

ASSET MANAGEMENT PLAN

1ST APRIL 2024 – 31ST MARCH 2034



Prepared by Buller Electricity Ltd

www.bullerelectricity.co.nz

March 2024



To Ensure Public Safety and Prudent Financial Management and control.

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1 SUMMARY

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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 (Targeted Review Tranche 1) Amendment Determination 2022. 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).

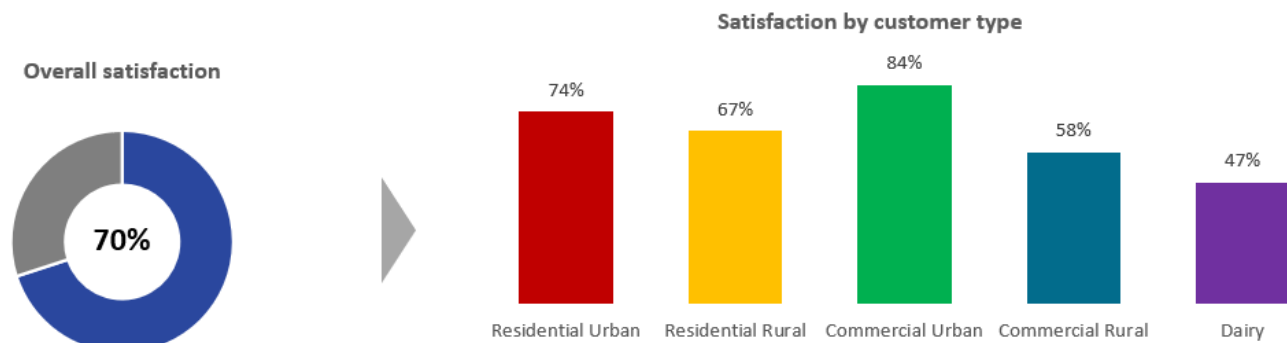


Figure 1. Customer Satisfaction per Customer Type

Overall, seven in ten customers are satisfied with Buller Electricity. Satisfaction is slightly lower among rural customers and businesses as these types of customers are more dependent on power.

The main driver of dissatisfaction for Buller Electricity customers is Overall value for money (38%). In contrast, Enquiry handling (7%) is the driver with the least impact.

Drivers of satisfaction: Overall

	Impact	Performance (%8-10)	Residential				Commercial				Dairy	
			Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Impact	Perf.
Overall Performance		70%	74%	67%	84%	58%	47%					
Value for money	38%	49%	28%	52%	38%	45%	-	50%	16%	50%	61%	42%
Reliability of supply	19%	84%	23%	91%	10%	79%	-	100%	30%	67%	-	60%
Communication	18%	68%	11%	72%	42%	63%	-	79%	11%	56%	39%	50%
Image and reputation	18%	70%	-	77%	10%	66%	56%	78%	35%	47%	-	43%
Enquiry handling	7%	76%	38%	83%	-	79%	44%	75%	7%	50%	-	20%

Figure 2. Drivers of Customer Satisfaction.

Targeted primary service levels for the next three years are shown below. The unplanned service levels now incorporate allowance for increase major weather events that in the past were considered one of events. Over the last ten years BEL has suffered increasing frequency of major windstorms, cyclones and flooding events and as such the unplanned targets have been updated to reflect this.

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

Measure	2024/25	2025/26	2026/28
SAIDI Planned Interruptions	202	200	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 and network efficiency and utilisation are shown in the following tables.

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

Measure	YE 31/3/25	YE 31/3/26	YE 31/3/27	YE 31/3/28	YE 31/3/29
Costs (\$/km of line)	11,198	11,503	10,484	11,189	10,928
Costs (\$/customer)	1,508	1,542	1,398	1,487	1,445

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

Measure	YE 31/3/25	YE 31/3/26	YE 31/3/27	YE 31/3/28	YE 31/3/29
Load Factor	58%	58%	58%	58%	58%
Loss Ratio	7.00%	7.00%	7.00%	7.00%	7.00%
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.

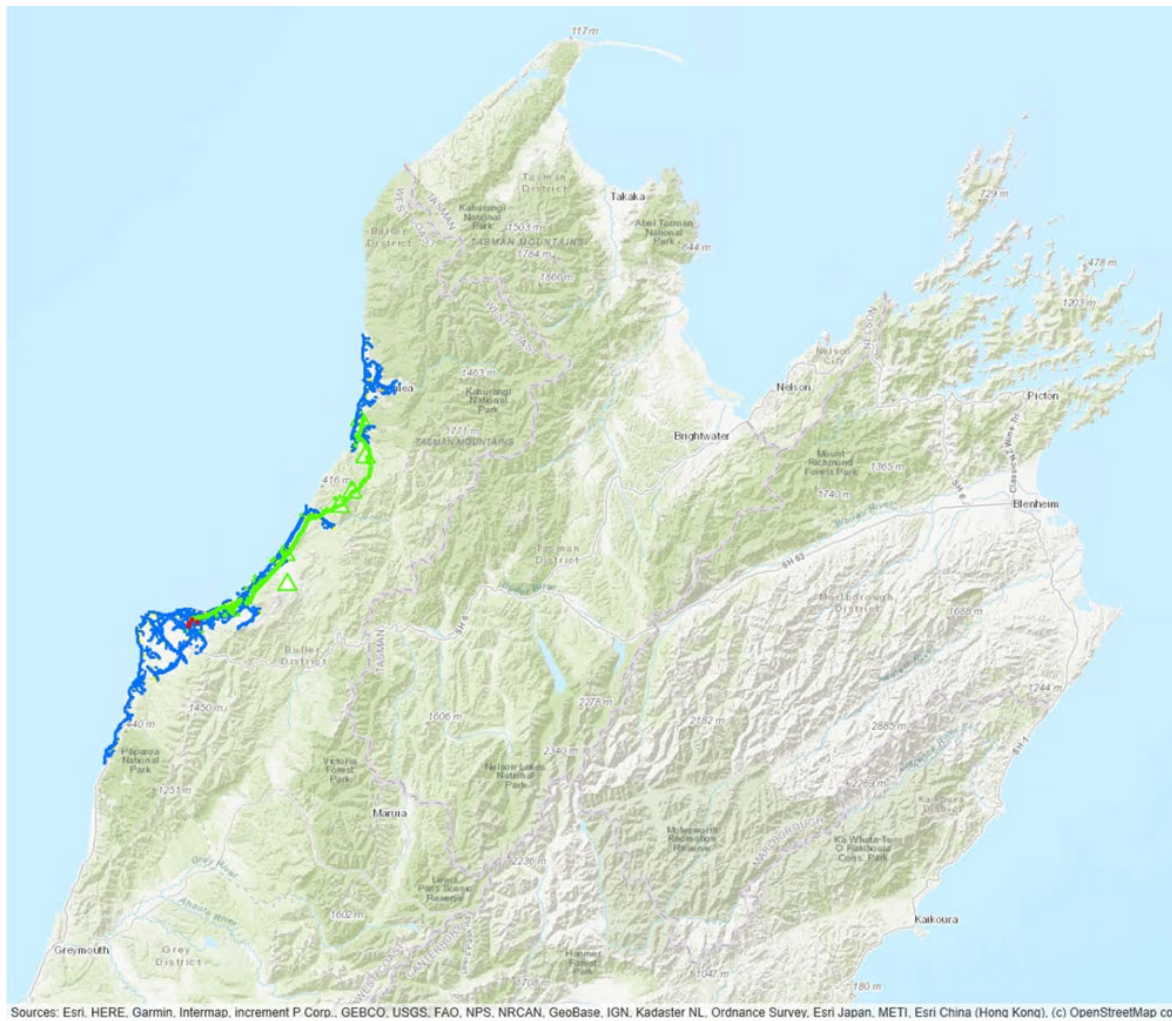


Figure 3. BEL Supply Region (Data source: Adapt Asset Management System).

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.

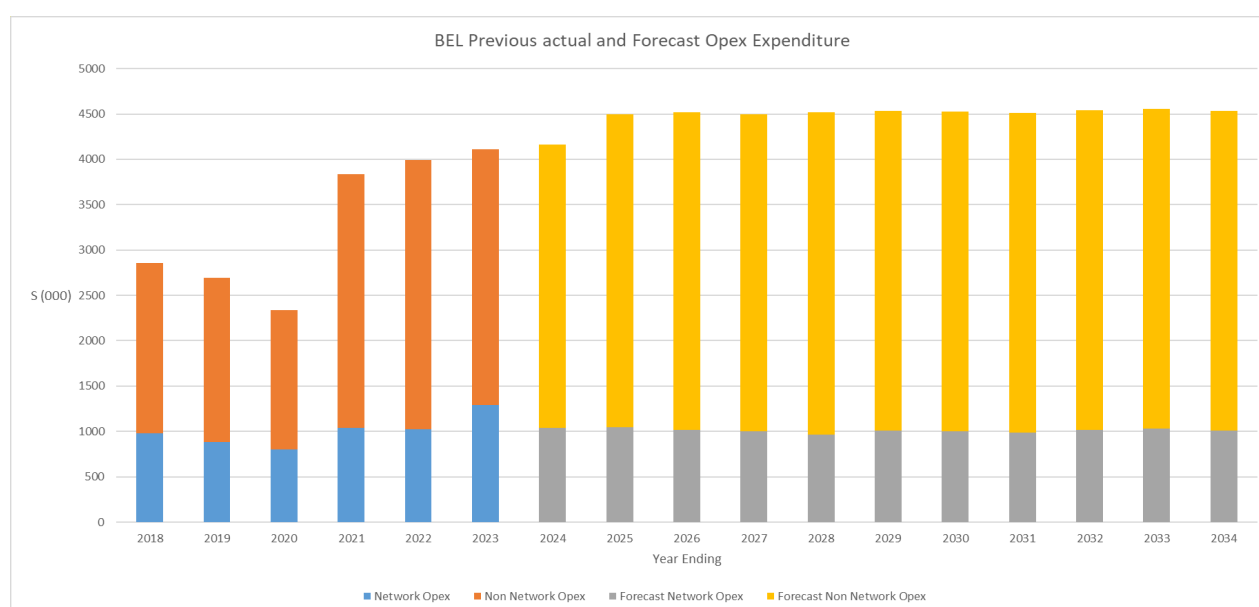


Figure 4. Actual and Forecast Operational Expenditure.

Table 4. Maintenance Budget, Year End 31 March.

Work Category	Maintenance Budgets \$000, year ending 31 March									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Faults and Emergencies	283	283	283	283	283	283	283	283	283	283
Vegetation Management	329	337	337	337	337	337	337	337	337	337
Routine and Preventative	347	311	294	257	301	299	282	310	325	303
Refurbishment and Renewal	85	85	85	85	85	85	85	85	85	85
Network Opex	1044	1016	999	962	1006	1004	988	1015	1030	1008
System Management	401	449	449	447	502	472	472	472	502	472

Total Network Opex	1445	1465	1448	1409	1508	1476	1460	1487	1532	1480
Business Support	3054	3054	3054	3054	3054	3054	3054	3054	3054	3054
Total	4499	4519	4502	4463	4562	4530	4513	4541	4586	4534

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. High non-network expenditure in 2018 is the result the transfer of plant, equipment and vehicle assets from Electro Services Ltd to BEL as BEL brought line services back in-house from its subsidiary contracting company. The 2021 through to 2025 years include 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 2028 to 2029 years is mainly for the expected replacement of the SCADA software and hardware replacement.

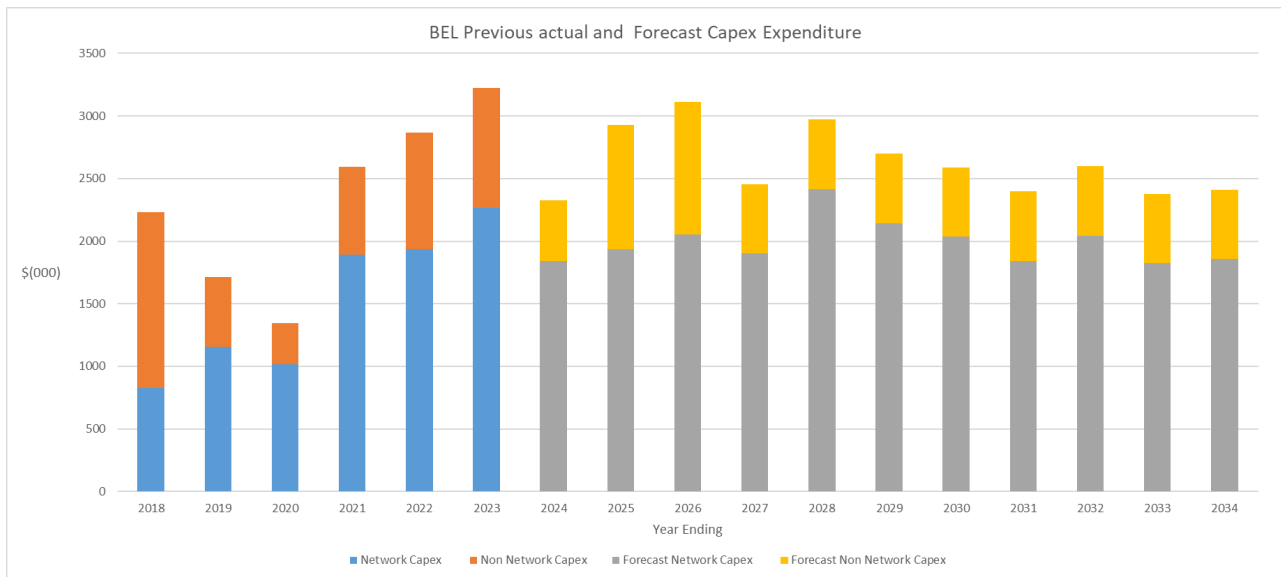


Figure 5. Actual and Forecast Capital Expenditure.

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

Work Category	Capex budgets (\$000), year-end 31 March									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Customer connection	233	250	250	250	250	250	250	250	250	250
System growth	71	51	51	51	51	51	51	51	51	51
Replacement and renewal	929	1493	1342	1794	1586	1470	1314	1515	1295	1328
Asset Relocation	0	0	0	0	0	0	0	0	0	0
Reliability, safety and environment	652	208	208	272	208	213	178	178	178	178
Vested Assets	50	50	50	50	50	50	50	50	50	50
Non System Assets	996	1059	555	555	555	555	555	555	555	555
Totals	2931	3112	2457	2972	2700	2589	2398	2599	2379	2412

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 below figure shows BEL's asset reliability performance for the past twelve years. Dotted lines are BEL's targets. The major reasons for exceeding the targets are also shown. The impact of storms and natural disasters on our service levels is evident from this graph.

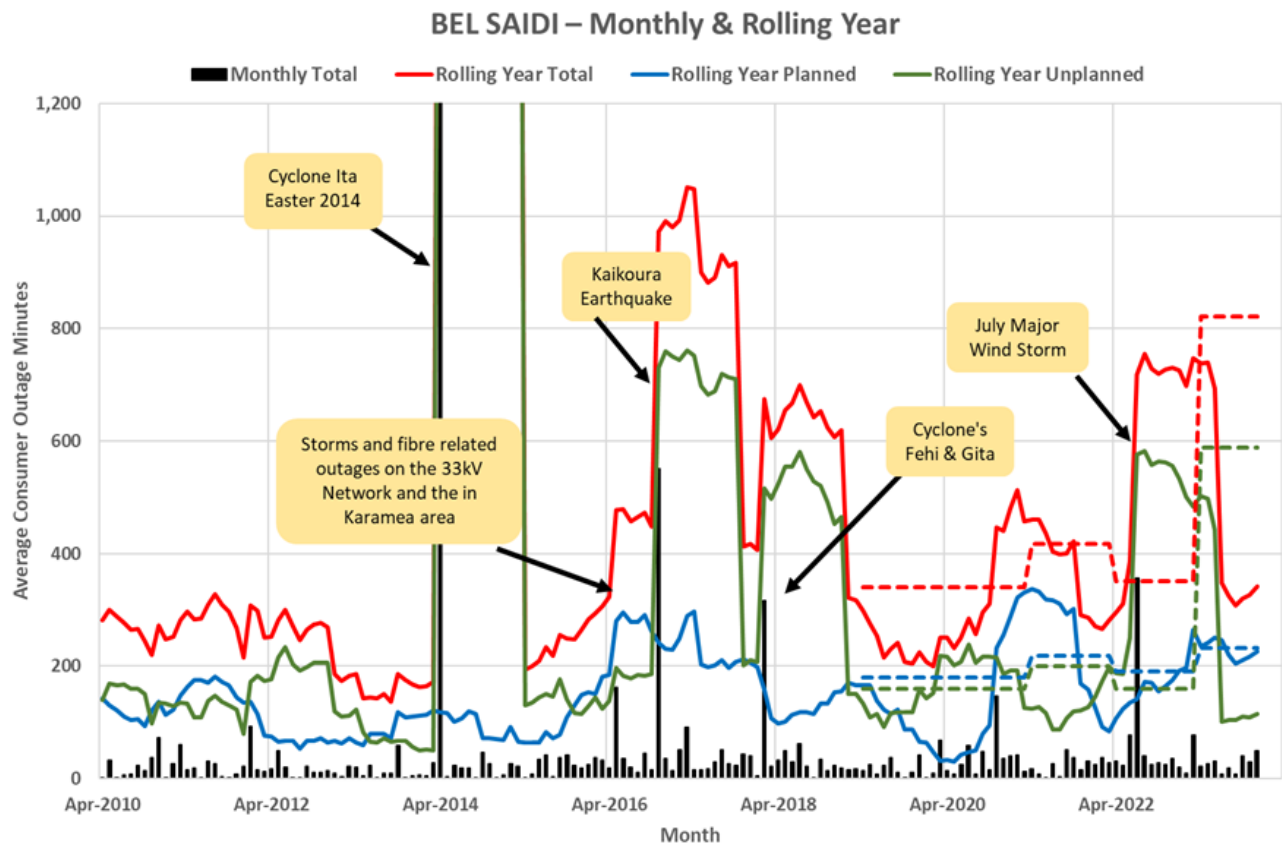


Figure 6. System Average Interruption Duration Index - Rolling Year.

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

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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 Determination 2012 (dated 6th July 2023). 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 2024 to 31 March 2034. This AMP was prepared over the 2023/24 financial year and approved by BEL's Board on the 28 March 2024.

2.2 MISSION AND VISION

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

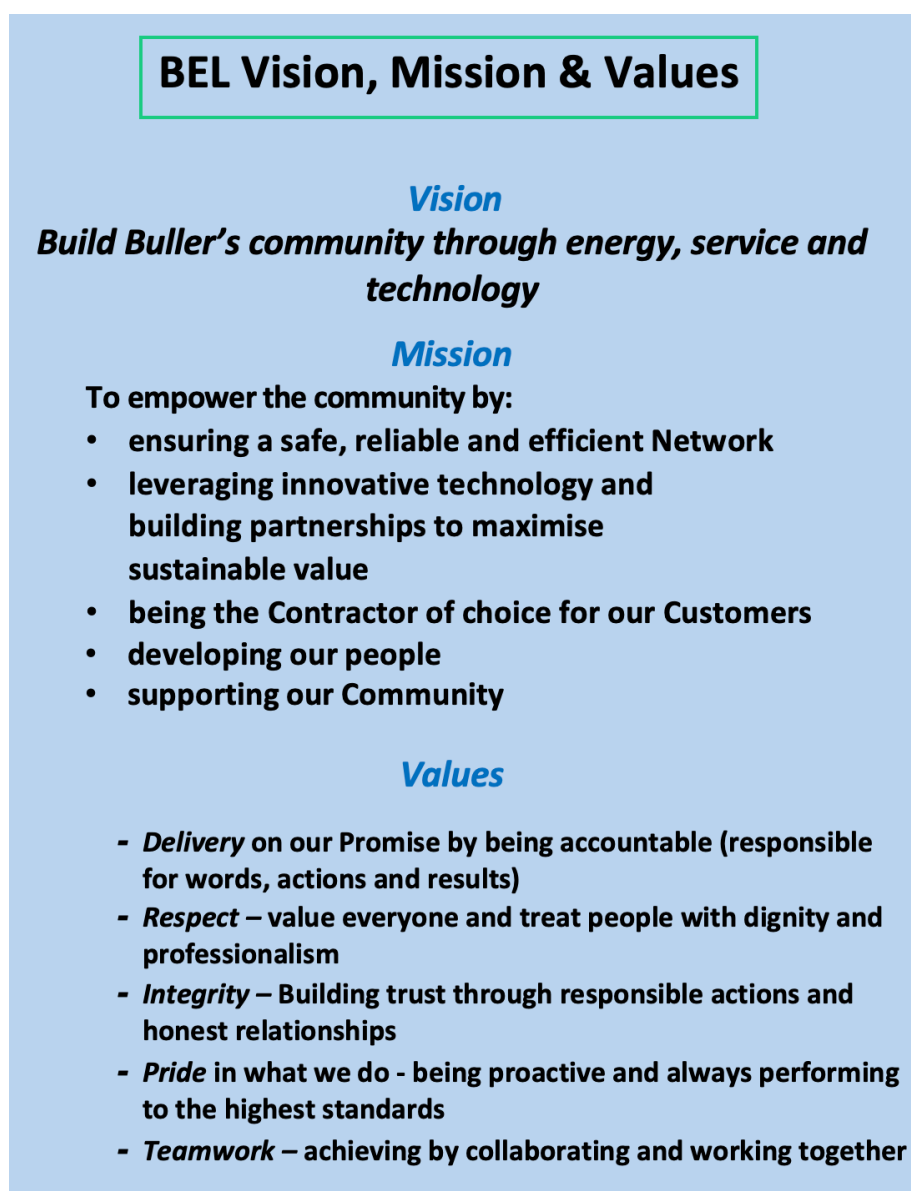


Figure 7. BEL's Vision, Mission and Values Statement.

