maximum coincident system demand (MW)						
GXP demand	6	7	7	7	7	8
plus Distributed generation output at HV and above	4	4	4	4	4	4
Maximum coincident system demand	11	11	11	12	12	12
less Net transfers to (from) other EDBs at HV and above						
Demand on system for supply to consumers' connection points	11	11	11	12	12	12
Electricity volumes carried (GWh)						
Electricity supplied from GXPs	37	37	33	33	33	33
less Electricity exports to GXPs						
plus Electricity supplied from distributed generation	18	18	23	23	23	23
less Net electricity supplied to (from) other EDBs						
Electricity entering system for supply to ICPs	55	55	55	56	56	56
less Total energy delivered to ICPs	51	51	51	53	53	53
Losses	4	4	4	3	3	3
Load factor	59%	58%	56%	55%	55%	54%
Loss ratio	6.9%	7.1%	7.1%	5.6%	5.6%	5.6%

Company Name	**Buller Electricity Ltd**
AMP Planning Period	
Network / Sub-network Name	

SCHEDULE 12d: REPORT FORECAST INTERRUPTIONS AND DURATION

This schedule requires a forecast of SAIFI and SAIDI for disclosure and a 5 year planning period. The forecasts should be consistent with the supporting information set out in the AMP as well as the assumed impact of planned and unplanned SAIFI and SAIDI on the expenditures forecast provided in Schedule 11a and Schedule 11b.

sch ref		*Current Year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
10	**SAIDI**						
11	Class B (planned interruptions on the network)	202.0	200.0	190.0	180.0	180.0	180.0
12	Class C (unplanned interruptions on the network)	588.0	588.0	588.0	588.0	588.0	588.0
13	**SAIFI**						
14	Class B (planned interruptions on the network)	0.70	0.70	0.70	0.70	0.70	0.70
15	Class C (unplanned interruptions on the network)	3.85	3.85	3.85	3.85	3.85	3.85

Company Name	**Buller Electricity Ltd**
AMP Planning Period	
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY

This schedule requires information on the EDB'S self-assessment of the maturity of its asset management practices .

Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/documented Information
3	Asset management policy	To what extent has an asset management policy been documented, authorised and communicated?	3	The AMP, yearly budget and network work plan are documented and presented and communicated to the company directors through to the operations manager and project design team team.		Widely used AM practice standards require an organisation to document, authorise and communicate its asset management policy (eg, as required in PAS 55 para 4.2 i). A key pre-requisite of any robust policy is that the organisation's top management must be seen to endorse and fully support it. Also vital to the effective implementation of the policy, is to tell the appropriate people of its content and their obligations under it. Where an organisation outsources some of its asset-related activities, then these people and their organisations must equally be made aware of the policy's content. Also, there may be other stakeholders, such as regulatory authorities and shareholders who should be made aware of it.	Top management. The management team that has overall responsibility for asset management.	The organisation's asset management policy, its organisational strategic plan, documents indicating how the asset management policy was based upon the needs of the organisation and evidence of communication.
10	Asset management strategy	What has the organisation done to ensure that its asset management strategy is consistent with other appropriate organisational policies and strategies, and the needs of stakeholders?	3	The asset strategy is reasonably well aligned to stakeholder requirements of continuous supply and prompt restoration. The company strategy is also included as part of the AMP		In setting an organisation's asset management strategy it is important that it is consistent with any other policies and strategies that the organisation has and has taken into account the requirements of relevant stakeholders. This question examines to what extent the asset management strategy is consistent with other organisational policies and strategies (eg, as required by PAS 55 para 4.3.1 b) and has taken account of stakeholder requirements as required by PAS 55 para 4.3.1 c). Generally, this will take into account the same polices, strategies and stakeholder requirements as covered in drafting the asset management policy but at a greater level of detail.	Top management. The organisation's strategic planning team. The management team that has overall responsibility for asset management.	The organisation's asset management strategy document and other related organisational policies and strategies. Other than the organisation's strategic plan, these could include those relating to health and safety, environmental, etc. Results of stakeholder consultation.
11	Asset management strategy	In what way does the organisation's asset management strategy take account of the lifecycle of the assets, asset types and asset systems over which the organisation has stewardship?	3	Asset age, condition, defect monitoring and associated risk assessments are used to forecast and set forward budgets and work plans. The asset databases and GIS system and associated data capture and process methods are in the process of being replaced to ensure BEL is capturing the appropriate data and accuracy to ensure asset lifecycle and risks are achieved		Good asset stewardship is the hallmark of an organisation compliant with widely used AM standards. A key component of this is the need to take account of the lifecycle of the assets, asset types and asset systems. (For example, this requirement is recognised in 4.3.1 d) of PAS 55). This question explores what an organisation has done to take lifecycle into account in its asset management strategy.	Top management. People in the organisation with expert knowledge of the assets, asset types, asset systems and their associated life-cycles. The management team that has overall responsibility for asset management. Those responsible for developing and adopting methods and processes used in asset management	The organisation's documented asset management strategy and supporting working documents.
26	Asset management plan(s)	How does the organisation establish and document its asset management plan(s) across the life cycle activities of its assets and asset systems?	3	Strategies for critical assets such as Substation equipment, ABS's and CB's and transformers have individual documentation regarding maintenance and lifecycle costs. Overhead and underground lines and ancillary equipment is embodied in the overhead and underground Design Standards. BEL is progressing with a network		The asset management strategy need to be translated into practical plan(s) so that all parties know how the objectives will be achieved. The development of plan(s) will need to identify the specific tasks and activities required to optimize costs, risks and performance of the assets and/or asset system(s), when they are to be carried out and the resources required.	The management team with overall responsibility for the asset management system. Operations, maintenance and engineering managers.	The organisation's asset management plan(s).

Company Name	**Buller Electricity Ltd**
AMP Planning Period	
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
3	Asset management policy	To what extent has an asset management policy been documented, authorised and communicated?	The organisation does not have a documented asset management policy.	The organisation has an asset management policy, but it has not been authorised by top management, or it is not influencing the management of the assets.	The organisation has an asset management policy, which has been authorised by top management, but it has had limited circulation. It may be in use to influence development of strategy and planning but its effect is limited.	The asset management policy is authorised by top management, is widely and effectively communicated to all relevant employees and stakeholders, and used to make these persons aware of their asset related obligations.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
10	Asset management strategy	What has the organisation done to ensure that its asset management strategy is consistent with other appropriate organisational policies and strategies, and the needs of stakeholders?	The organisation has not considered the need to ensure that its asset management strategy is appropriately aligned with the organisation's other organisational policies and strategies or with stakeholder requirements. OR The organisation does not have an asset management strategy.	The need to align the asset management strategy with other organisational policies and strategies as well as stakeholder requirements is understood and work has started to identify the linkages or to incorporate them in the drafting of asset management strategy.	Some of the linkages between the long-term asset management strategy and other organisational policies, strategies and stakeholder requirements are defined but the work is fairly well advanced but still incomplete.	All linkages are in place and evidence is available to demonstrate that, where appropriate, the organisation's asset management strategy is consistent with its other organisational policies and strategies. The organisation has also identified and considered the requirements of relevant stakeholders.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
11	Asset management strategy	In what way does the organisation's asset management strategy take account of the lifecycle of the assets, asset types and asset systems over which the organisation has stewardship?	The organisation has not considered the need to ensure that its asset management strategy is produced with due regard to the lifecycle of the assets, asset types or asset systems that it manages. OR The organisation does not have an asset management strategy.	The need is understood, and the organisation is drafting its asset management strategy to address the lifecycle of its assets, asset types and asset systems.	The long-term asset management strategy takes account of the lifecycle of some, but not all, of its assets, asset types and asset systems.	The asset management strategy takes account of the lifecycle of all of its assets, asset types and asset systems.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
26	Asset management plan(s)	How does the organisation establish and document its asset management plan(s) across the life cycle activities of its assets and asset systems?	The organisation does not have an identifiable asset management plan(s) covering asset systems and critical assets.	The organisation has asset management plan(s) but they are not aligned with the asset management strategy and objectives and do not take into consideration the full asset life cycle (including asset creation, acquisition, enhancement, utilisation, maintenance decommissioning and disposal).	The organisation is in the process of putting in place comprehensive, documented asset management plan(s) that cover all life cycle activities, clearly aligned to asset management objectives and the asset management strategy.	Asset management plan(s) are established, documented, implemented and maintained for asset systems and critical assets to achieve the asset management strategy and asset management objectives across all life cycle phases.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