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 principle accountability mechanism between BEL's board and the shareholder (the Buller Electric Power Trust).

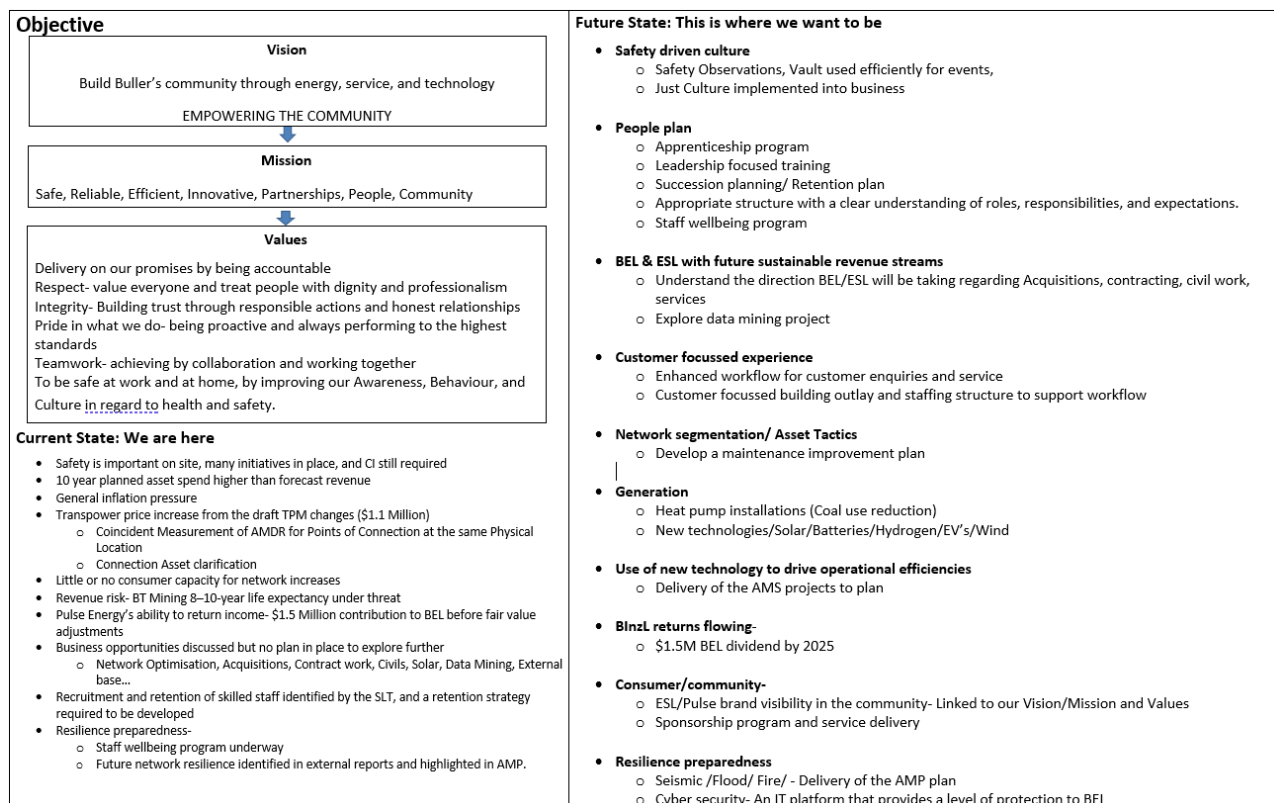


Figure 8. Strategic Plan RoadMap.

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.

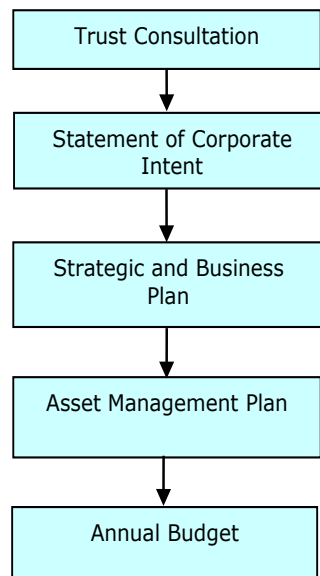


Figure 9. Interaction of Plans and Processes.

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. Getting prices wrong could result in levels of	BEL's total revenue is constrained through recognition of the beneficial ownership arrangement.

Interest	Description	How Interests are Accommodated
	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
- Dean J Phibbs
- Elizabeth J Douglas

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
- Craig M Scanlon
- 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 organisational structure of BEL and clearly defines the reporting lines of the Company. This also includes the BEL Group electrical contracting company Electro Services Ltd.

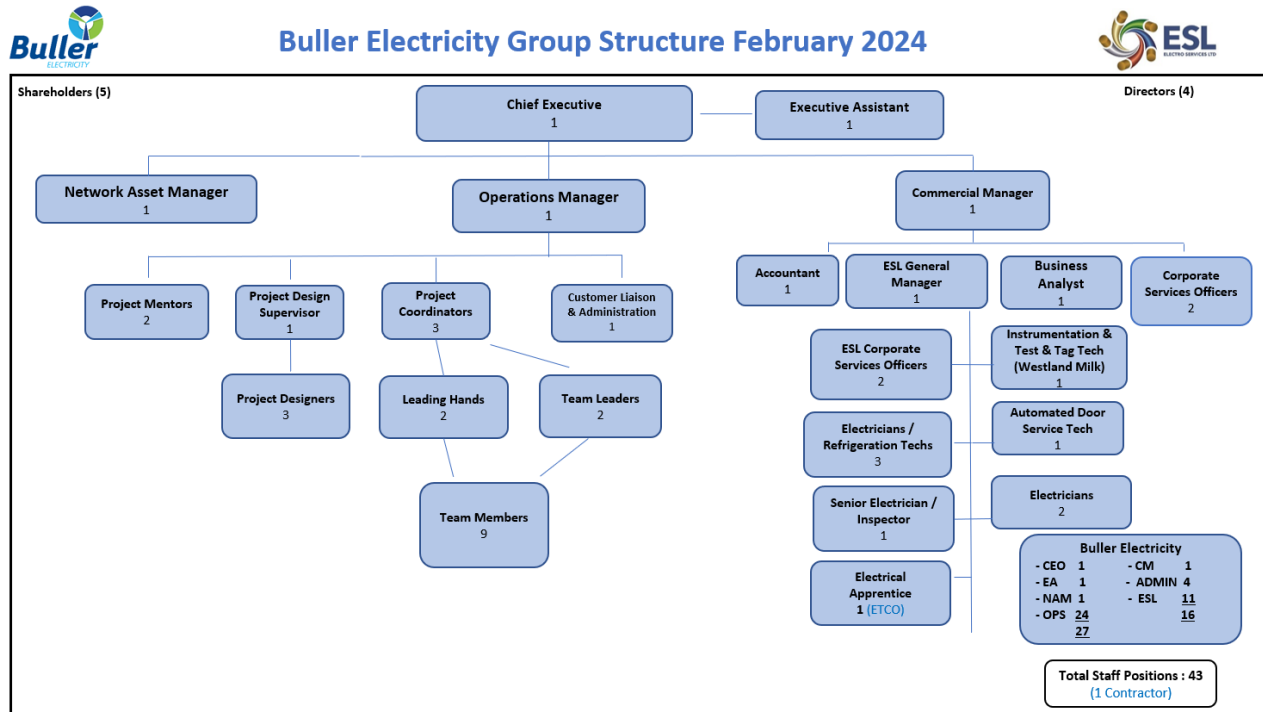


Figure 10. BEL Corporate Structure (February 2024).

2.6 SIGNIFICANT ASSUMPTIONS

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

Table 11. Schedule of Significant 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
	Russia–Ukraine war	Probably moderate
	Westland Dairy pay-out is now linked to Fonterra so local farm prospects seem improved.	
	Interest rates will remain high in the short term and investor confidence will also remain low	
	Weak NZ\$ makes NZ a more attractive tourist destination, once Covid restrictions allow.	
	BT Mining's Stockton operation will continue to operate at its current levels	Significant impact to forecast planning
Demographic	Population age will continue to skew upwards as young local people leave the district due to lack of employment opportunities, and more older people look to move to Buller to retire.	

Class of Assumption	Specific Assumption	Likely Impact on AM Drivers and Outcomes if Assumptions Prove Incorrect
	Statistics NZ & Infometrics forecasts Buller population to decline over the next 25 years and highlights that we have an aging population.	
	Current expansions of local health facilities may provide more secure health care going forward.	
Technology	Rooftop solar is unlikely to be popular in the short-to-medium term due to cost, low feed-in tariffs and payback period	Probably low in the short-to-medium term
	Batteries unlikely to be popular in short-to-medium term due to cost and payback.	
	EV uptake behind the national average due to limited range of EV's and current capital cost to change vehicles.	
Load	Load and peak demand increase slowly at 0.4% per year in short to medium term	Low in the short-to-medium term. Load would have to increase significantly to impact the forecast planning. The pace of change to meet Zero Carbon objectives may change this.
Price Increases	Increases in prices will follow price inflator assumptions	High in the short term. Inflation figures would have stay high over the medium to long term to significantly impact forecast planning

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.

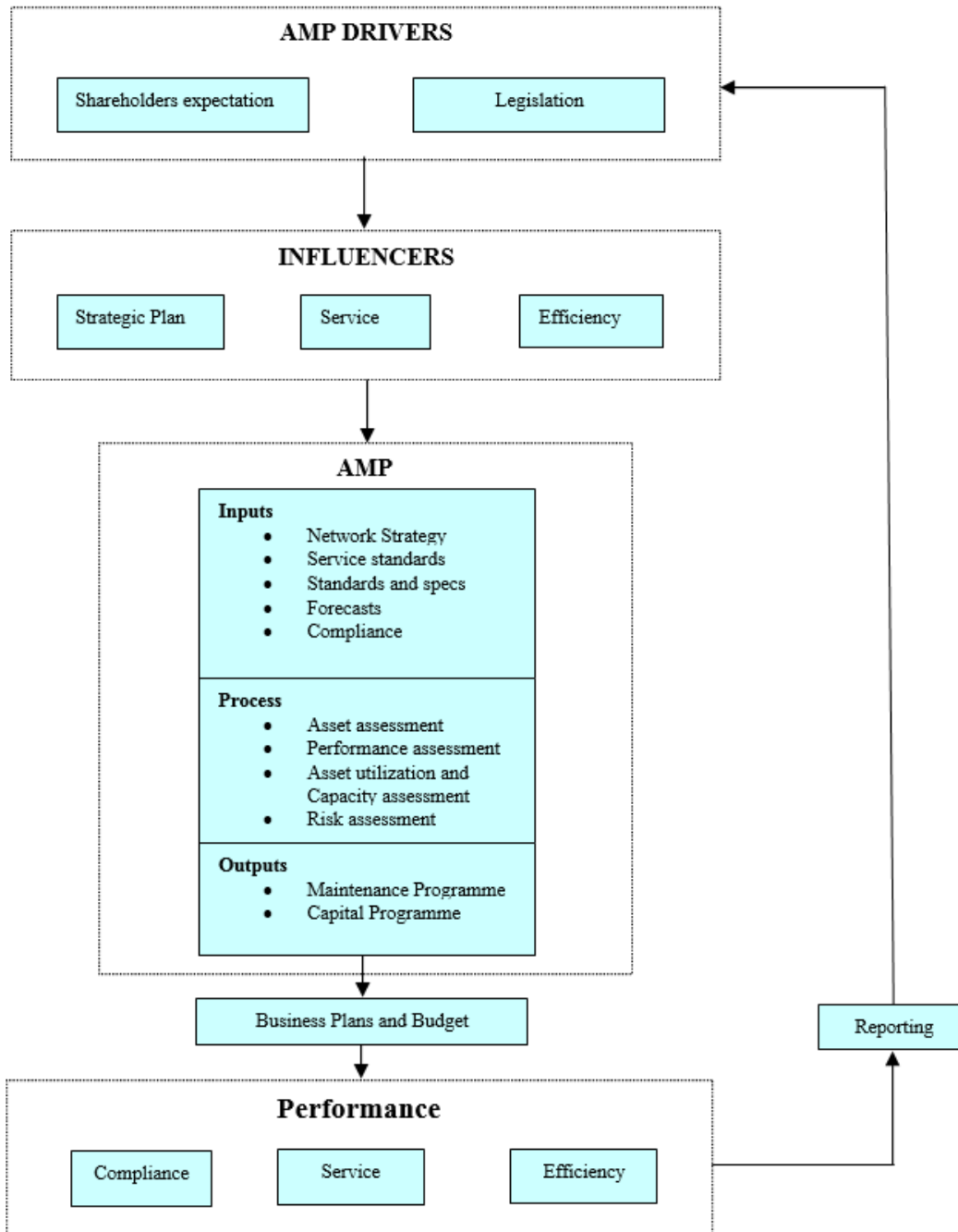


Figure 11. Development of AMP.

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.

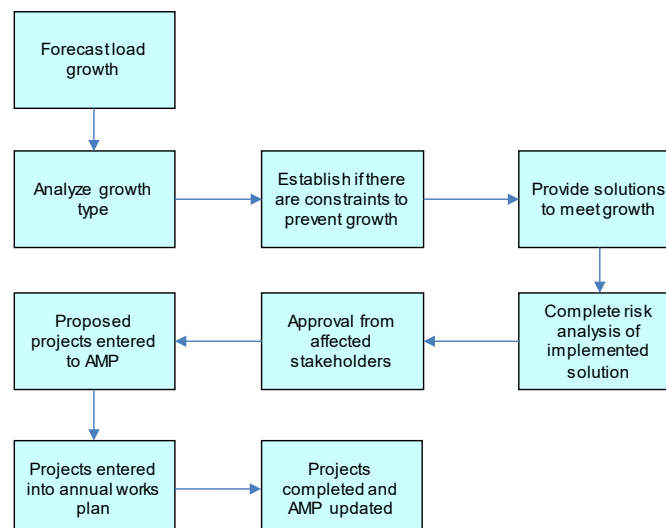


Figure 12. Process for Assessment of Future Load Growth.

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.

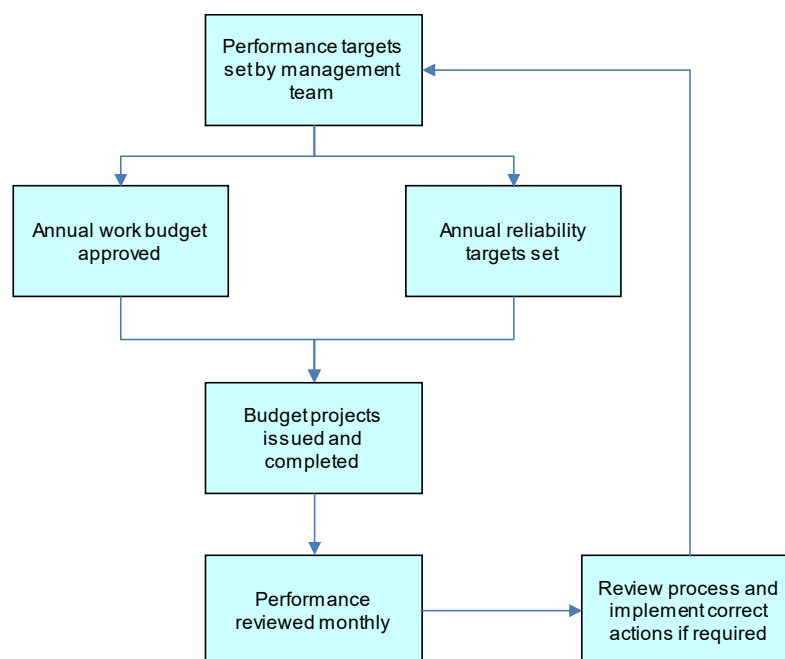


Figure 13. Performance Monitoring Process.

2.13.1 INFORMATION SYSTEMS AND OPERATING PROCESSES

BEL uses a range of operating processes, systems and databases to store and manipulate asset data that drives its asset management decisions. These have been built up over time and tend to be stand alone and specific to BEL's needs. In 2022 the GIS was upgraded to ArcGIS Online, making up to date asset information available to staff in the field. The underlying asset management system is scheduled for replacement June 2023.

2.13.1.1 MICROSOFT NAVISION (NAV)

This is the financial and job-costing package which BEL utilises for all financial related data and invoicing. It holds fixed asset registers for all BEL financial assets. NAV also incorporates various reporting tools and budgeting functions.

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

BEL utilises ESRI's ArcGIS Online platform for spatial representation of all network assets. This is populated from the Asset Management Database in which all asset related attributes are stored. Presently asset updates are entered manually via as built drawings and datasheets while asset condition survey data are imported via a software routine from the Fulcrum mobile data collector app.

Asset condition as well as maintenance and inspection scheduling reports are generated to assist with the development of the forward work plan for the AMP. On the 7400 asset location sites BEL has listed 43500 individual assets that include data on...

- Asset location, age and site details as well as site-specific hazards
- Condition assessments and defects of all assets

Attribute data, e.g., type, size capacity etc. relating to all poles, crossarms, conductors, substations, transformers, switchgear, fuses and earthing systems, SCADA and communication systems.

2.13.1.3 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

- Asset data collection and condition surveys
- 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.

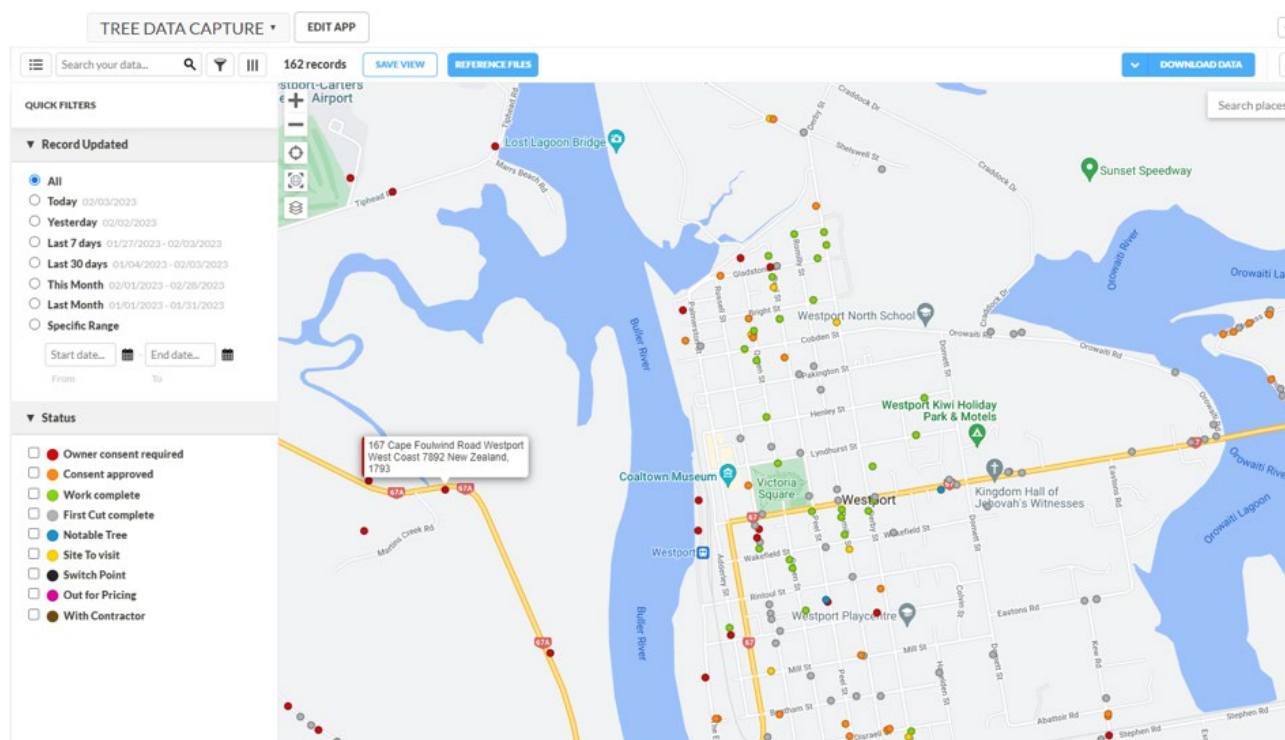


Figure 14. Fulcrum Tree Status Mapping.

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.

2.13.1.4 OUTAGE DATABASE

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. Admin staff update the database as records are submitted after a power outage.

Recorded information includes:

- Stating 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.

2.13.1.5 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.

2.13.1.6 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.

2.13.1.7 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.

2.13.1.8 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.

2.13.1.9 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.

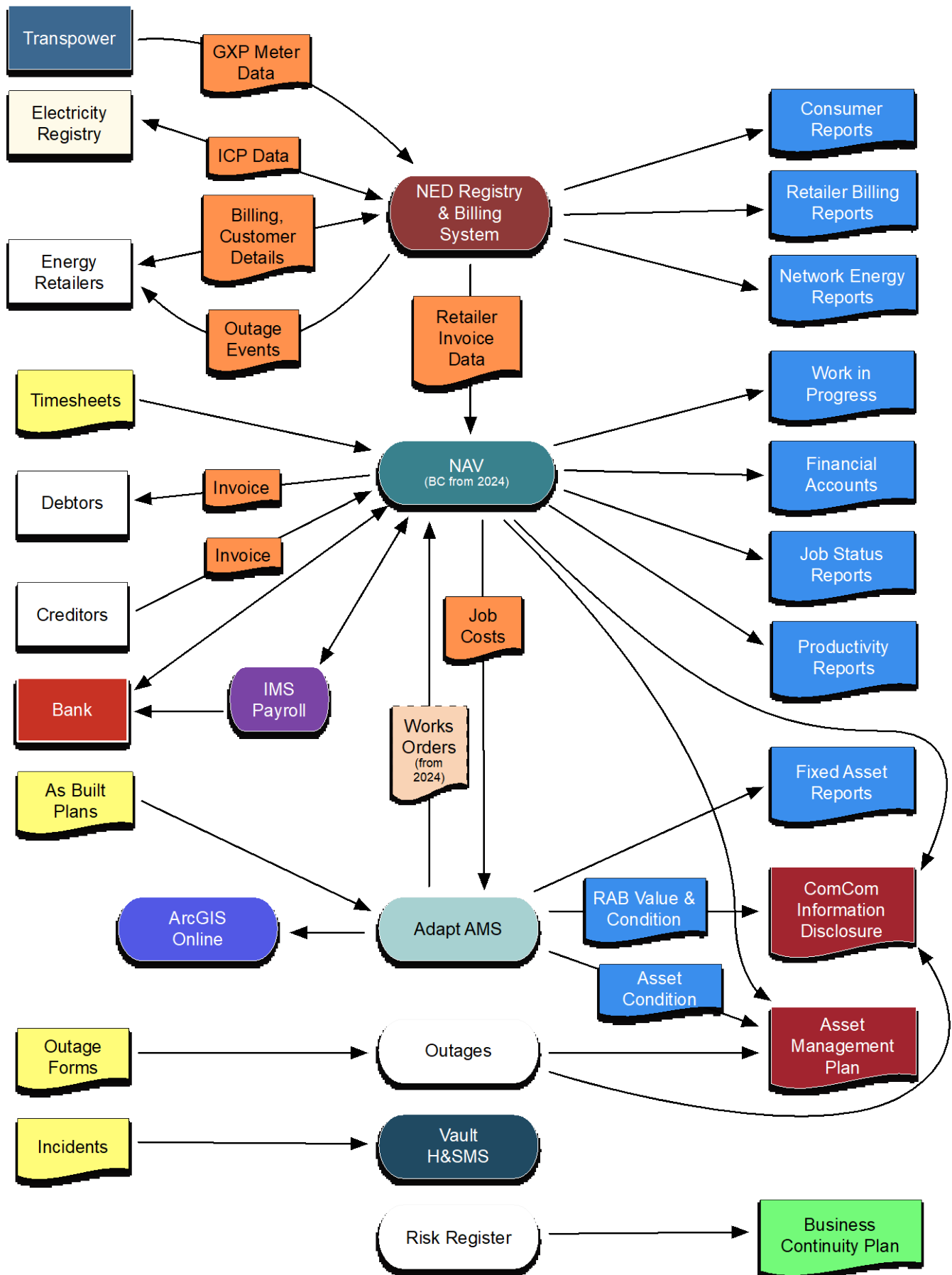


Figure 17. BEL Information Systems Architecture Overview.

2.13.2 DATA ACCURACY

Asset attribute data has improved significantly with 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 Fulcrum 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	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

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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.

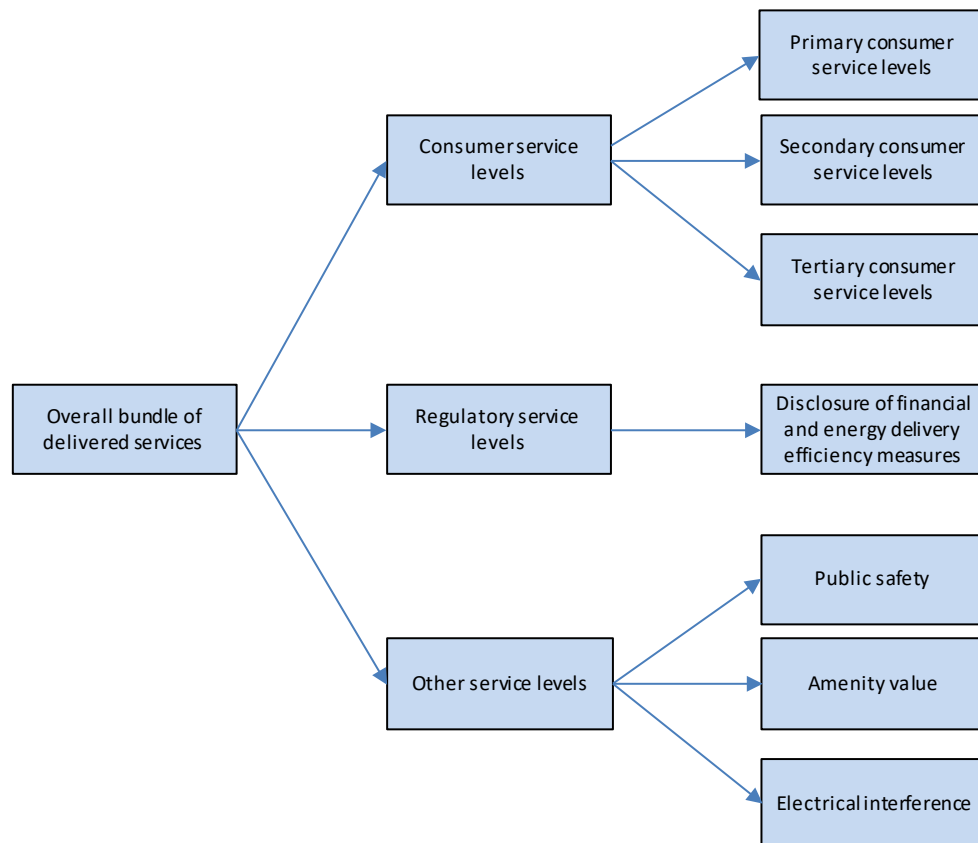


Figure 18. Overview of Service Levels.

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 (4892 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.

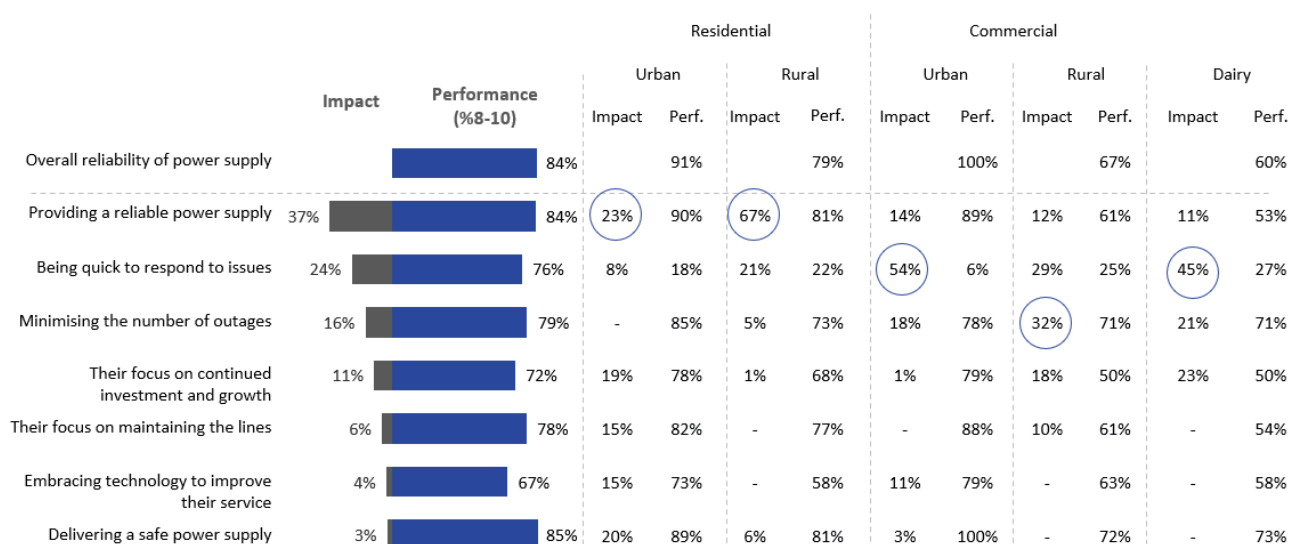


Figure 19. Drivers of Customer Satisfaction – Reliability of Power Supply.

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	2024/25	2025/26	2026/28
SAIDI Planned Interruptions	202	200	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
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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 31/3/25	YE 31/3/26	YE 31/3/27	YE 31/3/28	YE 31/3/29
Costs (\$/km of line)	11,198	11,503	10,484	11,189	10,928
Costs (\$/customer)	1,508	1,542	1,398	1,487	1,445

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:

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

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

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

Table 19. Energy Delivery Efficiency Measures.

Measure	YE 31/3/25	YE 31/3/26	YE 31/3/27	YE 31/3/28	YE 31/3/29
Load Factor	58%	58%	58%	58%	58%
Loss Ratio	7.00%	7.00%	7.00%	7.00%	7.00%
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. Individual EIEP5A files are transmitted to each affected electricity retailer, which in-turn notifies the consumer in advance of the planned outage.

In addition to sending the planned outage notification to retailers, Buller Electricity post notifications on

1) The Buller Electricity Limited Website, and

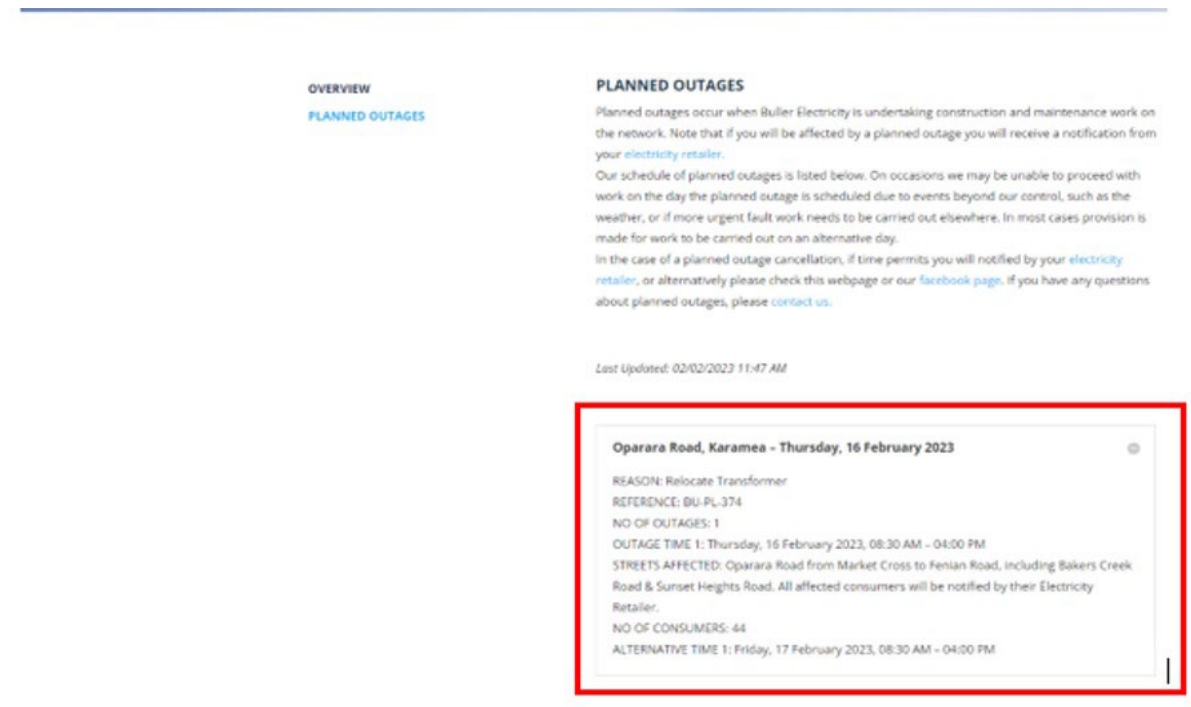


Figure 20. BEL Website Planned Outage Notification.

2) On the company Facebook page.

At the time of writing, the Buller Electricity Facebook page has 1.9K followers.

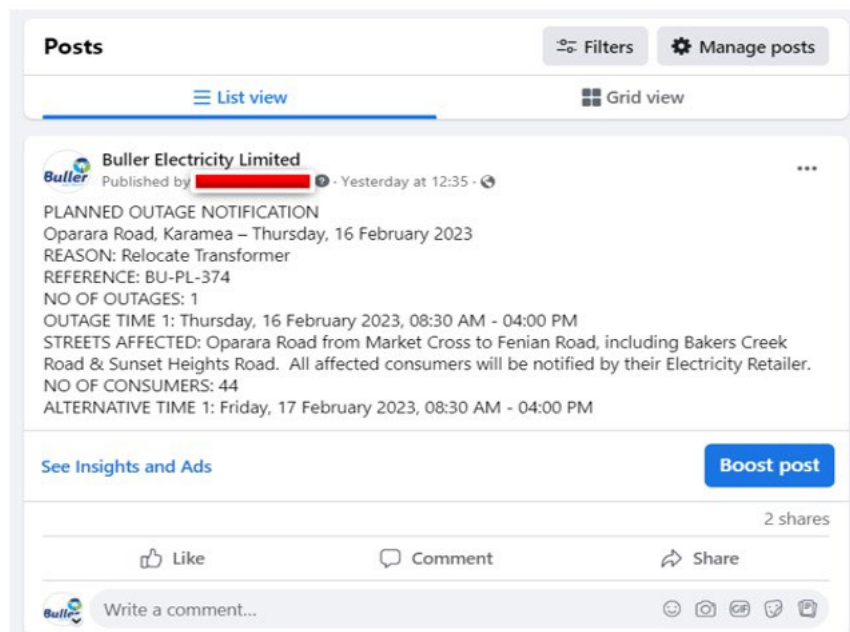


Figure 21. BEL Facebook Planned Outage Notification.

- For all non-urgent planned interruptions, BEL notifies retailers at least 10 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.

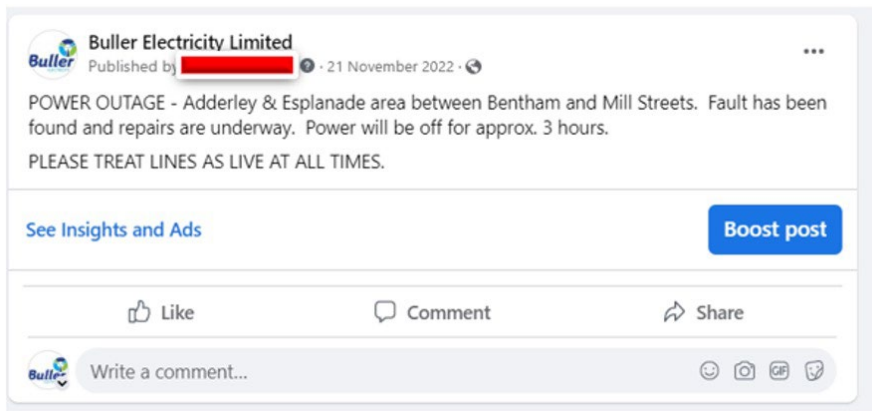


Figure 22. BEL Facebook Unplanned Outage Notification

- EIEP5 Data are sent to retailers with information about the interruption
- 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

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 decided to pilot the Future Grid Compass™ AMI based low voltage network management solution. Five minute power quality data are provided by an MEP representing 50% of meters on the network. The outcomes from this system are gradually being introduced into the business as they are explored.

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 through 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 through 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 whether 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 every 2-3 years to gauge consumer satisfaction.

BEL's engagement with consumers is completed by an independent third-party professional 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

Over the last two years works delays have been affected by material supply delays. This mainly affect commercial, industrial, and rural distribution substation connections, typically these are for transformer and cable supplies with transformer supplier delivery presently being 26 weeks from order. BEL have pre-emptively ordered in some additional transformers and cable types to try and alleviate this issue. Urban domestic connections typically have small and short service cable requirements and BEL have been able to source these without delay and so these connections have not normally been affected.

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 lived 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 end 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 has been deployed in February 2024. COMPASS™ is improving 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.

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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 4858 ICP's and conveying 54 GWh of electrical energy in the 2021/22 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.

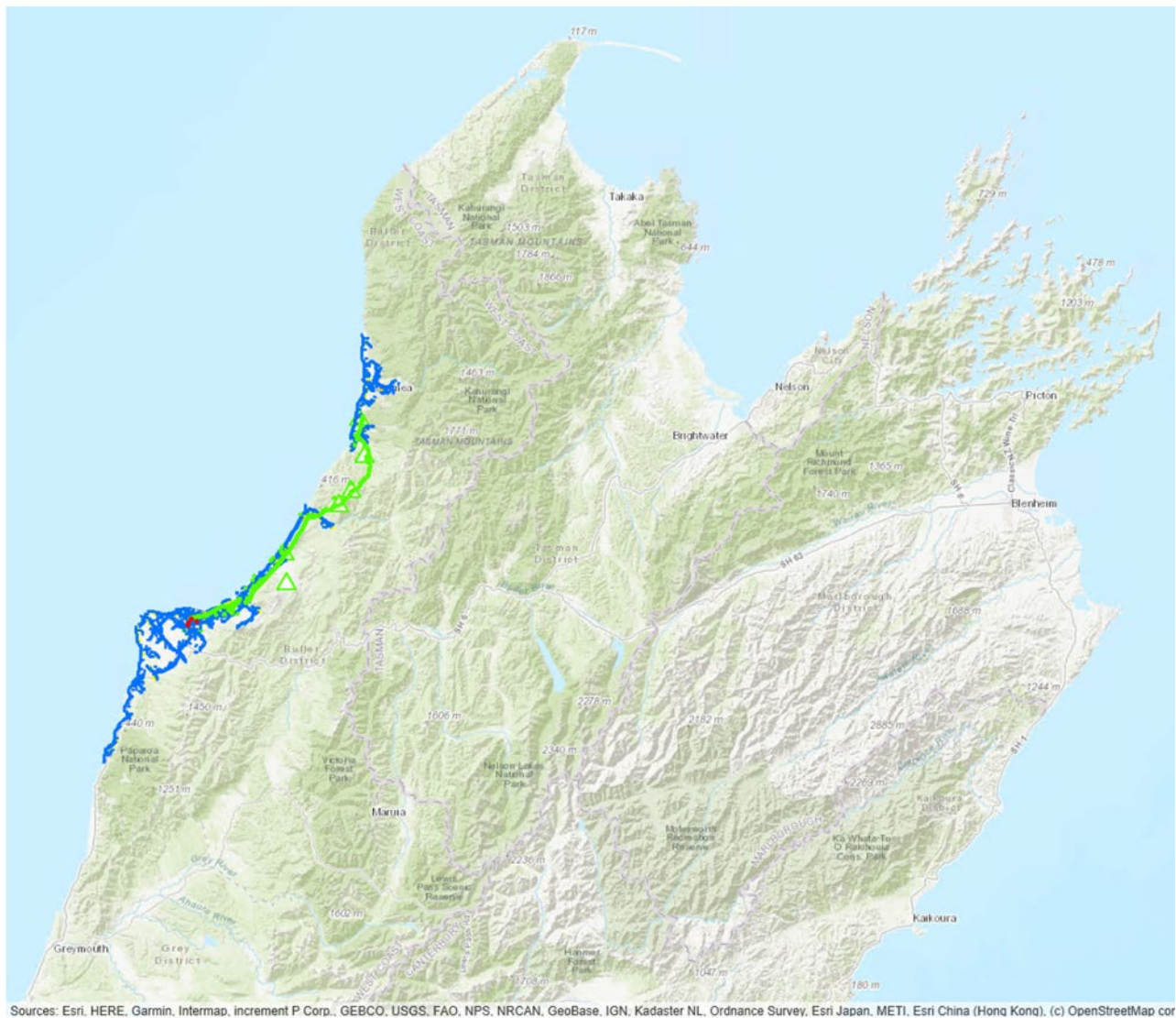


Figure 23. BEL Supply Region (Blue and Green Lines).