Company Name	**Buller Electricity Ltd**
AMP Planning Period	
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY

This schedule requires information on the EDB'S self-assessment of the maturity of its asset management practices .

Company Name	**Buller Electricity Ltd**
AMP Planning Period	
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/documented Information
27	Asset management plan(s)	How has the organisation communicated its plan(s) to all relevant parties to a level of detail appropriate to the receiver's role in their delivery?	2	The AMP and budgets are informally communicated to the operations manager and project design staff on a regular basis. The AMP is also available on the companies website. Some staff have been unaware of specific policies and standards		Plans will be ineffective unless they are communicated to all those, including contracted suppliers and those who undertake enabling function(s). The plan(s) need to be communicated in a way that is relevant to those who need to use them.	The management team with overall responsibility for the asset management system. Delivery functions and suppliers.	Distribution lists for plan(s). Documents derived from plan(s) which detail the receivers role in plan delivery. Evidence of communication.
29	Asset management plan(s)	How are designated responsibilities for delivery of asset plan actions documented?	2	The AMP as well as individual employment contracts are documented with the responsibilities for planning, budgets, design and work delivery. There have been some gaps regarding some of the responsibilities for ensuring some standards and procedures are followed, this is currently being addresed		The implementation of asset management plan(s) relies on (1) actions being clearly identified, (2) an owner allocated and (3) that owner having sufficient delegated responsibility and authority to carry out the work required. It also requires alignment of actions across the organisation. This question explores how well the plan(s) set out responsibility for delivery of asset plan actions.	The management team with overall responsibility for the asset management system. Operations, maintenance and engineering managers. If appropriate, the performance management team.	The organisation's asset management plan(s). Documentation defining roles and responsibilities of individuals and organisational departments.
31	Asset management plan(s)	What has the organisation done to ensure that appropriate arrangements are made available for the efficient and cost effective implementation of the plan(s)? (Note this is about resources and enabling support)	3	AMP and budgets are forecast utilising labour and resourcing requirements as part the base data. This is used to determine minimum resource requirements to achieve work plans. Weekly planning meetings are held to ensure work packages are supplied to field planners in a timely manner and to ensure resource requirements are available to complete work plans. Project reviews are undertaken where projects have not gone to plan.		It is essential that the plan(s) are realistic and can be implemented, which requires appropriate resources to be available and enabling mechanisms in place. This question explores how well this is achieved. The plan(s) not only need to consider the resources directly required and timescales, but also the enabling activities including for example, training requirements, supply chain capability and procurement timescales.	The management team with overall responsibility for the asset management system. Operations, maintenance and engineering managers. If appropriate, the performance management team. If appropriate, the performance management team. Where appropriate the procurement team and service providers working on the organisation's asset-related activities.	The organisation's asset management plan(s). Documented processes and procedures for the delivery of the asset management plan.
33	Contingency planning	What plan(s) and procedure(s) does the organisation have for identifying and responding to incidents and emergency situations and ensuring continuity of critical asset management activities?	3	A Business continuity plan is in place, and the key principles of resourcing and level of damage planned for has proved reasonably accurate during storm and earthquake events over the past five years. Reviews and findings from these events have been incorporated into the BCP. Additionally BEL carries out risk reviews on an annual basis.		Widely used AM practice standards require that an organisation has plan(s) to identify and respond to emergency situations. Emergency plan(s) should outline the actions to be taken to respond to specified emergency situations and ensure continuity of critical asset management activities including the communication to, and involvement of, external agencies. This question assesses if, and how well, these plan(s) triggered, implemented and resolved in the event of an incident. The plan(s) should be appropriate to the level of risk as determined by the organisation's risk assessment methodology. It is also a requirement that relevant personnel are competent and trained.	The manager with responsibility for developing emergency plan(s). The organisation's risk assessment team. People with designated duties within the plan(s) and procedure(s) for dealing with incidents and emergency situations.	The organisation's plan(s) and procedure(s) for dealing with emergencies. The organisation's risk assessments and risk registers.

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AMP Planning Period	
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Company Name	**Buller Electricity Ltd**
AMP Planning Period	
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
27	Asset management plan(s)	How has the organisation communicated its plan(s) to all relevant parties to a level of detail appropriate to the receiver's role in their delivery?	The organisation does not have plan(s) or their distribution is limited to the authors.	The plan(s) are communicated to some of those responsible for delivery of the plan(s). OR Communicated to those responsible for delivery is either irregular or ad-hoc.	The plan(s) are communicated to most of those responsible for delivery but there are weaknesses in identifying relevant parties resulting in incomplete or inappropriate communication. The organisation recognises improvement is needed as is working towards resolution	The plan(s) are communicated to all relevant employees, stakeholders and contracted service providers to a level of detail appropriate to their participation or business interests in the delivery of the plan(s) and there is confirmation that they are being used effectively.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
29	Asset management plan(s)	How are designated responsibilities for delivery of asset plan actions documented?	The organisation has not documented responsibilities for delivery of asset plan actions.	Asset management plan(s) inconsistently document responsibilities for delivery of plan actions and activities and/or responsibilities and authorities for implementation inadequate and/or delegation level inadequate to ensure effective delivery and/or contain misalignments with organisational accountability.	Asset management plan(s) consistently document responsibilities for the delivery of actions but responsibility/authority levels are inappropriate/ inadequate, and/or there are misalignments within the organisation.	Asset management plan(s) consistently document responsibilities for the delivery actions and there is adequate detail to enable delivery of actions. Designated responsibility and authority for achievement of asset plan actions is appropriate.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
31	Asset management plan(s)	What has the organisation done to ensure that appropriate arrangements are made available for the efficient and cost effective implementation of the plan(s)? (Note this is about resources and enabling support)	The organisation has not considered the arrangements needed for the effective implementation of plan(s).	The organisation recognises the need to ensure appropriate arrangements are in place for implementation of asset management plan(s) and is in the process of determining an appropriate approach for achieving this.	The organisation has arrangements in place for the implementation of asset management plan(s) but the arrangements are not yet adequately efficient and/or effective. The organisation is working to resolve existing weaknesses.	The organisation's arrangements fully cover all the requirements for the efficient and cost effective implementation of asset management plan(s) and realistically address the resources and timescales required, and any changes needed to functional policies, standards, processes and the asset management information system.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
33	Contingency planning	What plan(s) and procedure(s) does the organisation have for identifying and responding to incidents and emergency situations and ensuring continuity of critical asset management activities?	The organisation has not considered the need to establish plan(s) and procedure(s) to identify and respond to incidents and emergency situations.	The organisation has some ad-hoc arrangements to deal with incidents and emergency situations, but these have been developed on a reactive basis in response to specific events that have occurred in the past.	Most credible incidents and emergency situations are identified. Either appropriate plan(s) and procedure(s) are incomplete for critical activities or they are inadequate. Training/ external alignment may be incomplete.	Appropriate emergency plan(s) and procedure(s) are in place to respond to credible incidents and manage continuity of critical asset management activities consistent with policies and asset management objectives. Training and external agency alignment is in place.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

Company Name	**Buller Electricity Ltd**
AMP Planning Period	
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY

This schedule requires information on the EDB'S self-assessment of the maturity of its asset management practices .

Company Name	**Buller Electricity Ltd**
AMP Planning Period	
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/documented Information
37	Structure, authority and responsibilities	What has the organisation done to appoint member(s) of its management team to be responsible for ensuring that the organisation's assets deliver the requirements of the asset management strategy, objectives and plan(s)?	3	Individual persons through their employment contracts are appointed to ensure the companies assets deliver the required level of the asset management strategy, objectives and plans. The Network Asset Manager is responsible for asset maintenance, replacement and development plans while the Operations Manger is responsible for ensuring the work is completed in a timely manner		In order to ensure that the organisation's assets and asset systems deliver the requirements of the asset management policy, strategy and objectives responsibilities need to be allocated to appropriate people who have the necessary authority to fulfil their responsibilities. (This question, relates to the organisation's assets eg, para b), s 4.4.1 of PAS 55, making it therefore distinct from the requirement contained in para a), s 4.4.1 of PAS 55).	Top management. People with management responsibility for the delivery of asset management policy, strategy, objectives and plan(s). People working on asset-related activities.	Evidence that managers with responsibility for the delivery of asset management policy, strategy, objectives and plan(s) have been appointed and have assumed their responsibilities. Evidence may include the organisation's documents relating to its asset management system, organisational charts, job descriptions of post-holders, annual targets/objectives and personal development plan(s) of post-holders as appropriate.
40	Structure, authority and responsibilities	What evidence can the organisation's top management provide to demonstrate that sufficient resources are available for asset management?	3	Annual AMP and budget setting process reflect the different expertise and staffing requirements over a 10 year period. BEL does not normally have a high staff turn over therefore employees are familiar with asset management requirements. Some recient staff changes mean there is education and training required for individuals to ensure requirements are being met.		Optimal asset management requires top management to ensure sufficient resources are available. In this context the term 'resources' includes manpower, materials, funding and service provider support.	Top management. The management team that has overall responsibility for asset management. Risk management team. The organisation's managers involved in day-to-day supervision of asset-related activities, such as frontline managers, engineers, foremen and chargehands as appropriate.	Evidence demonstrating that asset management plan(s) and/or the process(es) for asset management plan implementation consider the provision of adequate resources in both the short and long term. Resources include funding, materials, equipment, services provided by third parties and personnel (internal and service providers) with appropriate skills competencies and knowledge.
42	Structure, authority and responsibilities	To what degree does the organisation's top management communicate the importance of meeting its asset management requirements?	3	Progress, productivity and safety issues are communicated to staff at weekly meetings. Monthly Board reports and meetings reflect budget spend, reliability and any safety issues		Widely used AM practice standards require an organisation to communicate the importance of meeting its asset management requirements such that personnel fully understand, take ownership of, and are fully engaged in the delivery of the asset management requirements (eg, PAS 55 s 4.4.1 g).	Top management. The management team that has overall responsibility for asset management. People involved in the delivery of the asset management requirements.	Evidence of such activities as road shows, written bulletins, workshops, team talks and management walk-abouts would assist an organisation to demonstrate it is meeting this requirement of PAS 55.
45	Outsourcing of asset management activities	Where the organisation has outsourced some of its asset management activities, how has it ensured that appropriate controls are in place to ensure the compliant delivery of its organisational strategic plan, and its asset management policy and strategy?	3	Currently no asset management activities are being outsourced		Where an organisation chooses to outsource some of its asset management activities, the organisation must ensure that these outsourced process(es) are under appropriate control to ensure that all the requirements of widely used AM standards (eg, PAS 55) are in place, and the asset management policy, strategy objectives and plan(s) are delivered. This includes ensuring capabilities and resources across a time span aligned to life cycle management. The organisation must put arrangements in place to control the outsourced activities, whether it be to external providers or to other in-house departments. This question explores what the organisation does in this regard.	Top management. The management team that has overall responsibility for asset management. The manager(s) responsible for the monitoring and management of the outsourced activities. People involved with the procurement of outsourced activities. The people within the organisations that are performing the outsourced activities. The people impacted by the outsourced activity.	The organisation's arrangements that detail the compliance required of the outsourced activities. For example, this this could form part of a contract or service level agreement between the organisation and the suppliers of its outsourced activities. Evidence that the organisation has demonstrated to itself that it has assurance of compliance of outsourced activities.

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SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Company Name	**Buller Electricity Ltd**
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Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
37	Structure, authority and responsibilities	What has the organisation done to appoint member(s) of its management team to be responsible for ensuring that the organisation's assets deliver the requirements of the asset management strategy, objectives and plan(s)?	Top management has not considered the need to appoint a person or persons to ensure that the organisation's assets deliver the requirements of the asset management strategy, objectives and plan(s).	Top management understands the need to appoint a person or persons to ensure that the organisation's assets deliver the requirements of the asset management strategy, objectives and plan(s).	Top management has appointed an appropriate people to ensure the assets deliver the requirements of the asset management strategy, objectives and plan(s) but their areas of responsibility are not fully defined and/or they have insufficient delegated authority to fully execute their responsibilities.	The appointed person or persons have full responsibility for ensuring that the organisation's assets deliver the requirements of the asset management strategy, objectives and plan(s). They have been given the necessary authority to achieve this.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
40	Structure, authority and responsibilities	What evidence can the organisation's top management provide to demonstrate that sufficient resources are available for asset management?	The organisation's top management has not considered the resources required to deliver asset management.	The organisations top management understands the need for sufficient resources but there are no effective mechanisms in place to ensure this is the case.	A process exists for determining what resources are required for its asset management activities and in most cases these are available but in some instances resources remain insufficient.	An effective process exists for determining the resources needed for asset management and sufficient resources are available. It can be demonstrated that resources are matched to asset management requirements.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
42	Structure, authority and responsibilities	To what degree does the organisation's top management communicate the importance of meeting its asset management requirements?	The organisation's top management has not considered the need to communicate the importance of meeting asset management requirements.	The organisations top management understands the need to communicate the importance of meeting its asset management requirements but does not do so.	Top management communicates the importance of meeting its asset management requirements but only to parts of the organisation.	Top management communicates the importance of meeting its asset management requirements to all relevant parts of the organisation.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
45	Outsourcing of asset management activities	Where the organisation has outsourced some of its asset management activities, how has it ensured that appropriate controls are in place to ensure the compliant delivery of its organisational strategic plan, and its asset management policy and strategy?	The organisation has not considered the need to put controls in place.	The organisation controls its outsourced activities on an ad-hoc basis, with little regard for ensuring for the compliant delivery of the organisational strategic plan and/or its asset management policy and strategy.	Controls systematically considered but currently only provide for the compliant delivery of some, but not all, aspects of the organisational strategic plan and/or its asset management policy and strategy. Gaps exist.	Evidence exists to demonstrate that outsourced activities are appropriately controlled to provide for the compliant delivery of the organisational strategic plan, asset management policy and strategy, and that these controls are integrated into the asset management system	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