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 are tee'd into Transpower's Inangahua-Westport transmission lines.

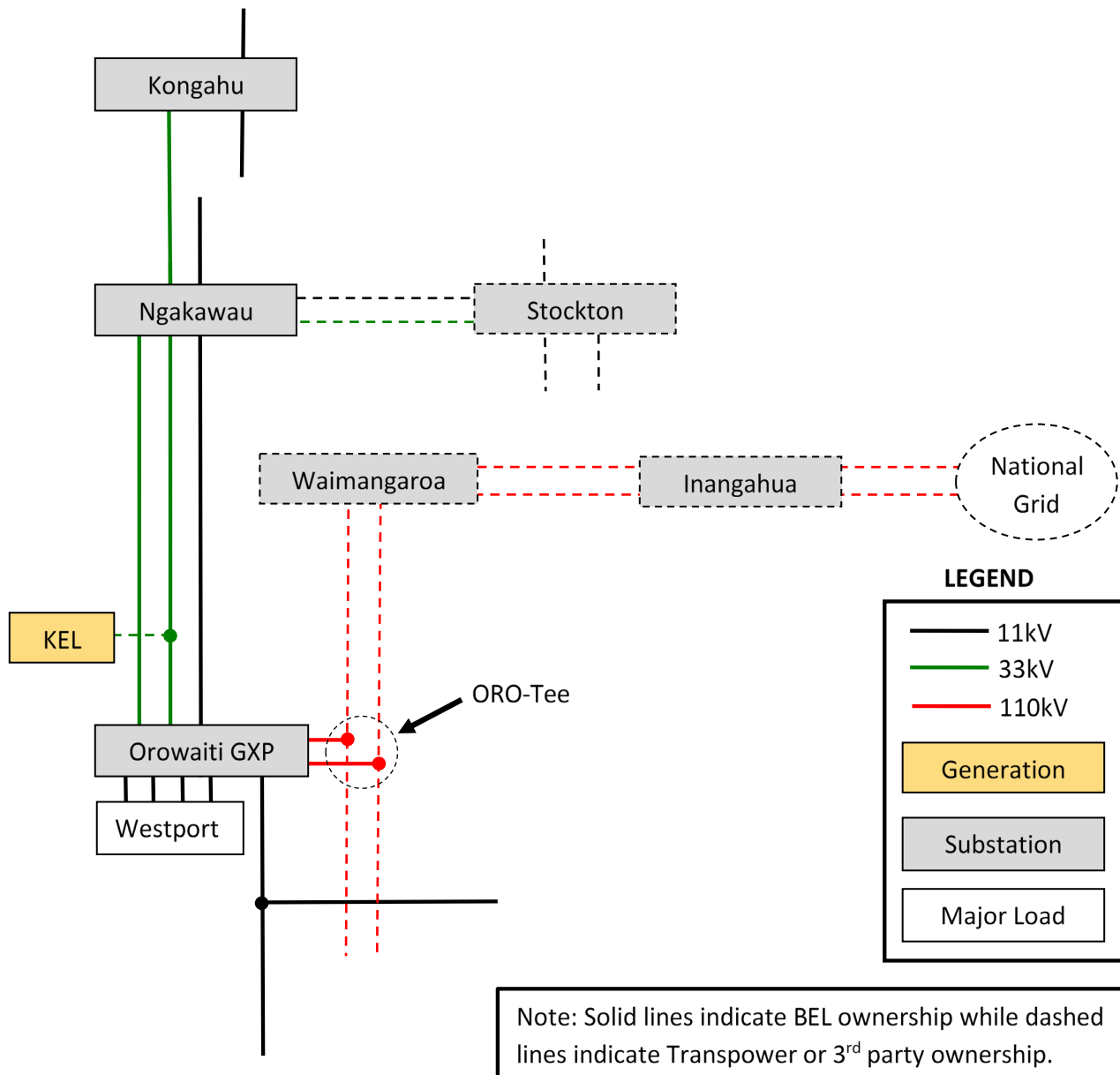


Figure 24. Electricity Networks in the BEL Region.

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.

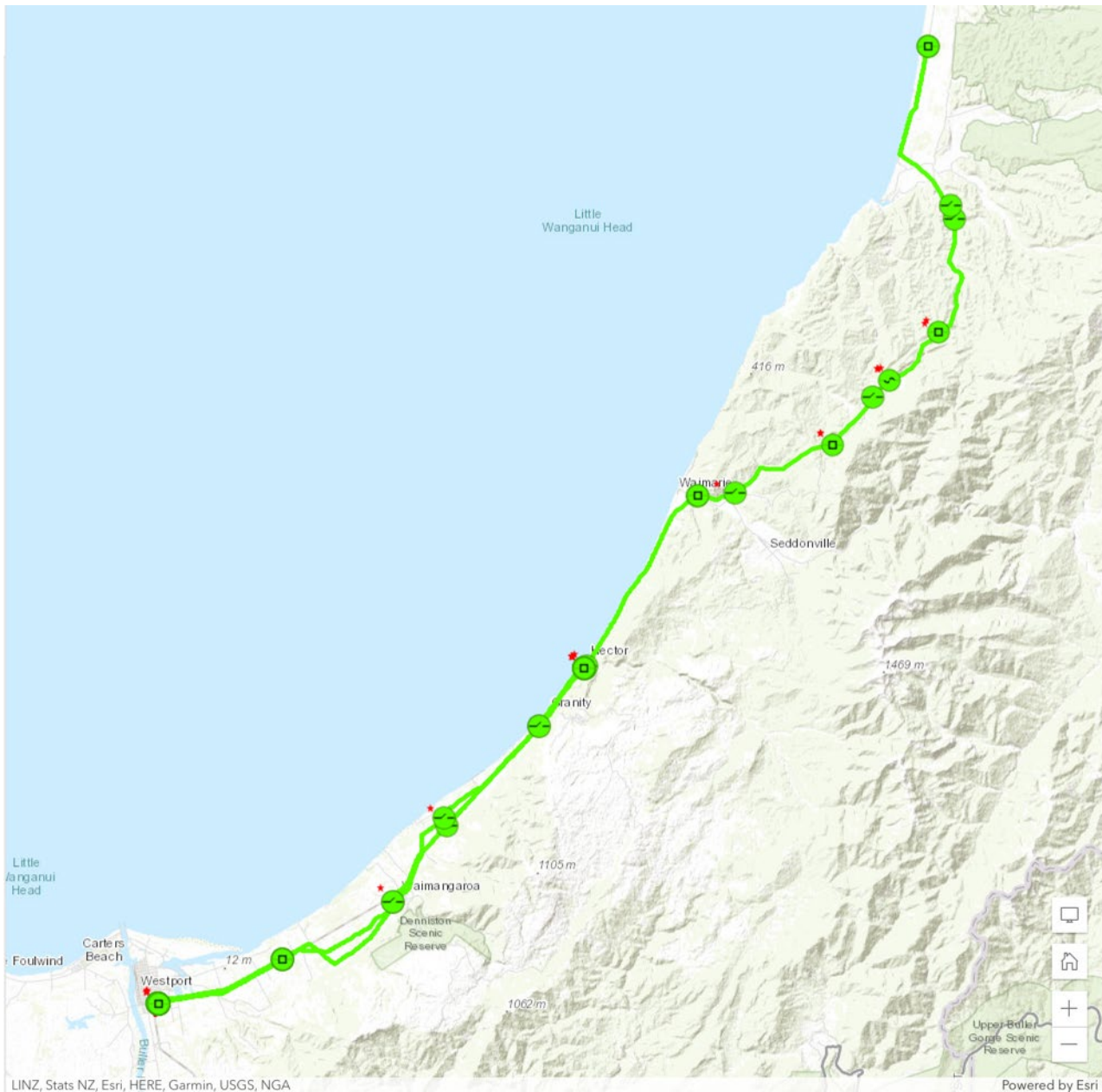


Figure 25. BEL 33kV Subtransmission Network (Source: Adapt Asset Management System).

ROBERTSON STREET SUBSTATION

- Adderley 11kV feeder
- Russell 11kV feeder
- Derby 11kV feeder
- Pakington 11kV feeder
- Domett 11kV feeder
- Whareatea 11kV feeder

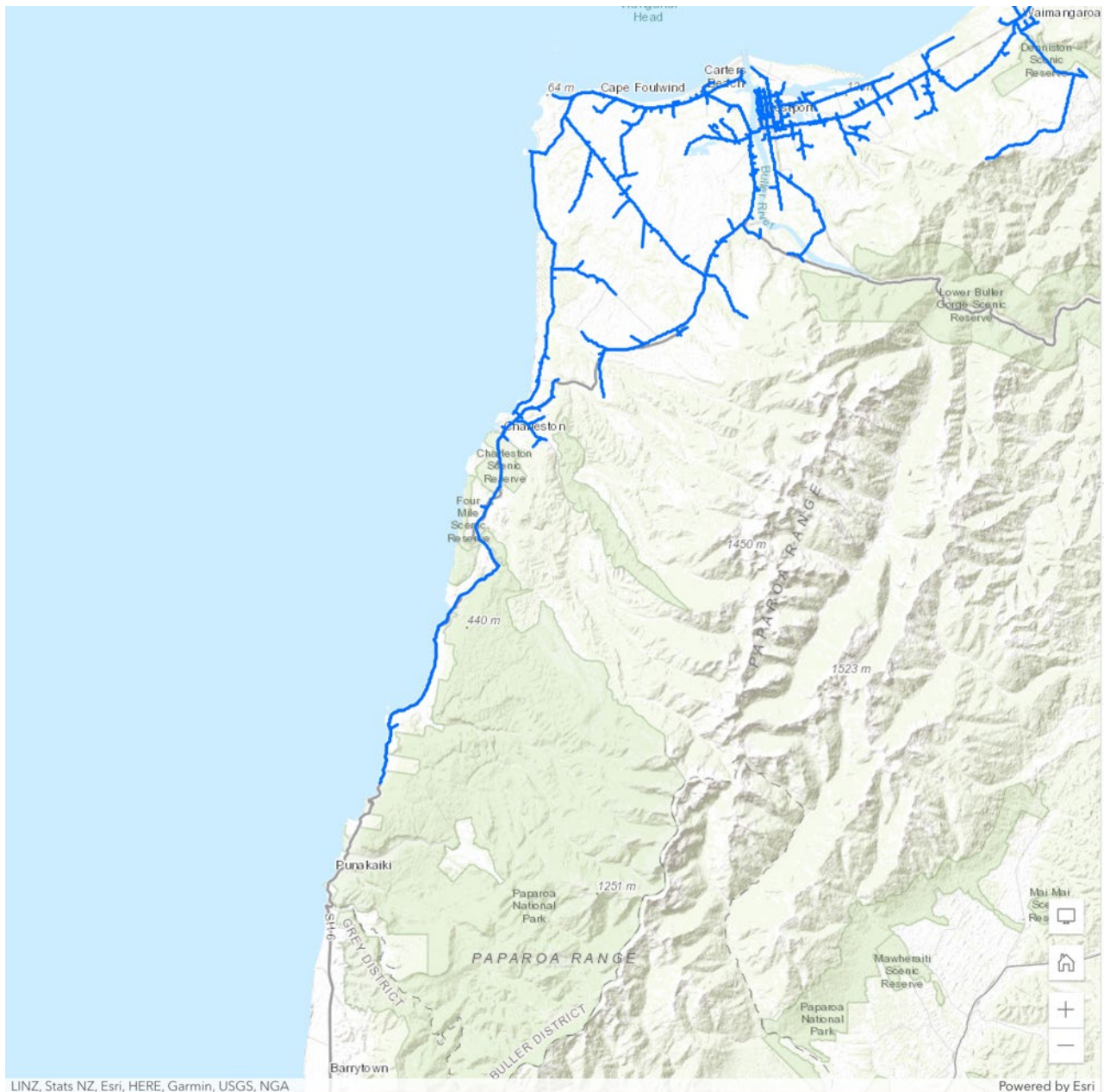


Figure 26. Distribution Feeders supplied from Robertson Street Substation (Source: Adapt Asset Management System).

NGAKAWAU SUBSTATION

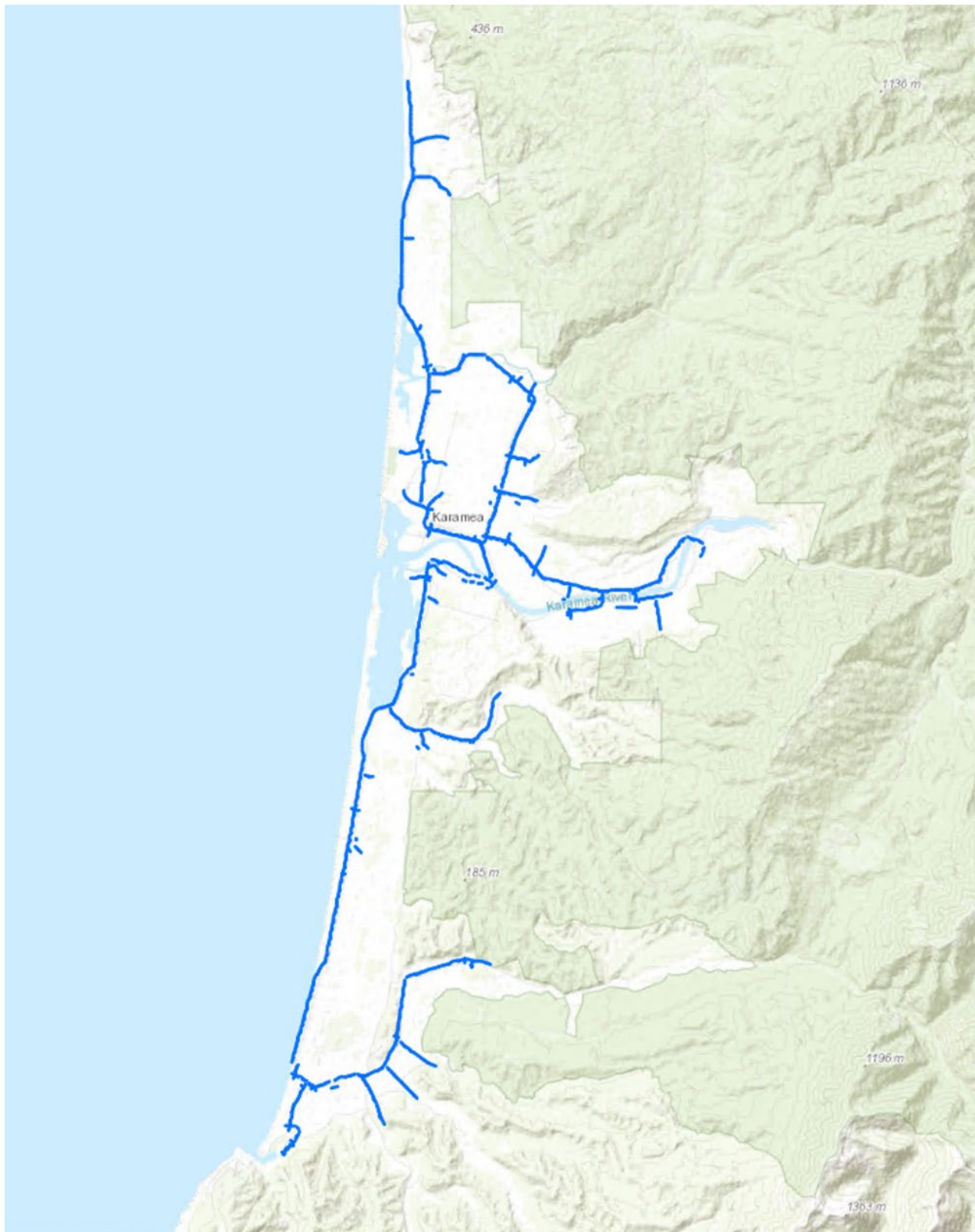
- Waimangaroa 11kV feeder
- BT Mining 11kV feeder
- Seddonville 11kV feeder



Figure 27. Distribution Feeders Supplied from Ngakawau Substation (Source: Adapt Asset Management System).

KONGAHU SUBSTATION

- Little Wanganui 11kV feeder
- Karamea 11kV feeder



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance S

Figure 28. 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 370 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 111kms of overhead and 31km of underground circuits.

The BEL network has a combined total length of 659km 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 four 11kV feeders that supply Westport Township and two 11kV rural feeders that supply up to Waimangaroa in the North, and Meybille Bay in the South. 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.

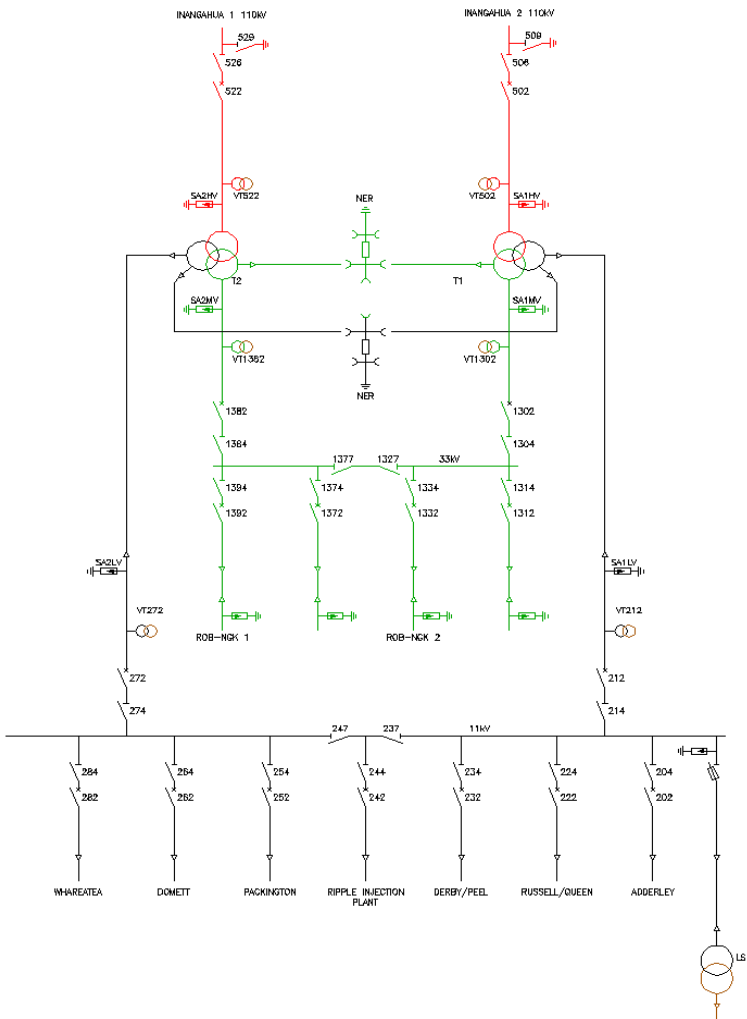


Figure 29. Robertson Street Substation Single Line Diagram.

The demand graph (Figure 30) 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. From there on only minor growth is forecast as the present uncertainty around the coal extraction industry, dairy demand and zero carbon policies are unclear.

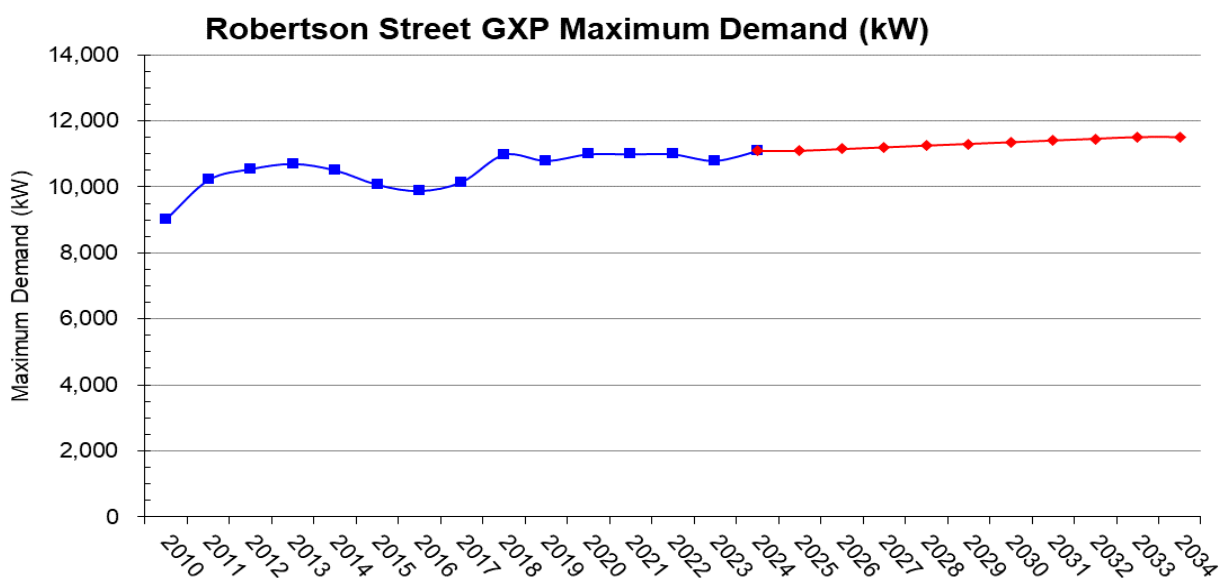


Figure 30. Robertson Street Substation Maximum Demand.