Company Name	**Buller Electricity Ltd**
AMP Planning Period	
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY

This schedule requires information on the EDB'S self-assessment of the maturity of its asset management practices .

Company Name	**Buller Electricity Ltd**
AMP Planning Period	
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/documented Information
48	Training, awareness and competence	How does the organisation develop plan(s) for the human resources required to undertake asset management activities - including the development and delivery of asset management strategy, process(es), objectives and plan(s)?	3	A well structured HR plan that considers both the volume of work and nature of competencies is in place. Annual budgets reflect staffing skill requirements over a 10 year period. BEL does not have a high number of staff and staff turnover and therefore managers are familiar with employee skill sets.		There is a need for an organisation to demonstrate that it has considered what resources are required to develop and implement its asset management system. There is also a need for the organisation to demonstrate that it has assessed what development plan(s) are required to provide its human resources with the skills and competencies to develop and implement its asset management systems. The timescales over which the plan(s) are relevant should be commensurate with the planning horizons within the asset management strategy considers e.g. if the asset management strategy considers 5, 10 and 15 year time scales then the human resources development plan(s) should align with these. Resources include both 'in house' and external resources who undertake asset management activities.	Senior management responsible for agreement of plan(s). Managers responsible for developing asset management strategy and plan(s). Managers with responsibility for development and recruitment of staff (including HR functions). Staff responsible for training. Procurement officers. Contracted service providers.	Evidence of analysis of future work load plan(s) in terms of human resources. Document(s) containing analysis of the organisation's own direct resources and contractors resource capability over suitable timescales. Evidence, such as minutes of meetings, that suitable management forums are monitoring human resource development plan(s). Training plan(s), personal development plan(s), contract and service level agreements.
49	Training, awareness and competence	How does the organisation identify competency requirements and then plan, provide and record the training necessary to achieve the competencies?	3	A common competency AHC model is used that includes unit standards. Safety competencies are all in place, at times third parties are contracted in for specialist work. The appropriate resources and training requirements are reviewed on an annual basis to ensure appropriate skills are in place.		Widely used AM standards require that organisations to undertake a systematic identification of the asset management awareness and competencies required at each level and function within the organisation. Once identified the training required to provide the necessary competencies should be planned for delivery in a timely and systematic way. Any training provided must be recorded and maintained in a suitable format. Where an organisation has contracted service providers in place then it should have a means to demonstrate that this requirement is being met for their employees. (eg, PAS 55 refers to frameworks suitable for identifying competency requirements).	Senior management responsible for agreement of plan(s). Managers responsible for developing asset management strategy and plan(s). Managers with responsibility for development and recruitment of staff (including HR functions). Staff responsible for training. Procurement officers. Contracted service providers.	Evidence of an established and applied competency requirements assessment process and plan(s) in place to deliver the required training. Evidence that the training programme is part of a wider, co-ordinated asset management activities training and competency programme. Evidence that training activities are recorded and that records are readily available (for both direct and contracted service provider staff) e.g. via organisation wide information system or local records database.

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SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY

This schedule requires information on the EDB'S self-assessment of the maturity of its asset management practices .

50	Training, awareness and competence	How does the organization ensure that persons under its direct control undertaking asset management related activities have an appropriate level of competence in terms of education, training or experience?	**3**	BEL has a health and safety and training officer who monitors refresher and training requirements to ensure all staff have the appropriate competencies and training for the activities that they undertake.		A critical success factor for the effective development and implementation of an asset management system is the competence of persons undertaking these activities organisations should have effective means in place for ensuring the competence of employees to carry out their designated asset management function(s). Where an organisation has contracted service providers undertaking elements of its asset management system then the organisation shall assure itself that the outsourced service provider also has suitable arrangements in place to manage the competencies of its employees. The organisation should ensure that the individual and corporate competencies it requires are in place and actively monitor, develop and maintain an appropriate balance of these competencies.	Managers, supervisors, persons responsible for developing training programmes. Staff responsible for procurement and service agreements. HR staff and those responsible for recruitment.	Evidence of a competency assessment framework that aligns with established frameworks such as the asset management Competencies Requirements Framework (Version 2.0); National Occupational Standards for Management and Leadership; UK Standard for Professional Engineering Competence, Engineering Council, 2005.

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SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

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SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
48	Training, awareness and competence	How does the organisation develop plan(s) for the human resources required to undertake asset management activities - including the development and delivery of asset management strategy, process(es), objectives and plan(s)?	The organisation has not recognised the need for assessing human resources requirements to develop and implement its asset management system.	The organisation has recognised the need to assess its human resources requirements and to develop a plan(s). There is limited recognition of the need to align these with the development and implementation of its asset management system.	The organisation has developed a strategic approach to aligning competencies and human resources to the asset management system including the asset management plan but the work is incomplete or has not been consistently implemented.	The organisation can demonstrate that plan(s) are in place and effective in matching competencies and capabilities to the asset management system including the plan for both internal and contracted activities. Plans are reviewed integral to asset management system process(es).	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
49	Training, awareness and competence	How does the organisation identify competency requirements and then plan, provide and record the training necessary to achieve the competencies?	The organisation does not have any means in place to identify competency requirements.	The organisation has recognised the need to identify competency requirements and then plan, provide and record the training necessary to achieve the competencies.	The organisation is the process of identifying competency requirements aligned to the asset management plan(s) and then plan, provide and record appropriate training. It is incomplete or inconsistently applied.	Competency requirements are in place and aligned with asset management plan(s). Plans are in place and effective in providing the training necessary to achieve the competencies. A structured means of recording the competencies achieved is in place.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

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SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

50	Training, awareness and competence	How does the organization ensure that persons under its direct control undertaking asset management related activities have an appropriate level of competence in terms of education, training or experience?	The organization has not recognised the need to assess the competence of person(s) undertaking asset management related activities.	Competency of staff undertaking asset management related activities is not managed or assessed in a structured way, other than formal requirements for legal compliance and safety management.	The organization is in the process of putting in place a means for assessing the competence of person(s) involved in asset management activities including contractors. There are gaps and inconsistencies.	Competency requirements are identified and assessed for all persons carrying out asset management related activities - internal and contracted. Requirements are reviewed and staff reassessed at appropriate intervals aligned to asset management requirements.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