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 supplying Kongahu substation in Karamea and the other supplying 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. A 1.2 MVA voltage support capacitor bank is connected to the 11kV bus and is switched as required to provide voltage boost to the 33kV bus should the BT mining operation at Stockton operate at its design capacity. 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 can now be supplied via the 11kV Whareatea feeder from Robertson Street substation with voltage support capacitors switched in.

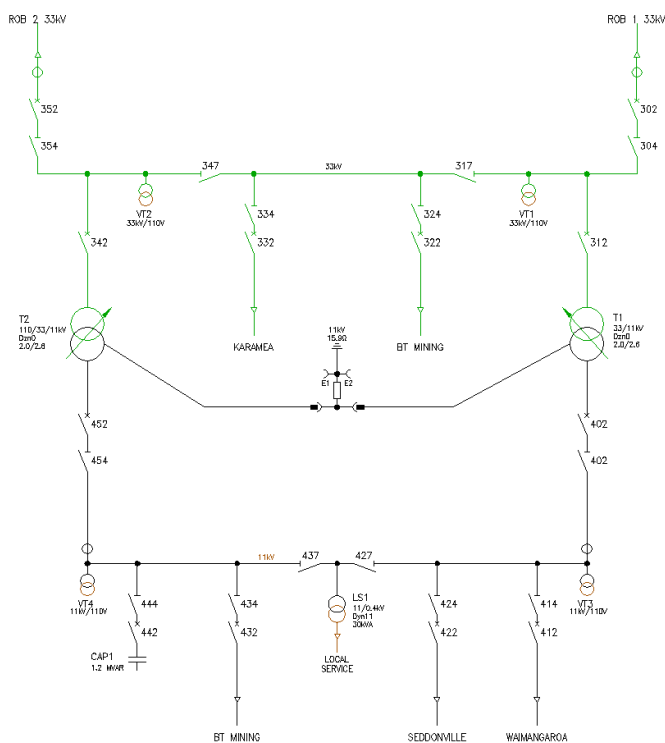


Figure 31. Ngakawau Substation Single Line Diagram.

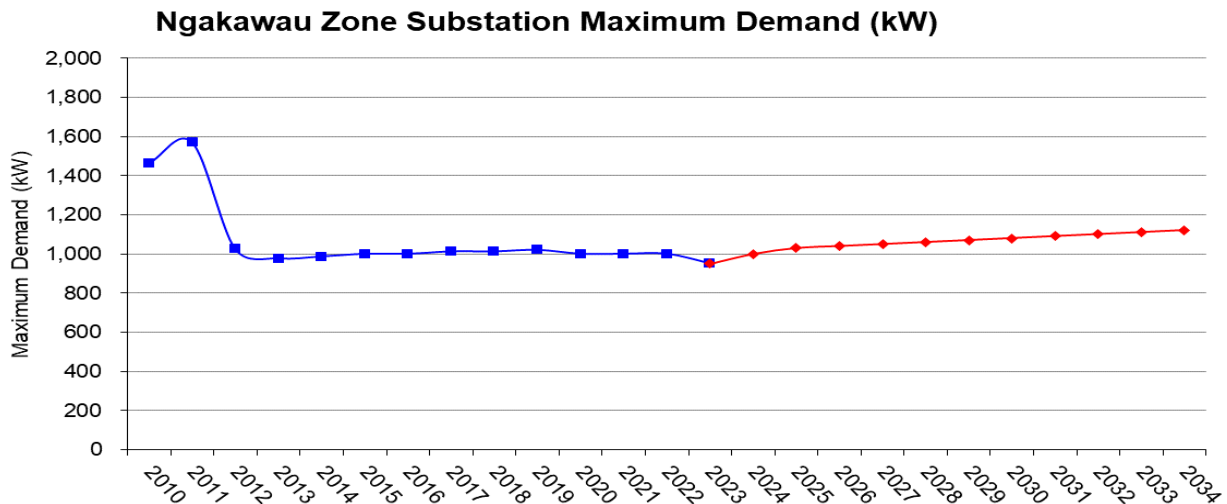


Figure 32. Ngakawau Substation 11kV Maximum Demand.

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. Three standby diesel generators are located within the substation providing a security of supply of 1.7MVA. These are utilised during planned and unplanned outages of the 33kV Karamea Bluff line. Recent dairy farm milk cooling system upgrades have resulted in a 10% increase in the peak load which now totals 1.15 MW.

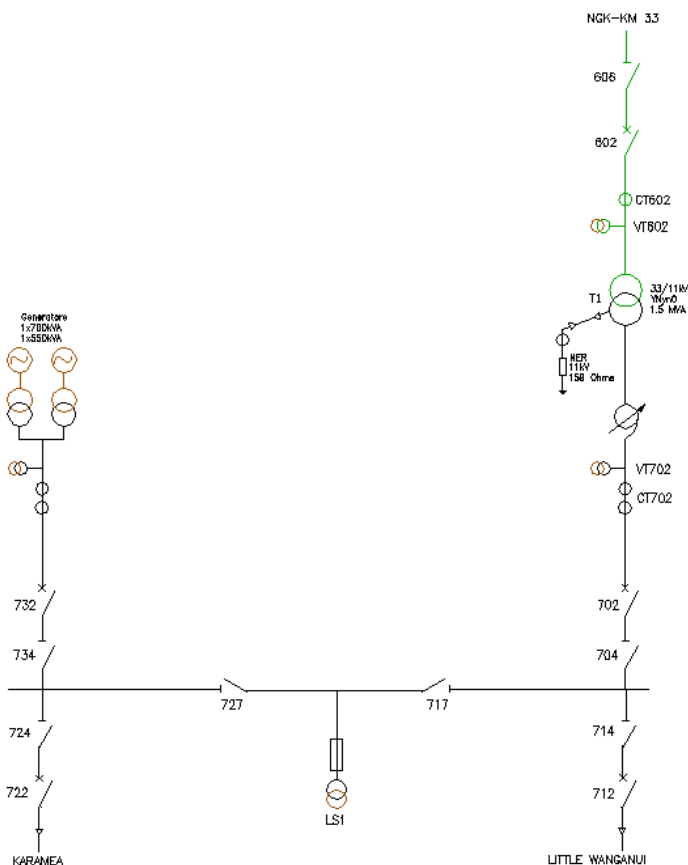


Figure 33. Kongahu Substation Single Line Diagram.

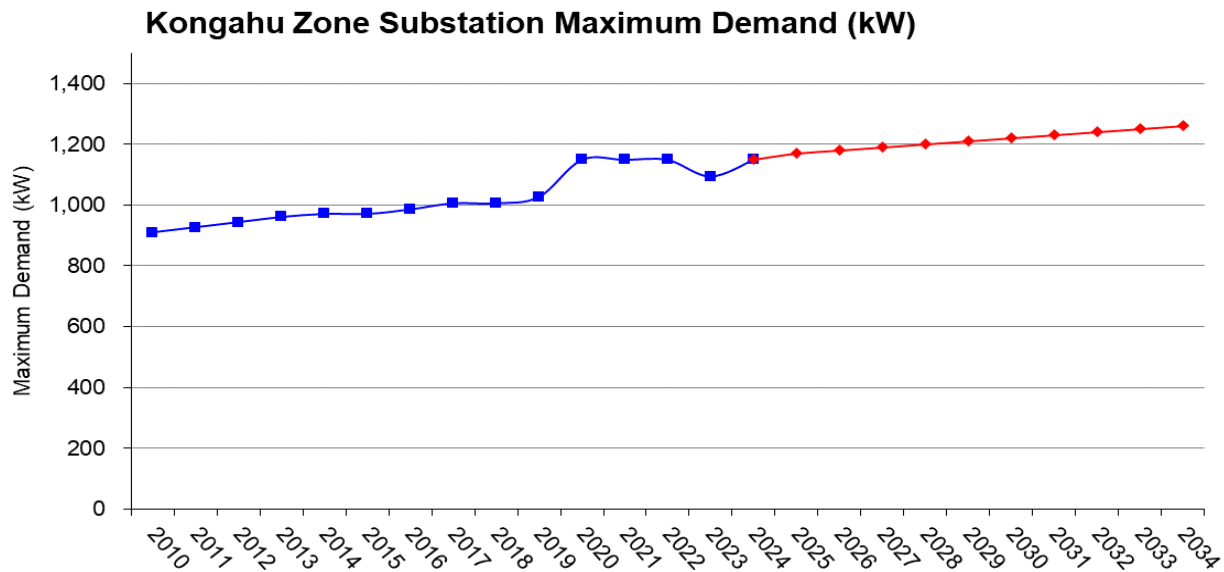


Figure 34. Kongahu Substation Maximum Demand.

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.

Pole | Concrete Poles

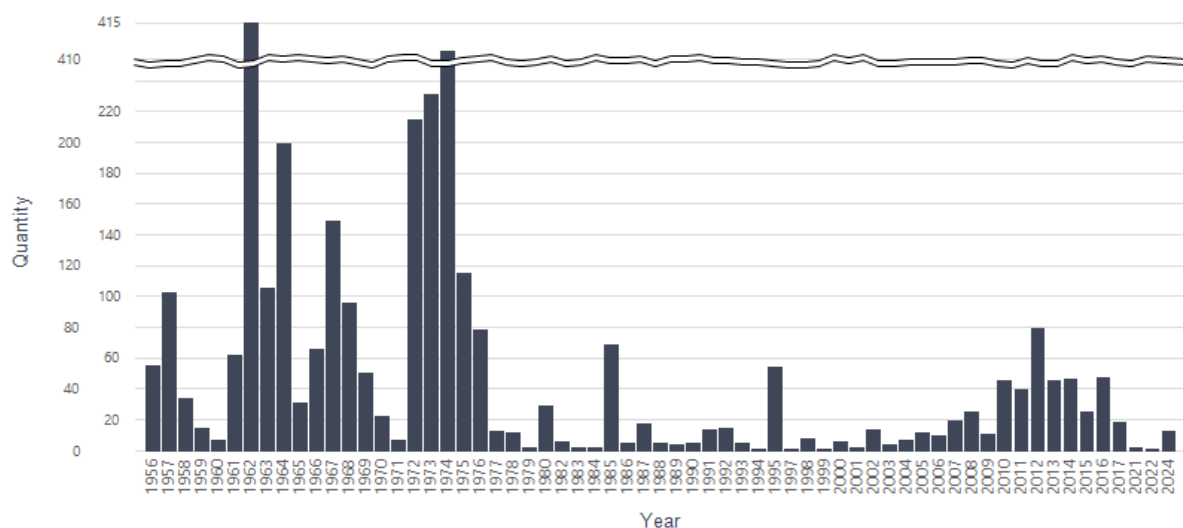


Figure 35. Age Profile of Concrete Poles.

Pole | Stresscrete Poles

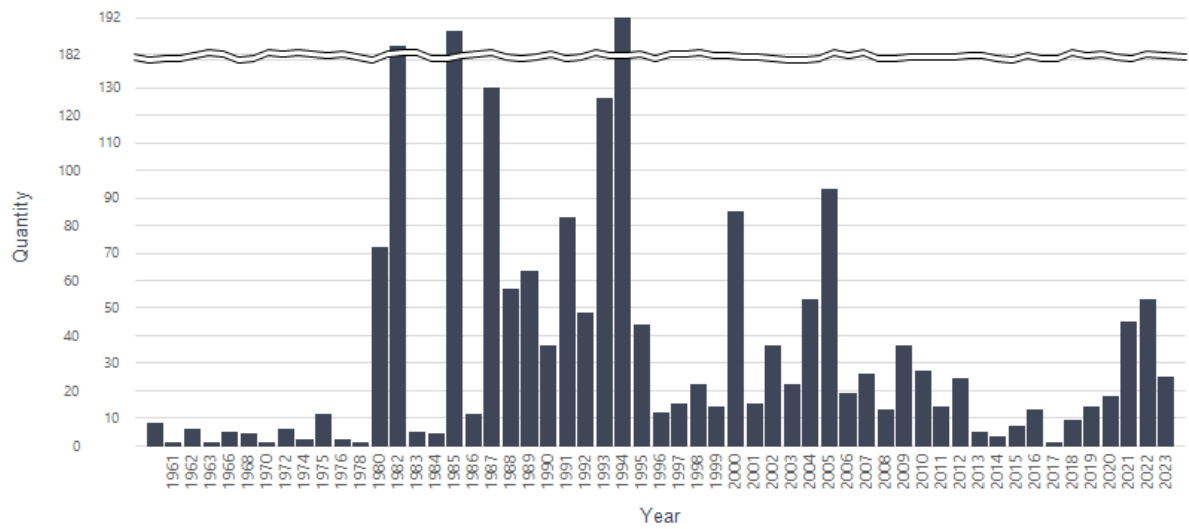


Figure 36. Age Profile of Pre-Stressed Concrete Poles.

Pole | Softwood Poles

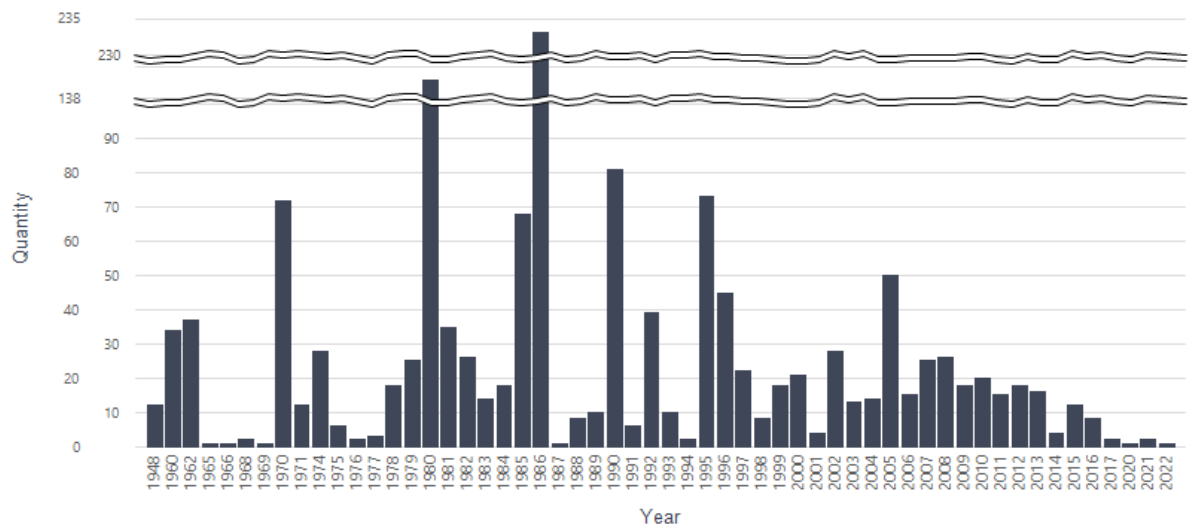


Figure 37. Age Profile of Softwood Poles.

Pole | Hardwood Poles

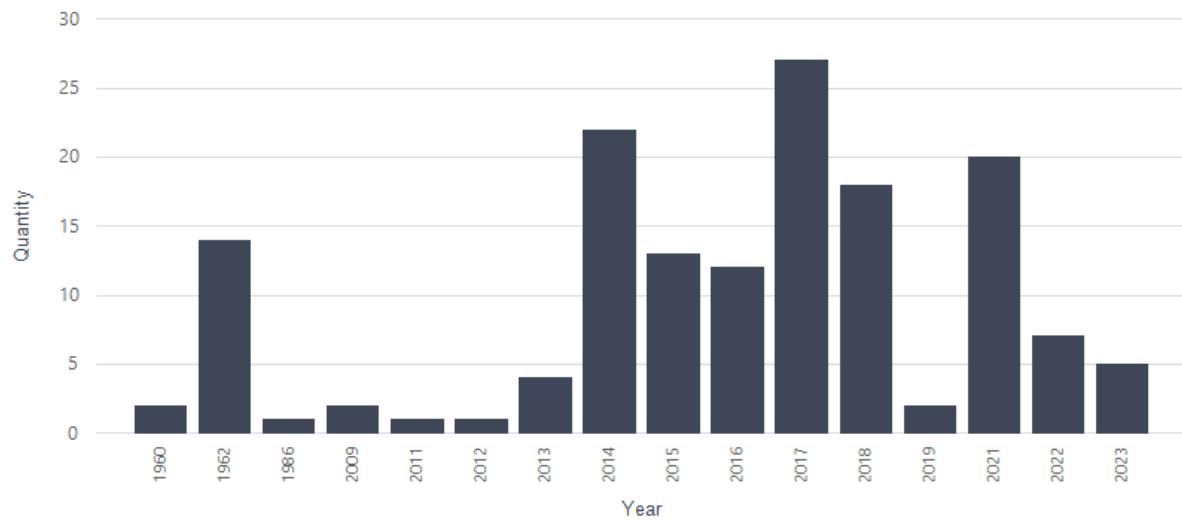


Figure 38. Age Profile of Hardwood Poles.

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.

Crossarm | 33kV Crossarms

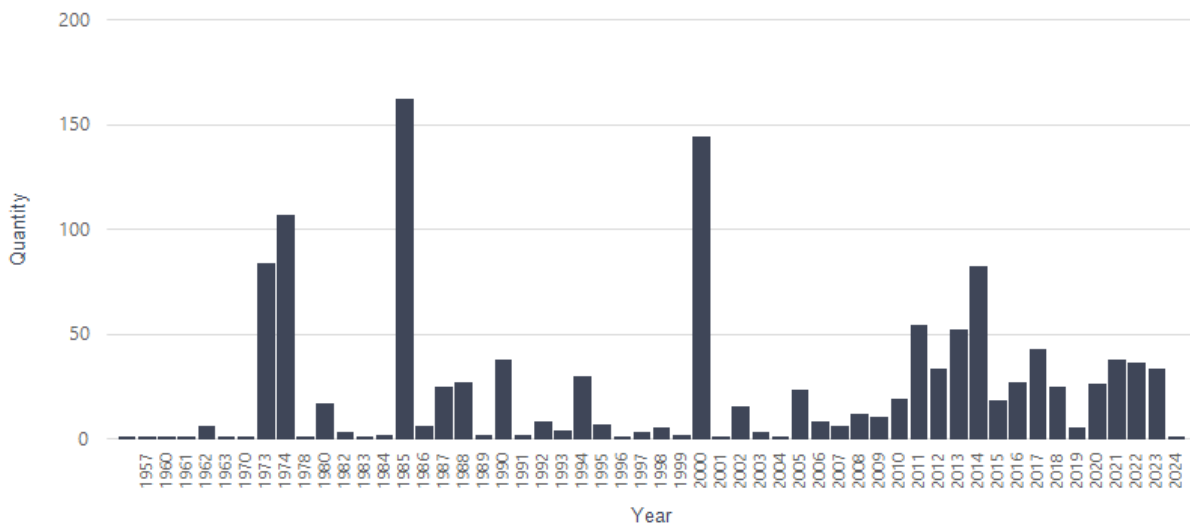


Figure 39. Age Profile of 33kV Crossarms.

Crossarm | 11kV Crossarms

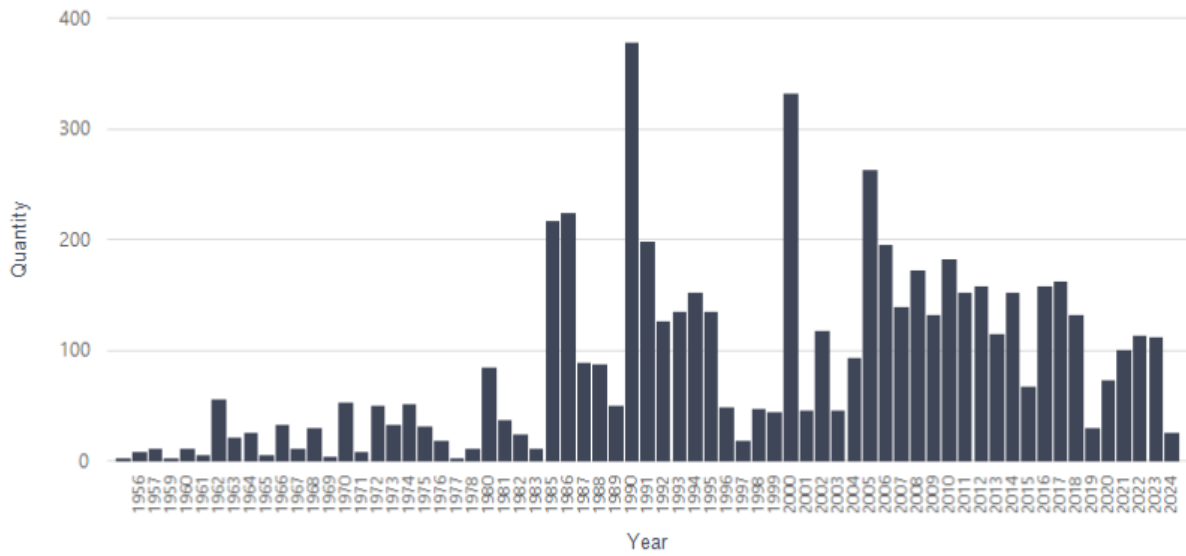


Figure 40. Age Profile of 11kV Crossarms.

Crossarm | 230/400V Crossarms

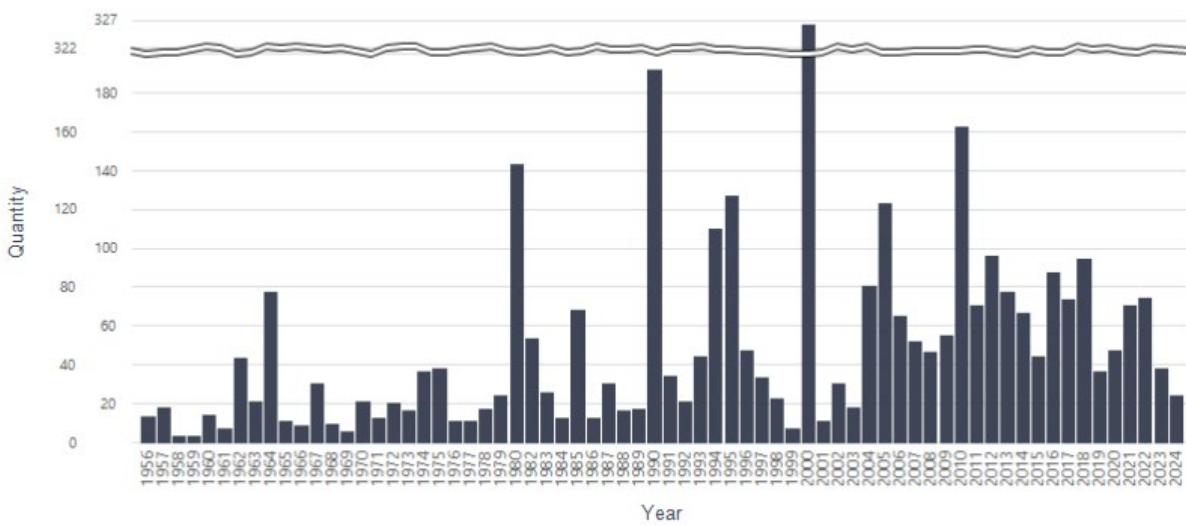


Figure 41. Age Profile of Low Voltage Crossarms.

4.4.2.3 CONDUCTORS

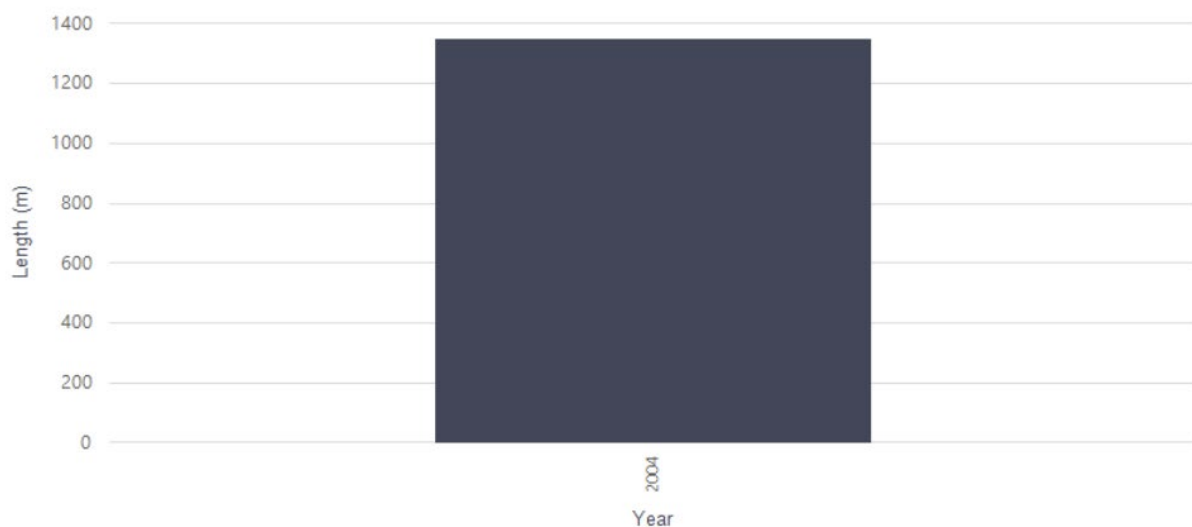
BEL has a mix of overhead conductors and sizes. These are mainly copper (Cu), steel reinforced aluminium (ACSR), and all aluminium alloy (AAAC). Sizes range from 16mm copper through to Krypton (158mm) AAAC.

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.

Line | 110kV Conductor



Line | 33kV Conductor

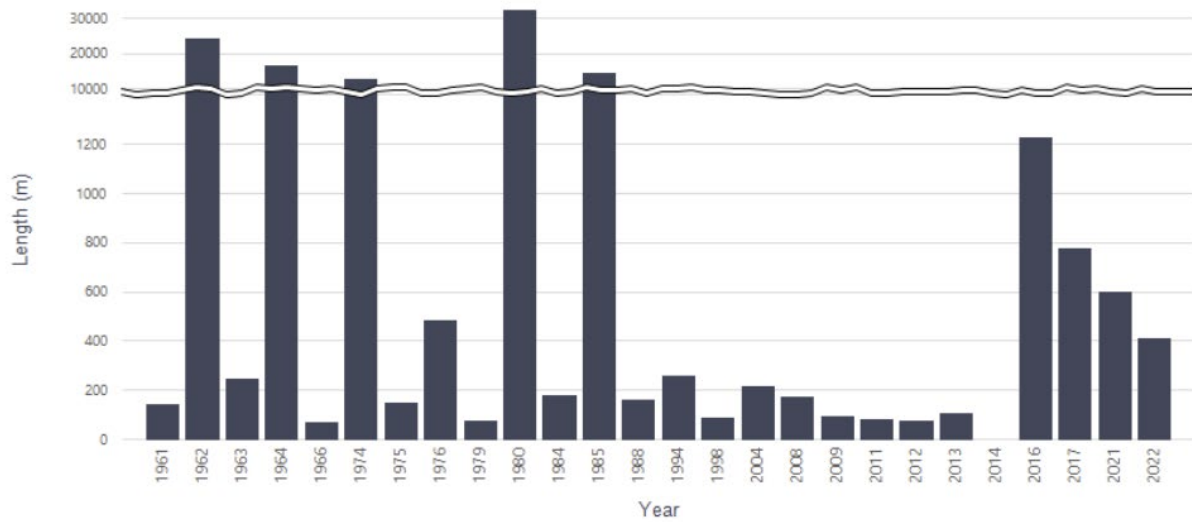


Figure 42. Age Profile of 33kV Conductor.

Line | 11kV Conductor

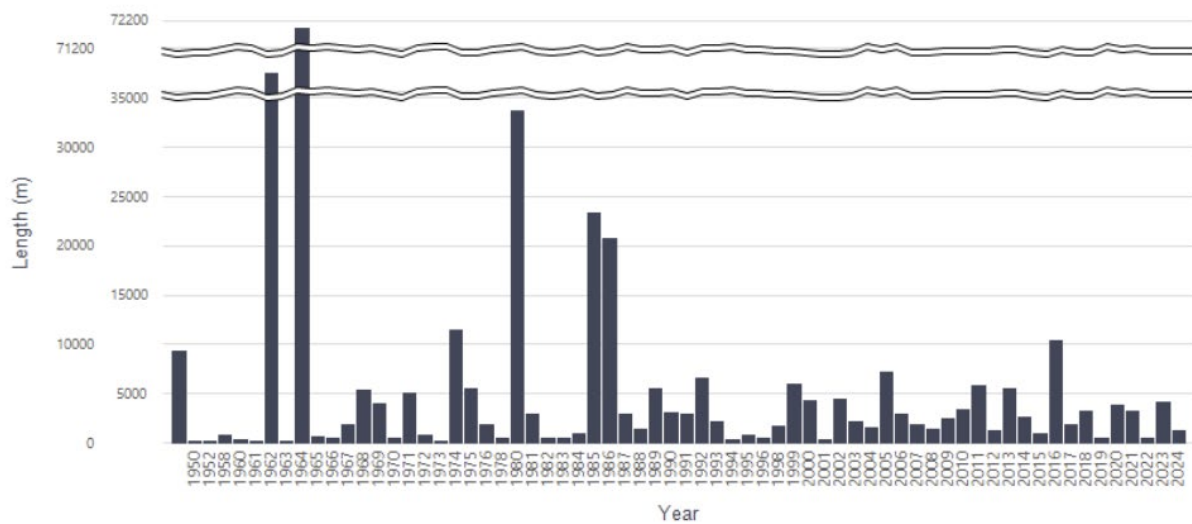


Figure 43. Age Profile of 11kV Conductor.

Line | 400V Conductor

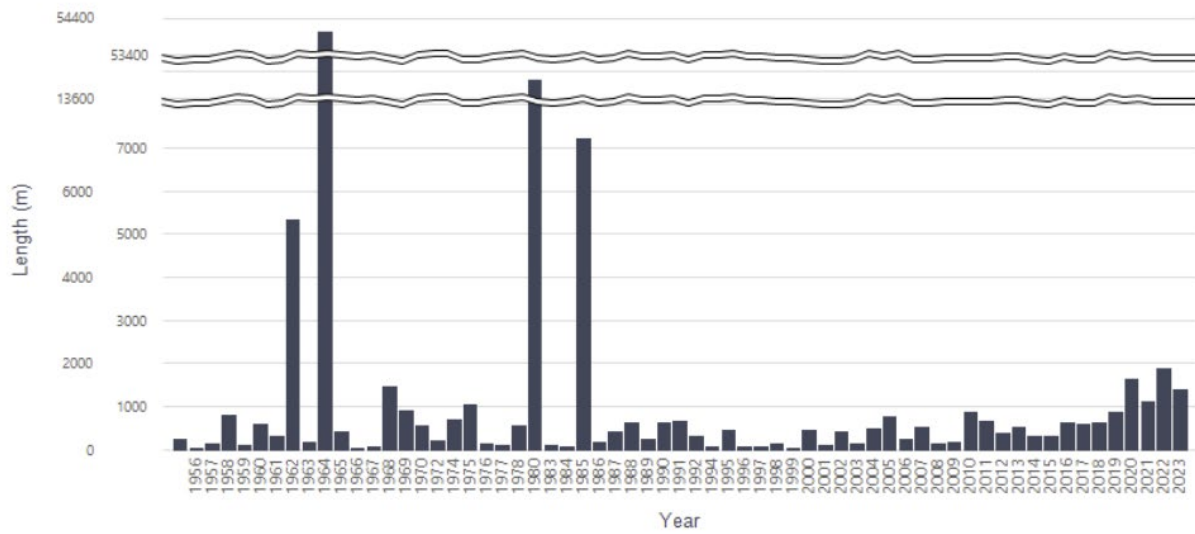


Figure 44. Age Profile of Low Voltage Conductor.

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 Nulec automatic circuit reclosers and sectionaliser equipment manufactured by Schneider Electric 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.

Chart | Reclosers and Sectionalisers

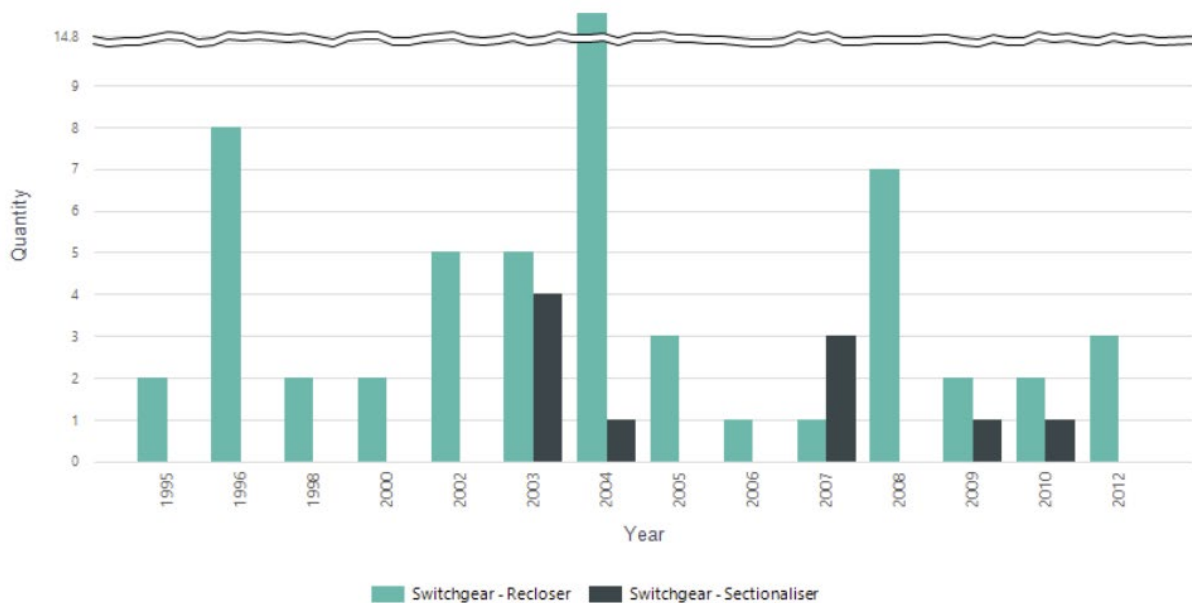


Figure 45. Age Profile of Circuit Breakers, Reclosers and Sectionalisers.

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 VSI 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.

Chart | ABS

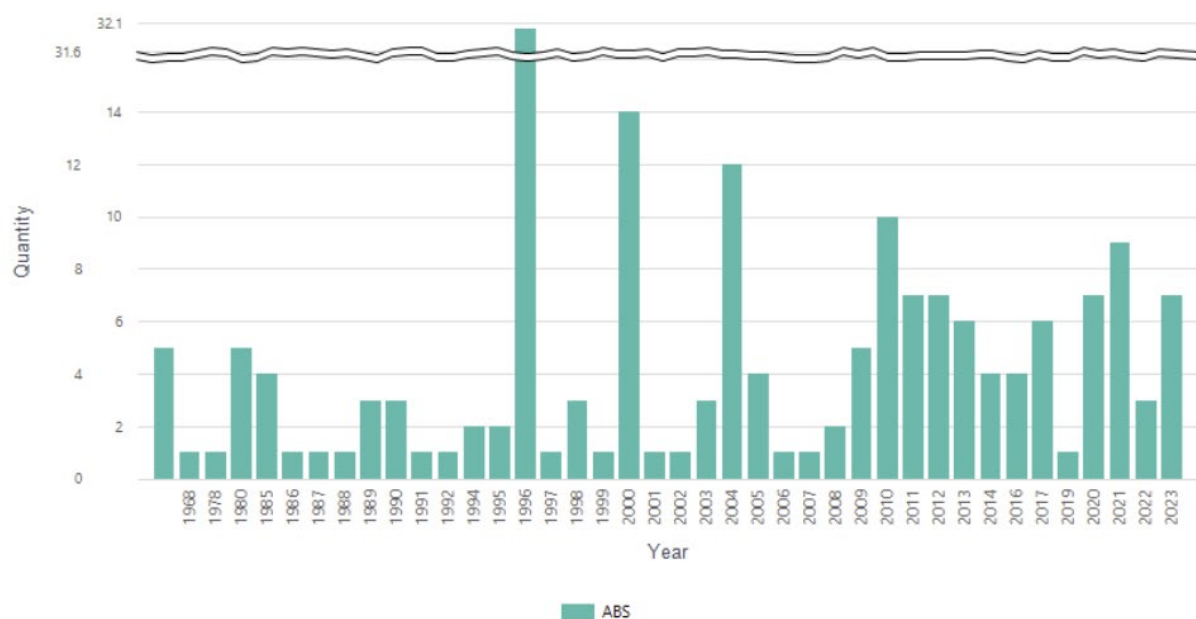


Figure 46. Age Profile of Air Break Switches.

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 47. 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. 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.

GROUND MOUNT 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.

GROUND MOUNT 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.

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, repeaters & sat phones
 - Desktops, laptops, printers, tablets, servers & intangibles (software & implementation)
- Furniture and Fittings – for office staff and operations
- Land & Buildings:
 - Offices
 - Substations
 - 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

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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 48) is not simply labelled “time”.

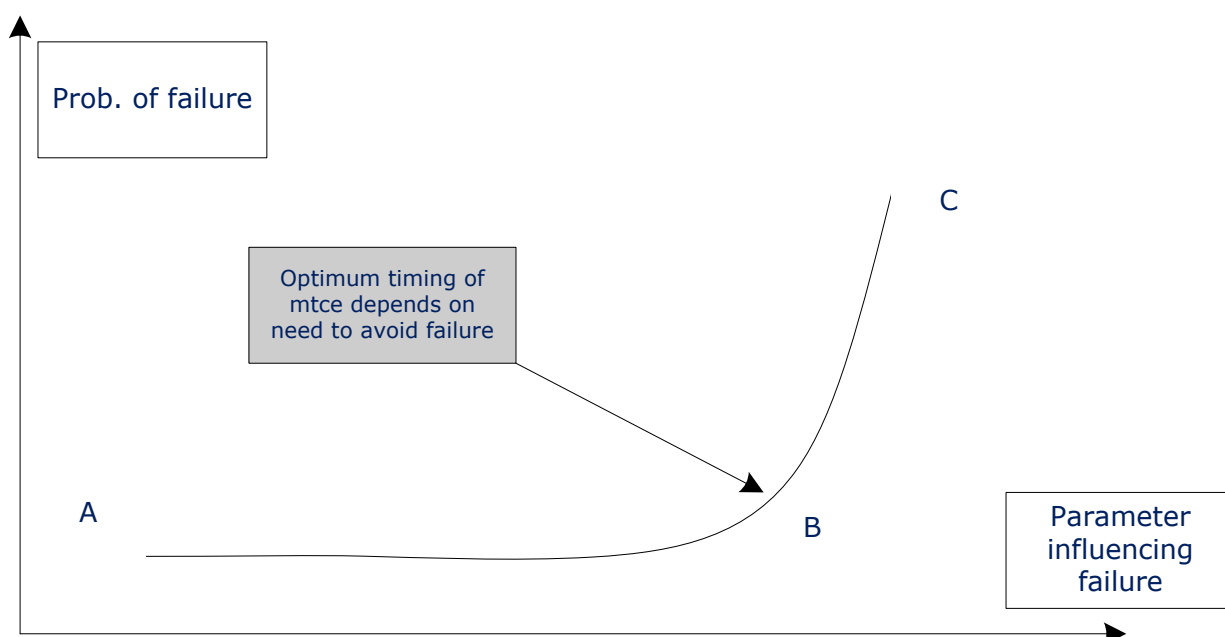


Figure 48. Optimal Maintenance Scheduling.

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									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Faults and Emergencies	283	283	283	283	283	283	283	283	283	283
Vegetation Management	329	337	337	337	337	337	337	337	337	337
Routine and Preventative	347	311	294	257	301	299	282	310	325	303
Refurbishment and Renewal	85	85	85	85	85	85	85	85	85	85
Network Opex	1044	1016	999	962	1006	1004	988	1015	1030	1008
System Management	401	449	449	447	502	472	472	472	502	472
Total Network Opex	1445	1465	1448	1409	1508	1476	1460	1487	1532	1480
Business Support	3054	3054	3054	3054	3054	3054	3054	3054	3054	3054
Total	4499	4519	4502	4463	4562	4530	4513	4541	4586	4534

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									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Subtransmission	14	14	14	14	14	14	14	14	14	14
Zone Substations	144	75	99	75	119	89	72	69	105	84
Distribution Lines	413	450	409	402	402	402	402	433	433	433
Distribution Cables	14	14	14	14	14	14	14	14	14	14
Switchgear	30	30	30	30	30	52	52	52	30	30
Transformers and Substations	64	64	64	64	64	64	64	64	64	64
Other	365	369	370	363	364	369	370	369	370	369
Totals	1044	1016	999	962	1006	1004	988	1015	1030	1008

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.

BEL presently outsource its vegetation cutting work to a local specialist tree contractor. The staff are trained to carry out live close vegetation removal and traffic management responsibilities. The contractor is issued work and reports directly to a vegetation manager who is responsible for ensuring a minimum compliance with the tree regulations.