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SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/documented Information
53	Communication, participation and consultation	How does the organisation ensure that pertinent asset management information is effectively communicated to and from employees and other stakeholders, including contracted service providers?	3	A dedicated team is used for asset management related activities. Competency and consistency is assessed to ensure alignment with asset management activities.		Widely used AM practice standards require that pertinent asset management information is effectively communicated to and from employees and other stakeholders including contracted service providers. Pertinent information refers to information required in order to effectively and efficiently comply with and deliver asset management strategy, plan(s) and objectives. This will include for example the communication of the asset management policy, asset performance information, and planning information as appropriate to contractors.	Top management and senior management representative(s), employee's representative(s), employee's trade union representative(s); contracted service provider management and employee representative(s); representative(s) from the organisation's Health, Safety and Environmental team. Key stakeholder representative(s).	Asset management policy statement prominently displayed on notice boards, intranet and internet; use of organisation's website for displaying asset performance data; evidence of formal briefings to employees, stakeholders and contracted service providers; evidence of inclusion of asset management issues in team meetings and contracted service provider contract meetings; newsletters, etc.
59	Asset Management System documentation	What documentation has the organisation established to describe the main elements of its asset management system and interactions between them?	3	The AMP contains a high-level description of the Asset management systems. Workflow and financial controls and systems are documented. Network design, construction and maintenance standards are available to all staff for asset construction and maintenance.		Widely used AM practice standards require an organisation maintain up to date documentation that ensures that its asset management systems (ie, the systems the organisation has in place to meet the standards) can be understood, communicated and operated. (eg, s 4.5 of PAS 55 requires the maintenance of up to date documentation of the asset management system requirements specified throughout s 4 of PAS 55).	The management team that has overall responsibility for asset management. Managers engaged in asset management activities.	The documented information describing the main elements of the asset management system (process(es)) and their interaction.
62	Information management	What has the organisation done to determine what its asset management information system(s) should contain in order to support its asset management system?	3	BEL has reviewed the requirements in relation to asset data collection, accuracy, collection, processes and systems. This was part of BELs GIS and AMD upgrade.		Effective asset management requires appropriate information to be available. Widely used AM standards therefore require the organisation to identify the asset management information it requires in order to support its asset management system. Some of the information required may be held by suppliers. The maintenance and development of asset management information systems is a poorly understood specialist activity that is akin to IT management but different from IT management. This group of questions provides some indications as to whether the capability is available and applied. Note: To be effective, an asset information management system requires the mobilisation of technology, people and process(es) that create, secure, make available and destroy the information required to support the asset management system.	The organisation's strategic planning team. The management team that has overall responsibility for asset management. Information management team. Operations, maintenance and engineering managers	Details of the process the organisation has employed to determine what its asset information system should contain in order to support its asset management system. Evidence that this has been effectively implemented.
63	Information management	How does the organisation maintain its asset management information system(s) and ensure that the data held within it (them) is of the requisite quality and accuracy and is consistent?	2	There is a single point of coordination and assessment of criticality. An inspection guide is issued to a dedicated team of survey and design staff to encourage consistency of inspections. Integration of key software systems is currently in progress but not yet completed.		The response to the questions is progressive. A higher scale cannot be awarded without achieving the requirements of the lower scale. This question explores how the organisation ensures that information management meets widely used AM practice requirements (eg, s 4.4.6 (a), (c) and (d) of PAS 55).	The management team that has overall responsibility for asset management. Users of the organisational information systems.	The asset management information system, together with the policies, procedure(s), improvement initiatives and audits regarding information controls.

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SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
53	Communication, participation and consultation	How does the organisation ensure that pertinent asset management information is effectively communicated to and from employees and other stakeholders, including contracted service providers?	The organisation has not recognised the need to formally communicate any asset management information.	There is evidence that the pertinent asset management information to be shared along with those to share it with is being determined.	The organisation has determined pertinent information and relevant parties. Some effective two way communication is in place but as yet not all relevant parties are clear on their roles and responsibilities with respect to asset management information.	Two way communication is in place between all relevant parties, ensuring that information is effectively communicated to match the requirements of asset management strategy, plan(s) and process(es). Pertinent asset information requirements are regularly reviewed.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
59	Asset Management System documentation	What documentation has the organisation established to describe the main elements of its asset management system and interactions between them?	The organisation has not established documentation that describes the main elements of the asset management system.	The organisation is aware of the need to put documentation in place and is in the process of determining how to document the main elements of its asset management system.	The organisation in the process of documenting its asset management system and has documentation in place that describes some, but not all, of the main elements of its asset management system and their interaction.	The organisation has established documentation that comprehensively describes all the main elements of its asset management system and the interactions between them. The documentation is kept up to date.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
62	Information management	What has the organisation done to determine what its asset management information system(s) should contain in order to support its asset management system?	The organisation has not considered what asset management information is required.	The organisation is aware of the need to determine in a structured manner what its asset information system should contain in order to support its asset management system and is in the process of deciding how to do this.	The organisation has developed a structured process to determine what its asset information system should contain in order to support its asset management system and has commenced implementation of the process.	The organisation has determined what its asset information system should contain in order to support its asset management system. The requirements relate to the whole life cycle and cover information originating from both internal and external sources.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
63	Information management	How does the organisation maintain its asset management information system(s) and ensure that the data held within it (them) is of the requisite quality and accuracy and is consistent?	There are no formal controls in place or controls are extremely limited in scope and/or effectiveness.	The organisation is aware of the need for effective controls and is in the process of developing an appropriate control process(es).	The organisation has developed a controls that will ensure the data held is of the requisite quality and accuracy and is consistent and is in the process of implementing them.	The organisation has effective controls in place that ensure the data held is of the requisite quality and accuracy and is consistent. The controls are regularly reviewed and improved where necessary.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

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SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY