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.
		Four 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	Annually	Drive, foot, Helicopter or drone works program inspection.
		Five yearly	Full asset safety and condition assessment inspection,
	Non-PVC covered conductors within 500 meters of the coast	At 45 Years or as determined via visual condition inspections	If the conductor is within 500meters of the coast a sample span of conductor is to be taken and detailed inspection of corrosion and strength testing to be undertaken to determine remaining expected life
	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	Annually	Drive, foot, Helicopter or drone works program inspection.
		Five yearly	Full asset safety and condition assessment inspection
	Non-PVC covered conductors within 500 meters of the coast	At 45 Years or as determined via visual condition inspections	A sample span of conductor is to be taken and detailed inspection of corrosion and strength testing to be undertaken to determine remaining expected life
Switchgear	All switchgear	Annually	Drive, foot, Helicopter or drone works program inspection.
		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
		Two Yearly	Battery internal impedance tests, contact resistance tests, voltage and charge current tests
	11kV Air Break switches and Links	Five yearly	Mechanical lubrication and operational checks, corrosion protection of steelwork, contact checks
	11kV RMU's	Six Monthly	Safety inspection, labels in good order, doors and covers secure etc
Distribution Substations and transformers	All Transformers and regulators	Annually	Works program inspection
		Five yearly	Full asset safety and condition assessment inspection
		Five yearly	Earthing system tests
	Transformers > 200kVA	Five yearly	Loading survey

Asset Class	Equipment	Frequency	Work tasks
	Ground mounted transformers	Six Monthly	Safety inspection, labels in good order, doors and covers secure etc. Record MDI readings
	Regulators	50000 operations	Clean out and replacement of oil, condition check and replacement of worn contacts, operational checks
Other assets	Ripple injection plan	Monthly	Visual inspection
		Yearly	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	Six Monthly	Site security and visual checks, SWR and Compliance checks
		Annually	Battery impedance tests
	RTU sites	Two Yearly	Battery impedance tests, signal level checks, SWR and compliance checks
	Protection systems	Four Yearly	Review of total system protection settings
	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 defectured 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
	Conductor	Visibly splaying or broken strands
Distribution Transformers	Poles, arms & bolts	Evidence of rot Loose bolts, moving stays Rusted hardware Displaced arms

Asset Category	Components	Maintenance Trigger
	Enclosures and tanks	Visible rust on hinges and brackets Cracked or worn fibreglass / plastic Cracked or broken masonry Excessive rust on tanks
	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
Distribution Lines & Cables	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
	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
Zone Substations	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
	Bus work & conductors	Evidence of corrosion Evidence of heat
	33kV switchgear	Evidence of corrosion

Asset Category	Components	Maintenance Trigger
		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 Loose bolts Rusted hardware Damaged instruments Perished gaskets or seals History of mal-operation
	Instrumentation	Faulty readings
Sub-Transmission Lines & Cables	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
	Conductor	Visibly splaying or broken strands
Equipment within GXP		Signs of excessive wear Information from historical checks Damaged or deteriorating cabinets or enclosures

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

Asset Class	Trigger Point	Response to Trigger	Basis of maintenance strategy
Sub-Transmission Lines	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
	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
Zone Substation Transformers	Cracked or broken insulator	Replace as required	Breakdown
	Splaying or broken conductor	Repair conductor unless renewal is required	Condition as revealed by annual inspection
	Oil acidity	Filter oil	Condition as revealed by annual test
	Excessive moisture in breather	Filter oil	Condition as revealed by monthly inspection
Distribution Lines	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
	Loose or displaced components	Tighten or replace	Condition as revealed by three yearly inspection
	Rotten or spalled poles	Brace or bandage pole unless renewal is required	Condition as revealed by three yearly inspection
Distribution Reclosers	Cracked or broken insulator	Replace as required	Breakdown
	Splaying or broken conductor	Repair conductor unless renewal is required	Condition as revealed by three yearly inspection
	Weighted number of light and heavy faults	Repair or replace contacts, filter oil if applicable	Event driven
	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 three yearly inspection
	Rusty, broken or cracked enclosure where fitted	Make minor repairs unless renewal is required	Condition as revealed by three yearly inspection
	Excessive moisture in breather where fitted	Filter oil	Condition as revealed by three yearly inspection
	Visible oil leaks	Remove to workshop for repair or renewal if serious	Condition as revealed by three yearly inspection
	Chipped or broken bushings	Replace	Breakdown or condition as revealed by three yearly inspection

Asset Class	Trigger Point	Response to Trigger	Basis of maintenance strategy
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 of 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. These typically require refurbishment at 25 to 30 years of age, with some localised areas in the Meyville 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.

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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 PLANNING CRITERIA

6.2.1 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

6.2.2 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	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				Renewal Condition Trigger
		Capacity Trigger	Reliability Trigger	Security Trigger	Voltage 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 PRIORITISING NEW ASSETS

6.3.1 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. 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
- Avoided transmission cost issues

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 kept its minimal 0.4% annual demand growth rate projection for domestic, commercial and light industrial load and has amended its forecast investment levels to meet this demand. Should a greater or lesser demand occur, BEL is confident that its Capex procedures and resourcing arrangements are sufficiently robust to allow investment to be advanced or delayed. EV uptake and associated charging systems for domestic or commercial activities are not expected to forecast growth in the short to medium term.

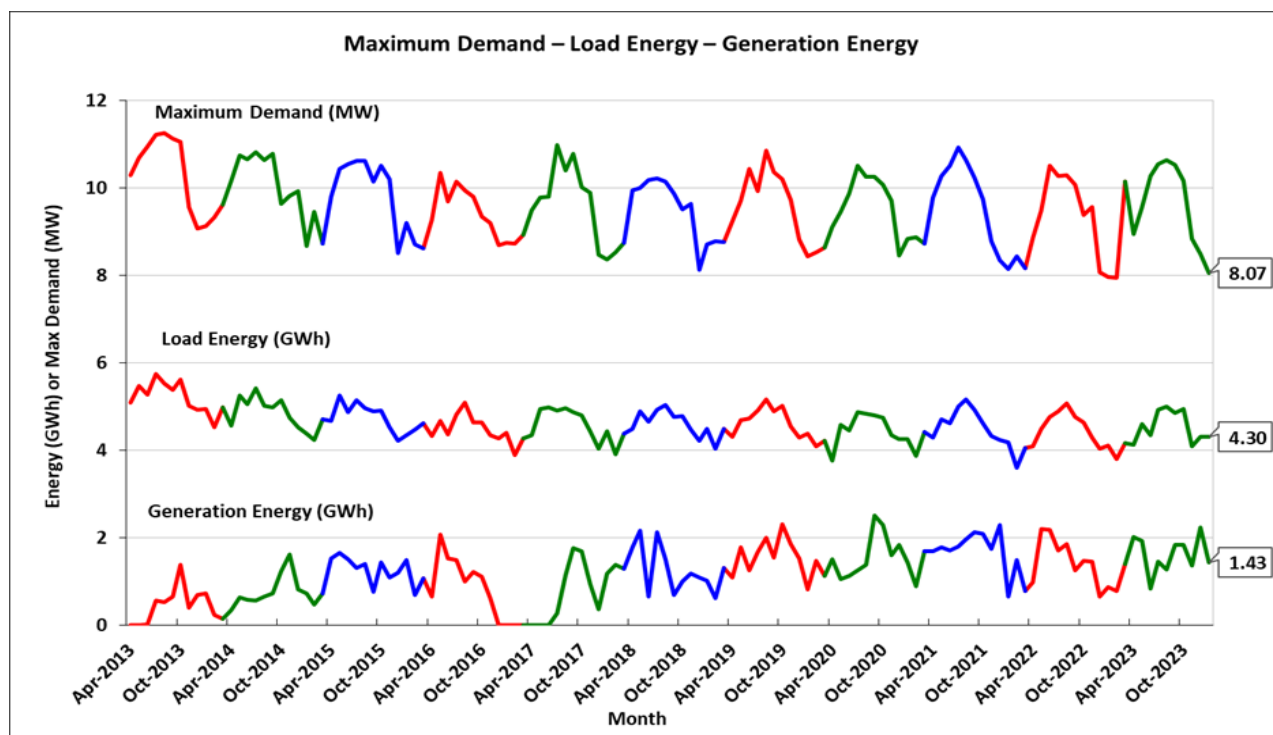


Figure 49. Historical Monthly Energy Volume and Maximum Demand.

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 solar PV generation will continue at the current rate
- Electric vehicle uptake will lag behind the national average projections due to limited range and lack of a reliable second-hand EV base.
- Increases in energy consumption for the 10-year forecast due to EV's will be offset by domestic solar generation, decline in population, the increased use of energy efficient appliances. Peak demand will be able to be offset with the use of existing water heating load control.
- 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.
- Limited 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.
- There will be no embedded generation significant enough to off-set demand at 11kV feeder level within the period of this AMP.

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 2023 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	55	GWh	55
Max Demand	Highest demand at the GXP	11.0	MW	11.2
Asset Utilisation	Max demand divided by installed capacity	24	%	25
Load Factor	Average demand divided by the max demand	58	%	58
Losses	Energy lost as a percentage of the energy entering the network	7.0	%	7.0

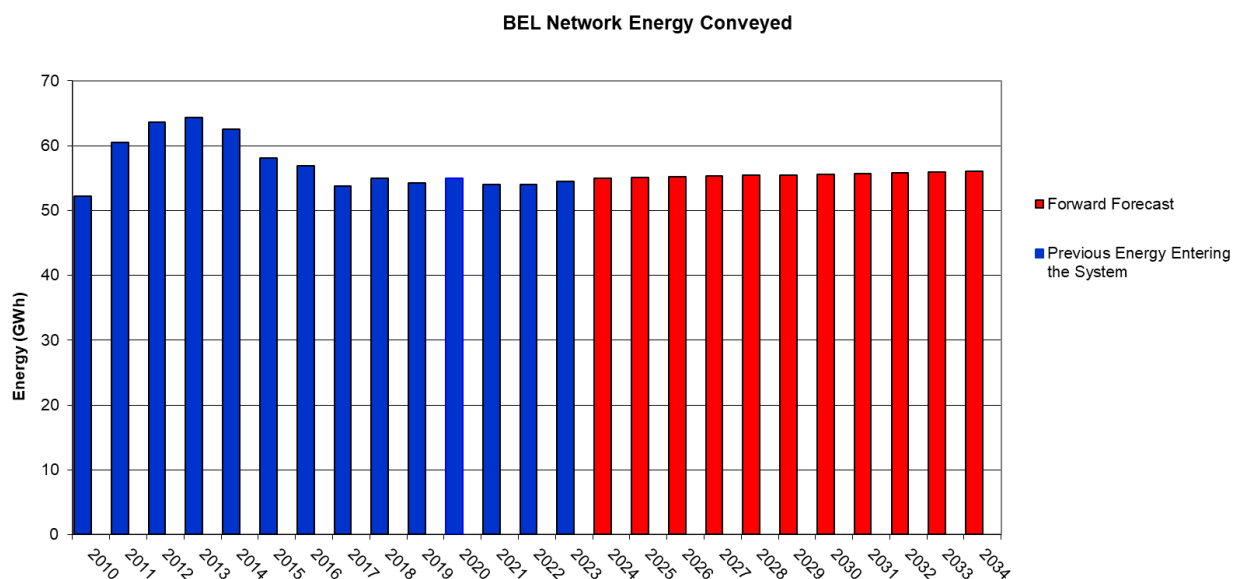


Figure 50. Energy Conveyed.

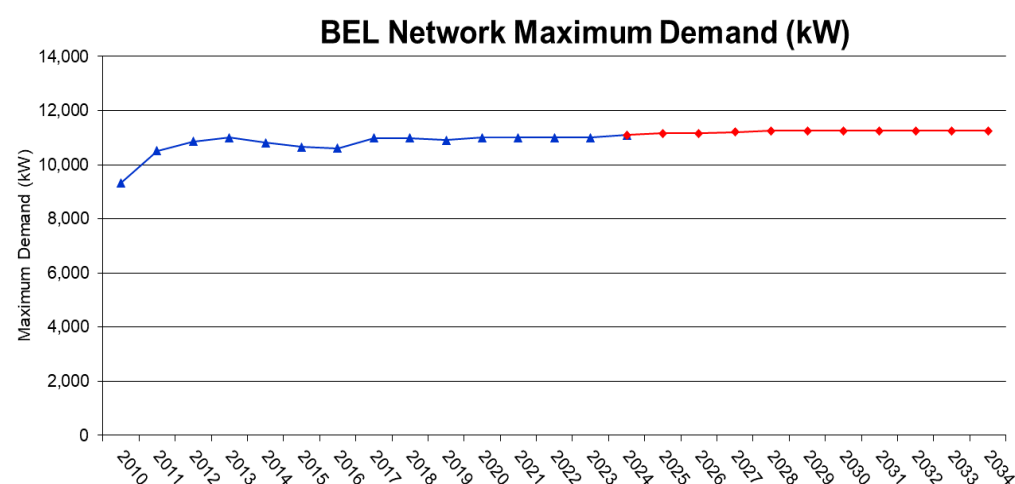


Figure 51. Network Maximum Demand.

The demand characteristics for key localities are broadly described (Table 29).

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.
Granity	Almost totally residential, still a high dependence on wood and coal fires.	Exhibits peak demand during cold winter mornings and evenings.

Locality	Load Description	Electrical Characteristics
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

BEL expects the demand growth at each of its 11kV feeders as set out (Table 33).

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	2200	Not expecting any increase in demand over the planning horizon.	None required
Derby	1730	1750	Only expecting minimal increase from the existing demand over the planning horizon.	None required
Pakington	1550	1600	Only expecting minimal increase from the existing demand over the planning horizon.	None required
Domett	1405	1450	Only expecting minimal increase from the existing 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	1405	1750	This feeder has the greatest foreseeable potential for demand growth with multiple small subdivisions currently being proposed following the Westport flooding events. At present we are only allowing for an additional 300kW load over the planning period.	None required
Waimangaroa	350	360	Not expecting any increase in demand over the planning horizon.	None required
Seddonville	317	340	Not expecting any 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	1.1	Little if any domestic growth, any other class of growth unlikely. Load may reduce if mining activities cease	None required
Kongahu	1.15	1.24	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	11.2	Minimal if any growth expected	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 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 when the existing surplus capacity is utilised.

Due to the future predicted uptake of EV's, BEL has completed preliminary analysis of the 11kV distribution network and substations based on various (international and New Zealand) reports and scenarios. The following table identifies distribution substations with transformers above 30kVA that would be capacity constrained for the scenario where electric vehicles and their associated EV charging technologies increase the after diversity maximum demand by 0.8kw per ICP.

Table 37. Capacity Constrained Distribution Substations (EV Charging Scenario of +0.8kW/ICP).

Substation	kVA	Town or Area	Street or Road
91	200	Carters Beach	Cook Street
90	200	Carters Beach	Tasman Street
301	100	Granity	Torea Street
311	100	Granity	Torea Street
306	100	Ngakawau	Main Road
278	50	Waimangaroa	Pottengers Road
149	200	Westport	Derby Street
154	200	Westport	Derby Street
547	200	Westport	Disraeli Street
169	200	Westport	Disraeli Street
485	100	Westport	Lyndhurst Street
156	200	Westport	Pakington Street
157	200	Westport	Peel Street
158	200	Westport	Peel Street
810	200	Westport	Rintoul Street
138	200	Westport	Russell Street

BEL is currently modelling its LV reticulation networks and plans to utilise 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 will be incorporated into Westport LV 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 to supply. 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 \$70 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 38. Capital Expenditure by Work Category.

Work Category	Capex budgets (\$000), year-end 31 March									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Customer connection	233	250	250	250	250	250	250	250	250	250
System growth	71	51	51	51	51	51	51	51	51	51
Replacement and renewal	896	1493	1342	1794	1586	1470	1314	1515	1295	1328
Asset Relocation	0	0	0	0	0	0	0	0	0	0
Reliability, safety and environment	684	208	208	272	208	213	178	178	178	178
Vested Assets	50	50	50	50	50	50	50	50	50	50
Non System Assets	996	1059	555	555	555	555	555	555	555	555
Totals	2931	3112	2457	2972	2700	2589	2398	2599	2379	2412

Table 39. Capital Expenditure by Asset Class.

Asset Class	Capex budgets (\$000), year-end 31 March									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Subtransmission	287	274	182	140	140	140	96	96	96	96
Zone substations	25	54	20	20	40	20	20	270	25	120
Distribution and LV lines	1326	1465	1441	1598	1306	1611	1528	1480	1494	1443
Distribution and LV cables	26	26	26	26	26	26	26	26	26	26
Distribution substations and transformers	116	112	112	112	112	116	51	51	51	51
Distribution switchgear	72	72	72	72	72	72	72	72	72	72
Other network assets	32	0	0	400	400	0	0	0	10	0
Vested Assets	50	50	50	50	50	50	50	50	50	50
Non Network Assets	996	1059	555	555	555	555	555	555	555	555
Totals	2931	3112	2457	2972	2700	2589	2398	2599	2379	2412

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 adopted an average minimal 0.4% annual demand growth rate for domestic, commercial and light industrial load for the AMP 10-year forecast. 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. As such BEL is forecasting limited load growth and associated capital expenditure for the 2024-34 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 77% of the BEL network's total planning period capital budget. This amounts to a total network asset replacement program cost of \$12.3m 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 costs, switching and transport costs, traffic management 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.

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

Table 40. Significant Renewal and Replacement Projects.

Project Description \$000	YE 2025	YE 2026	YE 2027
Individual spot pole and crossarm replacements throughout the network of defected and H1 condition assets	168	180	180
Replacement of deteriorate 11kV double structure poles at the Okari and Totara Rivers	44		
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			39
Reconductor 11kV line North Beach Karamea due to steel core corrosion	57	57	57
Powerhouse Road replacement of deteriorated 11kV hardwood poles and realign the line into road reserve		120	
Replacement of 11kV 16mm Cu conductor and crossarms at McKenna's Road. The network fault level is over the conductor rating in this area. This will also re-enforce the supply capacity when transferring loads between Westport feeders for line outages	38		
ROB-NGK 33kV CCT2 replacement of deteriorated crossarms and poles from Westport to Waimangaroa	57	60	
NGK-KON 33kV replacement program for the 60km of Karamea Bluff 33kV pole structures.	186	163	126
Replacement of aged or failed switchgear control and protection modules.	24	22	22
Replacement of deteriorated 11kV air-break switches and links	48	48	48
Replacement of deteriorated wooden poles and crossarms on the coastal Meybille Bay 11kV line		51	51
Replacement of 11kV poles and conductor Wilsons Lead to Tauranga Bay	74	74	74
Whareatea feeder replacement of conductor and crossarms due to conductor corrosion and strand breakage of the main line.		56	
Replacement of small and deteriorated LV conductor with ABC on Lyndhurst Street (Russell to Peel Streets)		32	
Replacement of LV conductor with ABC Adderley Street (Rintoul to Fonblanque)		32	
Ngakawau substation replacement of No 1 110v DC battery bank.		5	
Denniston 11kV line hardwood pole replacements		45	45
ROB-NGK 33kV CCT1 replacement of deteriorated crossarms from Westport to Waimangaroa	43	50	50
Replacement of LV conductor Lyndhurst Street (Derby to Romilly)			32
Kongahu substation replacement of 110v DC battery bank.		4	
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			51

build-up and to minimise outages, improve safety clearances and replacement of other deteriorated hardware			
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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 41. Reliability, Safety and Environment Projects.

Project Description \$000	YE 2025	YE 2026	YE 2027
LV service and ownership confirmation program to upgrade and optimise reconfiguration, and determine ownership and responsibility of LV services	99		
Upgrade and replace aged field protection relays and controllers to enable automatic loop automation schemes to improve network reliability	24	24	24
Relocation and realignment of a section Bulls Road 11kV line from paddocks to the roadside. This removes the line from crossing a property and allows easier operational access. Relocation to the road also facilitates easy access for any new consumer connections and allows interconnection with the ex-Transpower 110kV H pole line for network resilience and connection to the Cape Road voltage regulators for improved voltage control.	90		
Installation of 11kV cable from Robertson Street substation to the ex-Transpower 110kV H pole line for network resilience to the western side of the Buller River and improvement in capacity and voltage	127		
Installation of additional distribution substation at Hector to correct low voltage issues	41		
Replace and relocate poles at Fox River due to land subsidence and movement (Pole continues to lean and twist also has transformer attached, (450kg) and leaning at 15-degree angle over main Road)	48		
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
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
Utopia Road replacement and relocation of poles to correct LV clearance to ground	34		
Replacement and relocation of 2 pole substation with ground mount due to low clearance HV bushings, this will also improve LV network resilience through better switching options for civil defence emergencies	65		

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 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 2025-2027 financial year and totals.

Previous allowance for major office and workshop building alterations for the YE2025 has been deferred.

Table 42. Non Network Expenditure.

Non-Network Expenditure \$000	YE 2025	YE 2026	YE 2027
Plant and Equipment	80	145	145
Furniture and Fittings	15	30	30
Computer and Communications Equipment	84	85	85
Vehicles	260	295	295
Computer system software replacements	500		
Land and building improvements		504	
Total	996	1059	555

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7.1 UNDERSTANDING BUSINESS RISK

BEL's business is exposed to a wide range of risks. Aside from the obvious physical risks such as cars hitting poles, vandalism and storm damage the network business is exposed to ever increasing regulatory risk 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 make decisions about appropriate ways to mitigate the risks identified.
- BEL has clear statements of BEL's risk management policy, principles and practice.
- BEL's risk management process includes the mechanisms for: identifying and assessing risks; developing specific mitigating strategies, plans or actions; and recording, monitoring and reviewing.

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 network asset and other business risks events should they occur. 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 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 43).

Table 43. 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.