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SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/documented Information
64	Information management	How has the organisation's ensured its asset management information system is relevant to its needs?	3	BEL has reviewed the requirements in relation to asset data collection, accuracy, collection, processes and systems. This was part of BELs GIS and AMD upgrade.		Widely used AM standards need not be prescriptive about the form of the asset management information system, but simply require that the asset management information system is appropriate to the organisations needs, can be effectively used and can supply information which is consistent and of the requisite quality and accuracy.	The organisation's strategic planning team. The management team that has overall responsibility for asset management. Information management team. Users of the organisational information systems.	The documented process the organisation employs to ensure its asset management information system aligns with its asset management requirements. Minutes of information systems review meetings involving users.
69	Risk management process(es)	How has the organisation documented process(es) and/or procedure(s) for the identification and assessment of asset and asset management related risks throughout the asset life cycle?	2	The AMP considers key classes of asset risk including safety, in-service failure and commercial risks. The asset inspection guide ensures that component failure risks are correctly identified. At present SMS documents risks and ensures that processes are in place.		Risk management is an important foundation for proactive asset management. Its overall purpose is to understand the cause, effect and likelihood of adverse events occurring, to optimally manage such risks to an acceptable level, and to provide an audit trail for the management of risks. Widely used standards require the organisation to have process(es) and/or procedure(s) in place that set out how the organisation identifies and assesses asset and asset management related risks. The risks have to be considered across the four phases of the asset lifecycle (eg, para 4.3.3 of PAS 55).	The top management team in conjunction with the organisation's senior risk management representatives. There may also be input from the organisation's Safety, Health and Environment team. Staff who carry out risk identification and assessment.	The organisation's risk management framework and/or evidence of specific process(es) and/ or procedure(s) that deal with risk control mechanisms. Evidence that the process(es) and/or procedure(s) are implemented across the business and maintained. Evidence of agendas and minutes from risk management meetings. Evidence of feedback in to process(es) and/or procedure(s) as a result of incident investigation(s). Risk registers and assessments.
79	Use and maintenance of asset risk information	How does the organisation ensure that the results of risk assessments provide input into the identification of adequate resources and training and competency needs?	3	Known safety risks from specific assets are included in operating practices, training and resourcing. Site specific hazards are also included in the GIS system to aid field staff to identify site specific hazards in issued work packages.		Widely used AM standards require that the output from risk assessments are considered and that adequate resource (including staff) and training is identified to match the requirements. It is a further requirement that the effects of the control measures are considered as there may be implications in resources and training required to achieve other objectives.	Staff responsible for risk assessment and those responsible for developing and approving resource and training plan(s). There may also be input from the organisation's Safety, Health and Environment team.	The organisations risk management framework. The organisation's resourcing plan(s) and training and competency plan(s). The organisation should be able to demonstrate appropriate linkages between the content of resource plan(s) and training and competency plan(s) to the risk assessments and risk control measures that have been developed.
82	Legal and other requirements	What procedure does the organisation have to identify and provide access to its legal, regulatory, statutory and other asset management requirements, and how is requirements incorporated into the asset management system?	3	BEL uses consultants to regularly review various aspects of its AM practices including the AMP, SMS, Resilience and financial system and processes against evolving requirements. Compliance is reported to the Board.		In order for an organisation to comply with its legal, regulatory, statutory and other asset management requirements, the organisation first needs to ensure that it knows what they are (eg, PAS 55 specifies this in s 4.4.8). It is necessary to have systematic and auditable mechanisms in place to identify new and changing requirements. Widely used AM standards also require that requirements are incorporated into the asset management system (e.g. procedure(s) and process(es))	Top management. The organisations regulatory team. The organisation's legal team or advisors. The management team with overall responsibility for the asset management system. The organisation's health and safety team or advisors. The organisation's policy making team.	The organisational processes and procedures for ensuring information of this type is identified, made accessible to those requiring the information and is incorporated into asset management strategy and objectives

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SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
64	Information management	How has the organisation's ensured its asset management information system is relevant to its needs?	The organisation has not considered the need to determine the relevance of its management information system. At present there are major gaps between what the information system provides and the organisations needs.	The organisation understands the need to ensure its asset management information system is relevant to its needs and is determining an appropriate means by which it will achieve this. At present there are significant gaps between what the information system provides and the organisations needs.	The organisation has developed and is implementing a process to ensure its asset management information system is relevant to its needs. Gaps between what the information system provides and the organisations needs have been identified and action is being taken to close them.	The organisation's asset management information system aligns with its asset management requirements. Users can confirm that it is relevant to their needs.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
69	Risk management process(es)	How has the organisation documented process(es) and/or procedure(s) for the identification and assessment of asset and asset management related risks throughout the asset life cycle?	The organisation has not considered the need to document process(es) and/or procedure(s) for the identification and assessment of asset and asset management related risks throughout the asset life cycle.	The organisation is aware of the need to document the management of asset related risk across the asset lifecycle. The organisation has plan(s) to formally document all relevant process(es) and procedure(s) or has already commenced this activity.	The organisation is in the process of documenting the identification and assessment of asset related risk across the asset lifecycle but it is incomplete or there are inconsistencies between approaches and a lack of integration.	Identification and assessment of asset related risk across the asset lifecycle is fully documented. The organisation can demonstrate that appropriate documented mechanisms are integrated across life cycle phases and are being consistently applied.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
79	Use and maintenance of asset risk information	How does the organisation ensure that the results of risk assessments provide input into the identification of adequate resources and training and competency needs?	The organisation has not considered the need to conduct risk assessments.	The organisation is aware of the need to consider the results of risk assessments and effects of risk control measures to provide input into reviews of resources, training and competency needs. Current input is typically ad-hoc and reactive.	The organisation is in the process ensuring that outputs of risk assessment are included in developing requirements for resources and training. The implementation is incomplete and there are gaps and inconsistencies.	Outputs from risk assessments are consistently and systematically used as inputs to develop resources, training and competency requirements. Examples and evidence is available.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
82	Legal and other requirements	What procedure does the organisation have to identify and provide access to its legal, regulatory, statutory and other asset management requirements, and how is requirements incorporated into the asset management system?	The organisation has not considered the need to identify its legal, regulatory, statutory and other asset management requirements.	The organisation identifies some its legal, regulatory, statutory and other asset management requirements, but this is done in an ad-hoc manner in the absence of a procedure.	The organisation has procedure(s) to identify its legal, regulatory, statutory and other asset management requirements, but the information is not kept up to date, inadequate or inconsistently managed.	Evidence exists to demonstrate that the organisation's legal, regulatory, statutory and other asset management requirements are identified and kept up to date. Systematic mechanisms for identifying relevant legal and statutory requirements.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

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SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY

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SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/documented Information
88	Life Cycle Activities	How does the organisation establish implement and maintain process(es) for the implementation of its asset management plan(s) and control of activities across the creation, acquisition or enhancement of assets. This includes design, modification, procurement, construction and commissioning activities?	3	BEL has a range of standards from concept planning of capacity through to design, construction, maintenance and material standards to minimise the risk of variation from planned reliability and safety outcomes.		Life cycle activities are about the implementation of asset management plan(s) i.e. they are the "doing" phase. They need to be done effectively and well in order for asset management to have any practical meaning. As a consequence, widely used standards (eg, PAS 55 s 4.5.1) require organisations to have in place appropriate process(es) and procedure(s) for the implementation of asset management plan(s) and control of lifecycle activities. This question explores those aspects relevant to asset creation.	Asset managers, design staff, construction staff and project managers from other impacted areas of the business, e.g. Procurement	Documented process(es) and procedure(s) which are relevant to demonstrating the effective management and control of life cycle activities during asset creation, acquisition, enhancement including design, modification, procurement, construction and commissioning.
91	Life Cycle Activities	How does the organisation ensure that process(es) and/or procedure(s) for the implementation of asset management plan(s) and control of activities during maintenance (and inspection) of assets are sufficient to ensure activities are carried out under specified conditions, are consistent with asset management strategy and control cost, risk and performance?	2	Each step of the asset creation activity (e.g. planning, design, construction) is reviewed or inspected to ensure that design and material standards have been complied with. Asset updates are checked and job review completed to ensure all planned activities are achieved.		Having documented process(es) which ensure the asset management plan(s) are implemented in accordance with any specified conditions, in a manner consistent with the asset management policy, strategy and objectives and in such a way that cost, risk and asset system performance are appropriately controlled is critical. They are an essential part of turning intention into action (eg, as required by PAS 55 s 4.5.1).	Asset managers, operations managers, maintenance managers and project managers from other impacted areas of the business	Documented procedure for review. Documented procedure for audit of process delivery. Records of previous audits, improvement actions and documented confirmation that actions have been carried out.
95	Performance and condition monitoring	How does the organisation measure the performance and condition of its assets?	2	BEL influences asset performance by ensuring that planning, design and construction standards are adhered to, and that work is inspected. Individual faults and defects are recorded, with patterns and trends analysed to identify asset class and locational deterioration.		Widely used AM standards require that organisations establish implement and maintain procedure(s) to monitor and measure the performance and/or condition of assets and asset systems. They further set out requirements in some detail for reactive and proactive monitoring, and leading/lagging performance indicators together with the monitoring or results to provide input to corrective actions and continual improvement. There is an expectation that performance and condition monitoring will provide input to improving asset management strategy, objectives and plan(s).	A broad cross-section of the people involved in the organisation's asset-related activities from data input to decision-makers, i.e. an end-to end assessment. This should include contactors and other relevant third parties as appropriate.	Functional policy and/or strategy documents for performance or condition monitoring and measurement. The organisation's performance monitoring frameworks, balanced scorecards etc. Evidence of the reviews of any appropriate performance indicators and the action lists resulting from these reviews. Reports and trend analysis using performance and condition information. Evidence of the use of performance and condition information shaping improvements and supporting asset management strategy, objectives and plan(s).
99	Investigation of asset-related failures, incidents and nonconformities	How does the organisation ensure responsibility and the authority for the handling, investigation and mitigation of asset-related failures, incidents and emergency situations and non conformances is clear, unambiguous, understood and communicated?	3	BEL has an incident reporting and investigation process as part of its safety management system to ensure asset related failure and incidents are reported, investigated and communicated to all levels of the company. Safety meetings are held weekly for all staff and incidents and outcomes are discussed.		Widely used AM standards require that the organisation establishes implements and maintains process(es) for the handling and investigation of failure, incidents and non-conformities for assets and sets down a number of expectations. Specifically this question examines the requirement to define clearly responsibilities and authorities for these activities, and communicate these unambiguously to relevant people including external stakeholders if appropriate.	The organisation's safety and environment management team. The team with overall responsibility for the management of the assets. People who have appointed roles within the asset-related investigation procedure, from those who carry out the investigations to senior management who review the recommendations. Operational controllers responsible for managing the asset base under fault conditions and maintaining services to consumers. Contractors and other third parties as appropriate.	Process(es) and procedure(s) for the handling, investigation and mitigation of asset-related failures, incidents and emergency situations and non conformances. Documentation of assigned responsibilities and authority to employees. Job Descriptions, Audit reports. Common communication systems i.e. all Job Descriptions on Internet etc.

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SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
88	Life Cycle Activities	How does the organisation establish implement and maintain process(es) for the implementation of its asset management plan(s) and control of activities across the creation, acquisition or enhancement of assets. This includes design, modification, procurement, construction and commissioning activities?	The organisation does not have process(es) in place to manage and control the implementation of asset management plan(s) during activities related to asset creation including design, modification, procurement, construction and commissioning.	The organisation is aware of the need to have process(es) and procedure(s) in place to manage and control the implementation of asset management plan(s) during activities related to asset creation including design, modification, procurement, construction and commissioning but currently do not have these in place (note: procedure(s) may exist but they are inconsistent/incomplete).	The organisation is in the process of putting in place process(es) and procedure(s) to manage and control the implementation of asset management plan(s) during activities related to asset creation including design, modification, procurement, construction and commissioning. Gaps and inconsistencies are being addressed.	Effective process(es) and procedure(s) are in place to manage and control the implementation of asset management plan(s) during activities related to asset creation including design, modification, procurement, construction and commissioning.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
91	Life Cycle Activities	How does the organisation ensure that process(es) and/or procedure(s) for the implementation of asset management plan(s) and control of activities during maintenance (and inspection) of assets are sufficient to ensure activities are carried out under specified conditions, are consistent with asset management strategy and control cost, risk and performance?	The organisation does not have process(es)/procedure(s) in place to control or manage the implementation of asset management plan(s) during this life cycle phase.	The organisation is aware of the need to have process(es) and procedure(s) in place to manage and control the implementation of asset management plan(s) during this life cycle phase but currently do not have these in place and/or there is no mechanism for confirming they are effective and where needed modifying them.	The organisation is in the process of putting in place process(es) and procedure(s) to manage and control the implementation of asset management plan(s) during this life cycle phase. They include a process for confirming the process(es)/procedure(s) are effective and if necessary carrying out modifications.	The organisation has in place process(es) and procedure(s) to manage and control the implementation of asset management plan(s) during this life cycle phase. They include a process, which is itself regularly reviewed to ensure it is effective, for confirming the process(es)/procedure(s) are effective and if necessary carrying out modifications.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
95	Performance and condition monitoring	How does the organisation measure the performance and condition of its assets?	The organisation has not considered how to monitor the performance and condition of its assets.	The organisation recognises the need for monitoring asset performance but has not developed a coherent approach. Measures are incomplete, predominantly reactive and lagging. There is no linkage to asset management objectives.	The organisation is developing coherent asset performance monitoring linked to asset management objectives. Reactive and proactive measures are in place. Use is being made of leading indicators and analysis. Gaps and inconsistencies remain.	Consistent asset performance monitoring linked to asset management objectives is in place and universally used including reactive and proactive measures. Data quality management and review process are appropriate. Evidence of leading indicators and analysis.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
99	Investigation of asset-related failures, incidents and nonconformities	How does the organisation ensure responsibility and the authority for the handling, investigation and mitigation of asset-related failures, incidents and emergency situations and non conformances is clear, unambiguous, understood and communicated?	The organisation has not considered the need to define the appropriate responsibilities and the authorities.	The organisation understands the requirements and is in the process of determining how to define them.	The organisation are in the process of defining the responsibilities and authorities with evidence. Alternatively there are some gaps or inconsistencies in the identified responsibilities/authorities.	The organisation have defined the appropriate responsibilities and authorities and evidence is available to show that these are applied across the business and kept up to date.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

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SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY

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SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/documented Information
105	Audit	What has the organisation done to establish procedure(s) for the audit of its asset management system (process(es))?	3	The AMP is reviewed internally and at intervals by consultants, the AMP is also reviewed by the SMS auditor for public safety requirements. BEL also checks any Commerce Commision or audit reviews for any recommended improvments		This question seeks to explore what the organisation has done to comply with the standard practice AM audit requirements (eg, the associated requirements of PAS 55 s 4.6.4 and its linkages to s 4.7).	The management team responsible for its asset management procedure(s). The team with overall responsibility for the management of the assets. Audit teams, together with key staff responsible for asset management. For example, Asset Management Director, Engineering Director. People with responsibility for carrying out risk assessments	The organisation's asset-related audit procedure(s). The organisation's methodology(s) by which it determined the scope and frequency of the audits and the criteria by which it identified the appropriate audit personnel. Audit schedules, reports etc. Evidence of the procedure(s) by which the audit results are presented, together with any subsequent communications. The risk assessment schedule or risk registers.
109	Corrective & Preventative action	How does the organisation instigate appropriate corrective and/or preventive actions to eliminate or prevent the causes of identified poor performance and non conformance?	3	After investigation of incidents involving asset performance and where corrective actions are recommended these are incorporated into the network design, material and construction standards and / or staff training documentation as required. Annual reviews of standards and training documentation is being targeted but only partially been completed.		Having investigated asset related failures, incidents and non-conformances, and taken action to mitigate their consequences, an organisation is required to implement preventative and corrective actions to address root causes. Incident and failure investigations are only useful if appropriate actions are taken as a result to assess changes to a businesses risk profile and ensure that appropriate arrangements are in place should a recurrence of the incident happen. Widely used AM standards also require that necessary changes arising from preventive or corrective action are made to the asset management system.	The management team responsible for its asset management procedure(s). The team with overall responsibility for the management of the assets. Audit and incident investigation teams. Staff responsible for planning and managing corrective and preventive actions.	Analysis records, meeting notes and minutes, modification records. Asset management plan(s), investigation reports, audit reports, improvement programmes and projects. Recorded changes to asset management procedure(s) and process(es). Condition and performance reviews. Maintenance reviews
113	Continual Improvement	How does the organisation achieve continual improvement in the optimal combination of costs, asset related risks and the performance and condition of assets and asset systems across the whole life cycle?	3	BEL stays informed of emerging practices and technologies by reading industry magazines, attending EEA workshops, Downstream conferences, using consultants, and participation with combined EDB programs etc.		Widely used AM standards have requirements to establish, implement and maintain process(es)/procedure(s) for identifying, assessing, prioritising and implementing actions to achieve continual improvement. Specifically there is a requirement to demonstrate continual improvement in optimisation of cost risk and performance/condition of assets across the life cycle. This question explores an organisation's capabilities in this area—looking for systematic improvement mechanisms rather that reviews and audit (which are separately examined).	The top management of the organisation. The manager/team responsible for managing the organisation's asset management system, including its continual improvement. Managers responsible for policy development and implementation.	Records showing systematic exploration of improvement. Evidence of new techniques being explored and implemented. Changes in procedure(s) and process(es) reflecting improved use of optimisation tools/techniques and available information. Evidence of working parties and research.

Company Name	**Buller Electricity Ltd**
AMP Planning Period	
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY

This schedule requires information on the EDB'S self-assessment of the maturity of its asset management practices .

115	Continual Improvement	How does the organisation seek and acquire knowledge about new asset management related technology and practices, and evaluate their potential benefit to the organisation?	**3**	BEL stays informed of emerging practices and technologies by reading industry magazines, attending EEA workshops, Downstream conferences, using consultants, meetings with other EDB's etc.		One important aspect of continual improvement is where an organisation looks beyond its existing boundaries and knowledge base to look at what 'new things are on the market'. These new things can include equipment, process(es), tools, etc. An organisation which does this (eg, by the PAS 55 s 4.6 standards) will be able to demonstrate that it continually seeks to expand its knowledge of all things affecting its asset management approach and capabilities. The organisation will be able to demonstrate that it identifies any such opportunities to improve, evaluates them for suitability to its own organisation and implements them as appropriate. This question explores an organisation's approach to this activity.	The top management of the organisation. The manager/team responsible for managing the organisation's asset management system, including its continual improvement. People who monitor the various items that require monitoring for 'change'. People that implement changes to the organisation's policy, strategy, etc. People within an organisation with responsibility for investigating, evaluating, recommending and implementing new tools and techniques, etc.	Research and development projects and records, benchmarking and participation knowledge exchange professional forums. Evidence of correspondence relating to knowledge acquisition. Examples of change implementation and evaluation of new tools, and techniques linked to asset management strategy and objectives.

Company Name	**Buller Electricity Ltd**
AMP Planning Period	
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Company Name	**Buller Electricity Ltd**
AMP Planning Period	
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
105	Audit	What has the organisation done to establish procedure(s) for the audit of its asset management system (process(es))?	The organisation has not recognised the need to establish procedure(s) for the audit of its asset management system.	The organisation understands the need for audit procedure(s) and is determining the appropriate scope, frequency and methodology(s).	The organisation is establishing its audit procedure(s) but they do not yet cover all the appropriate asset-related activities.	The organisation can demonstrate that its audit procedure(s) cover all the appropriate asset-related activities and the associated reporting of audit results. Audits are to an appropriate level of detail and consistently managed.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
109	Corrective & Preventative action	How does the organisation instigate appropriate corrective and/or preventive actions to eliminate or prevent the causes of identified poor performance and non conformance?	The organisation does not recognise the need to have systematic approaches to instigating corrective or preventive actions.	The organisation recognises the need to have systematic approaches to instigating corrective or preventive actions. There is ad-hoc implementation for corrective actions to address failures of assets but not the asset management system.	The need is recognized for systematic instigation of preventive and corrective actions to address root causes of non compliance or incidents identified by investigations, compliance evaluation or audit. It is only partially or inconsistently in place.	Mechanisms are consistently in place and effective for the systematic instigation of preventive and corrective actions to address root causes of non compliance or incidents identified by investigations, compliance evaluation or audit.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
113	Continual Improvement	How does the organisation achieve continual improvement in the optimal combination of costs, asset related risks and the performance and condition of assets and asset systems across the whole life cycle?	The organisation does not consider continual improvement of these factors to be a requirement, or has not considered the issue.	A Continual Improvement ethos is recognised as beneficial, however it has just been started, and or covers partially the asset drivers.	Continuous improvement process(es) are set out and include consideration of cost risk, performance and condition for assets managed across the whole life cycle but it is not yet being systematically applied.	There is evidence to show that continuous improvement process(es) which include consideration of cost risk, performance and condition for assets managed across the whole life cycle are being systematically applied.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

Company Name	**Buller Electricity Ltd**
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Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

115	Continual Improvement	How does the organisation seek and acquire knowledge about new asset management related technology and practices, and evaluate their potential benefit to the organisation?	The organisation makes no attempt to seek knowledge about new asset management related technology or practices.	The organisation is inward looking, however it recognises that asset management is not sector specific and other sectors have developed good practice and new ideas that could apply. Ad-hoc approach.	The organisation has initiated asset management communication within sector to share and, or identify 'new' to sector asset management practices and seeks to evaluate them.	The organisation actively engages internally and externally with other asset management practitioners, professional bodies and relevant conferences. Actively investigates and evaluates new practices and evolves its asset management activities using appropriate developments.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

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IN ACCORDANCE WITH THE COMMERCE ACT

Electricity Distribution Information Disclosure (amendments related to IM Review 2023) Amendment Determination 2024 5284518

Schedule 17 Certification for Year-Beginning Disclosures

Clause 2.9.1

We, **Shannon Keri Hollis** and **Murray Warden Frost**, being directors of Buller Electricity Limited certify that, having made all reasonable enquiry, to the best of our knowledge:

a) the following attached information of Buller Electricity Limited prepared for the purposes of clauses 2.6.1, 2.6.3, 2.6.6 and 2.7.2 of the Electricity Distribution Information Disclosure Determination 2012 in all material respects complies with that determination.

b) the prospective financial or nonfinancial information included in the attached information has been measured on a basis consistent with regulatory requirements or recognised industry standards.

c) The forecasts in Schedules 11a, 11b, 11c, 12a, 12b, 12c and 12d are based on objective and reasonable assumptions which both align with Buller Electricity Limited's corporate vision and strategy and are documented in retained records.

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Director

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Director

Dated: 27 March 2025