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 44) below.

Table 44. 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 45).

Table 45. 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 46).

Table 46. 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 banded 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 47. 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 48).

Table 48. 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
C R I T I C A L I T Y	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 (permanent 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 52 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 49).

Table 49. 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 Miss-timing shedding of load	Training in RCPD issues Automation of load shedding

Lifecycle Stage	Activities	Key sources of risk	Key Mitigations
	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 Board-approved parameters

Lifecycle Stage	Activities	Key sources of risk	Key Mitigations
		Incorrect estimates of key cost-benefit parameters such as value of lost load Stranding Optimisation	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 or 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.

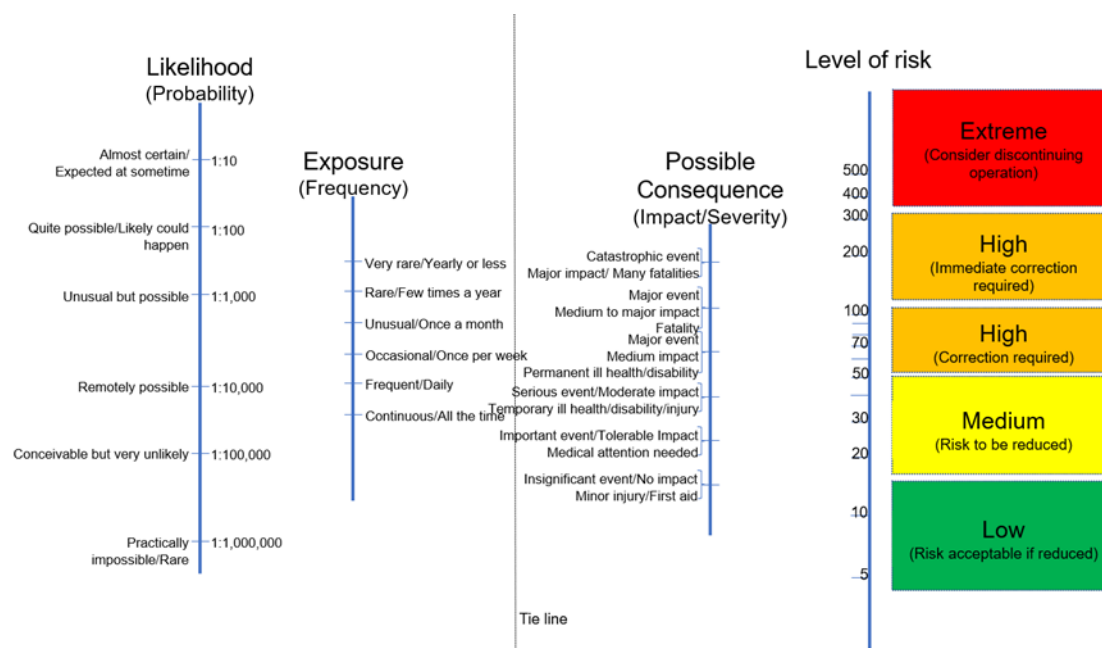


Figure 53 Public Safety Visual Risk Calculator

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 damaged 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

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 whilst still co-ordinating effectively.

Grid exit point protection reviews are 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.

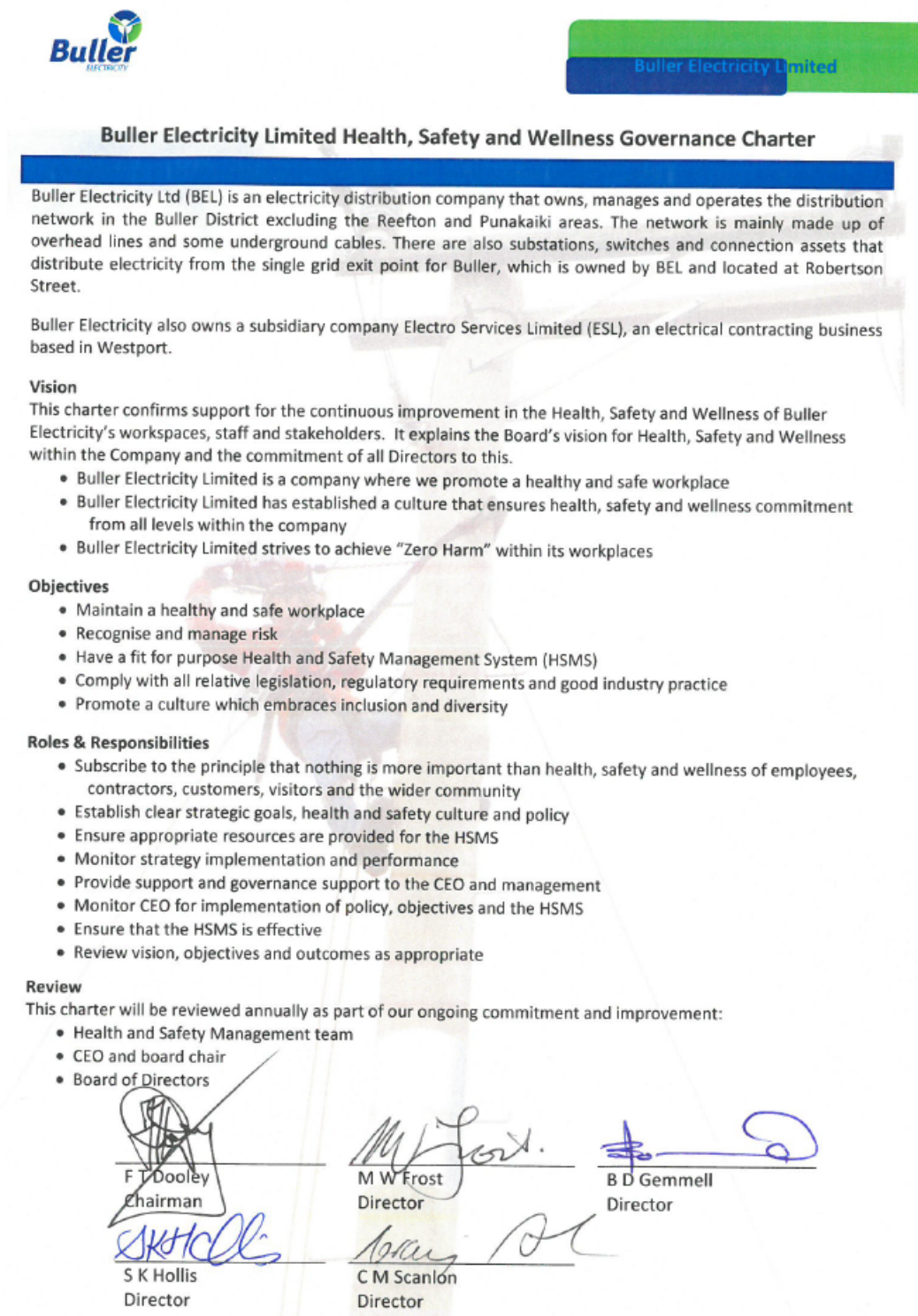


Figure 54. Health Safety and Wellness Charter.

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 50. 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 2011 ³	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

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

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8.1 INTRODUCTION

This section shows a review of Buller’s performance against set targets for the year ended 2023 and proposed plan improvements

8.2 PERFORMANCE AGAINST TARGETS

8.2.1 NETWORK RELIABILITY

For the YE 2023 the unplanned SAIDI of 483 minutes was well above the forecast of 160 minutes due to adverse weather events, windstorms and lightning, and a car vs pole incident. The planned SAIDI of 265 minutes was above the forecast of 190.8 minutes due to the amount of planned work requiring outages for new connection work and the upgrade of transformers for school boiler electrification work. The unplanned SAIFI of 2.5 was also higher than the forecast value of 2.38 while the planned SAIFI of 0.76 was slightly above forecast.

The below figures give a historical perspective on our Network SAIDI and SAIFI KPIs. The “dotted lines” are the Target values. The figures highlight the results of various high impact events on BEL SAIDI and SAIFI figures over the last twelve years.

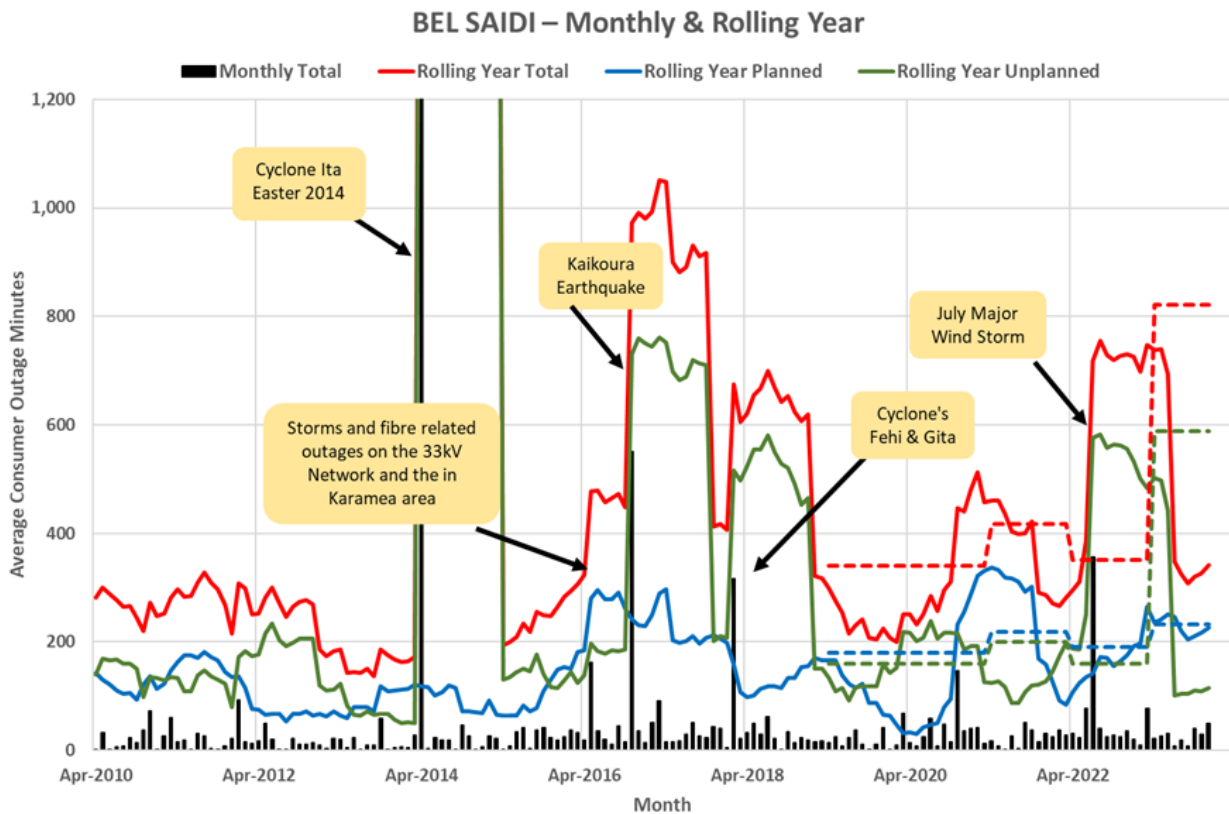


Figure 55. SAIDI Performance.

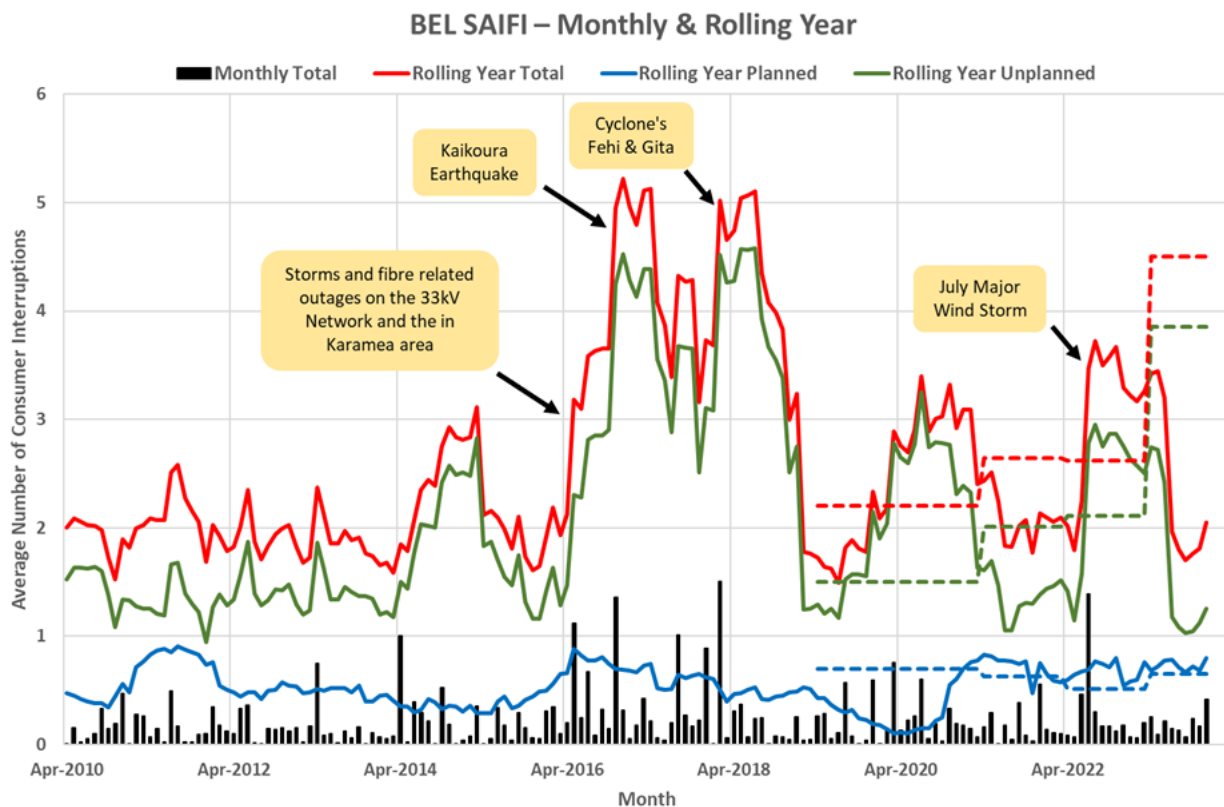


Figure 56. SAIFI Performance.

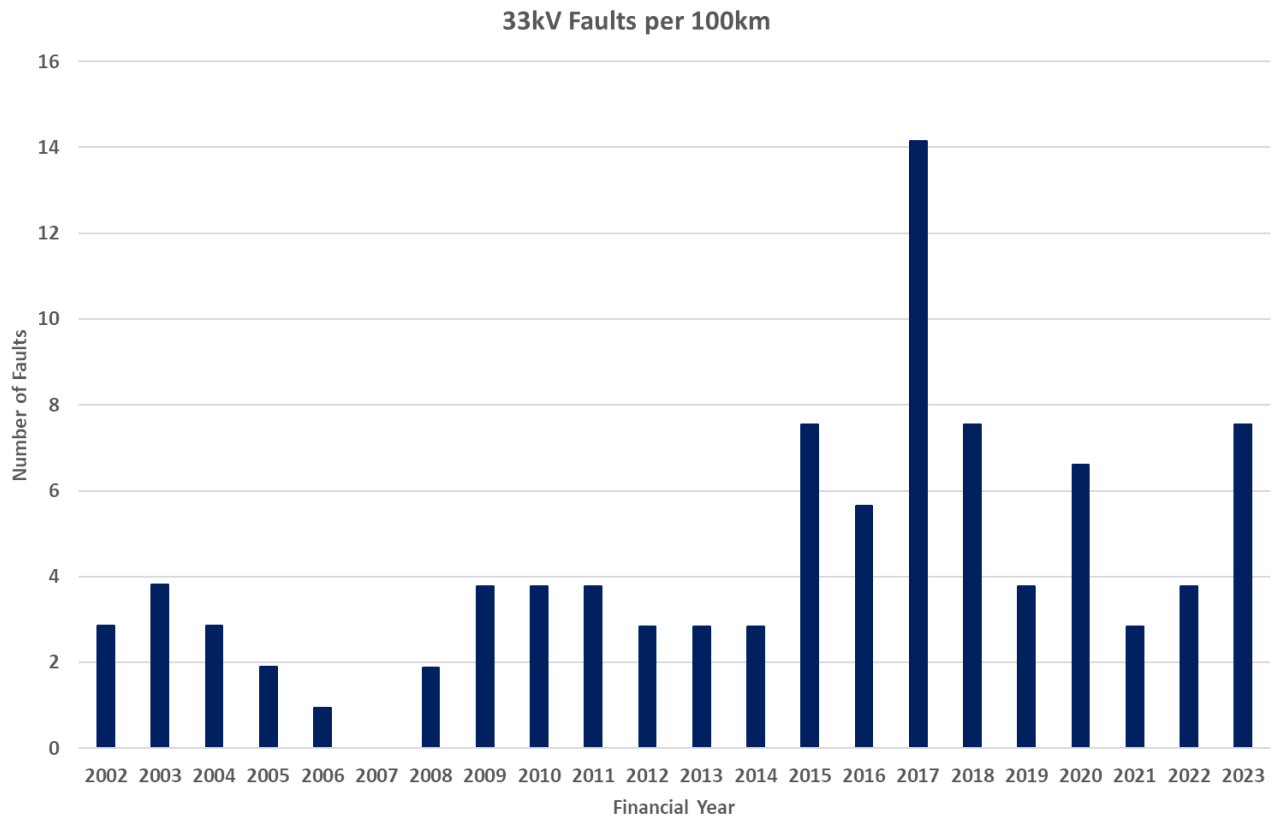


Figure 57. 33kV Network Faults per 100km.

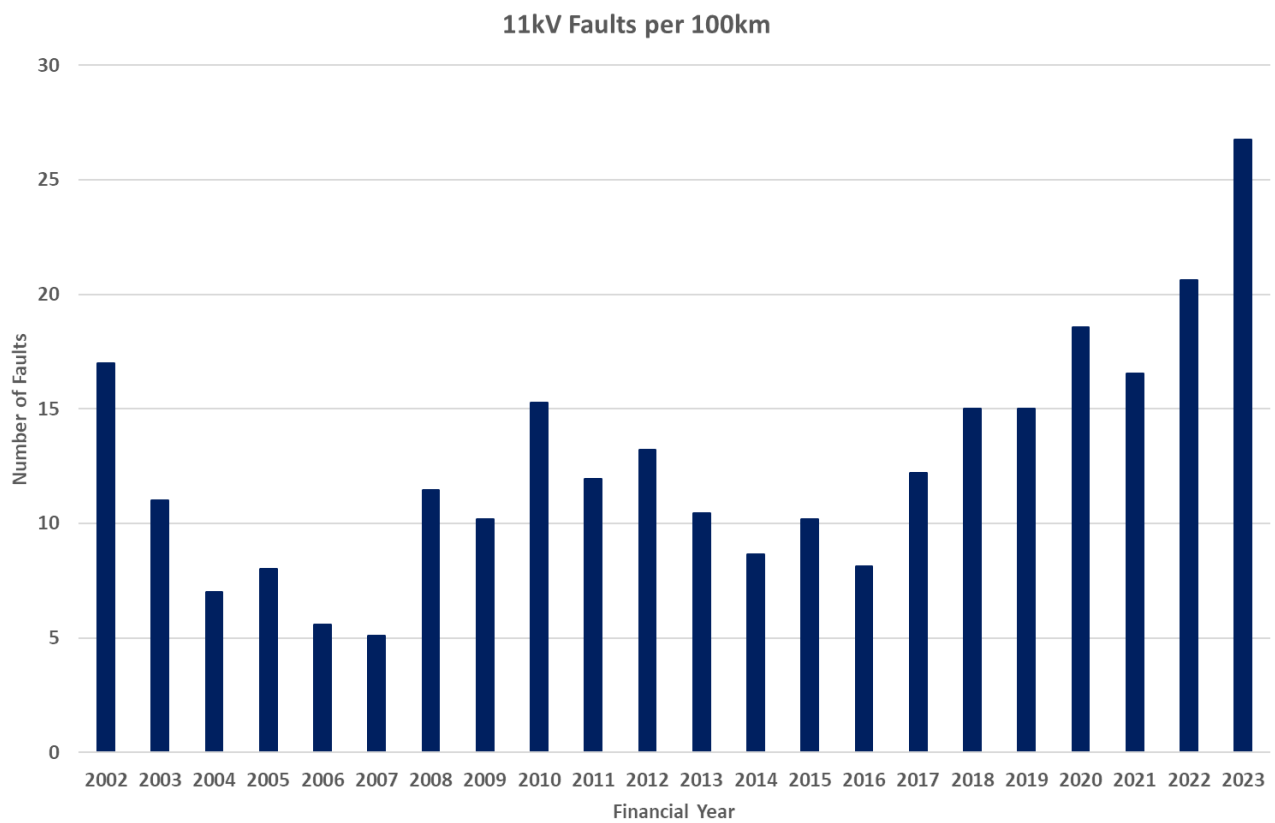


Figure 58. 11kV Network Faults per 100km.

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.

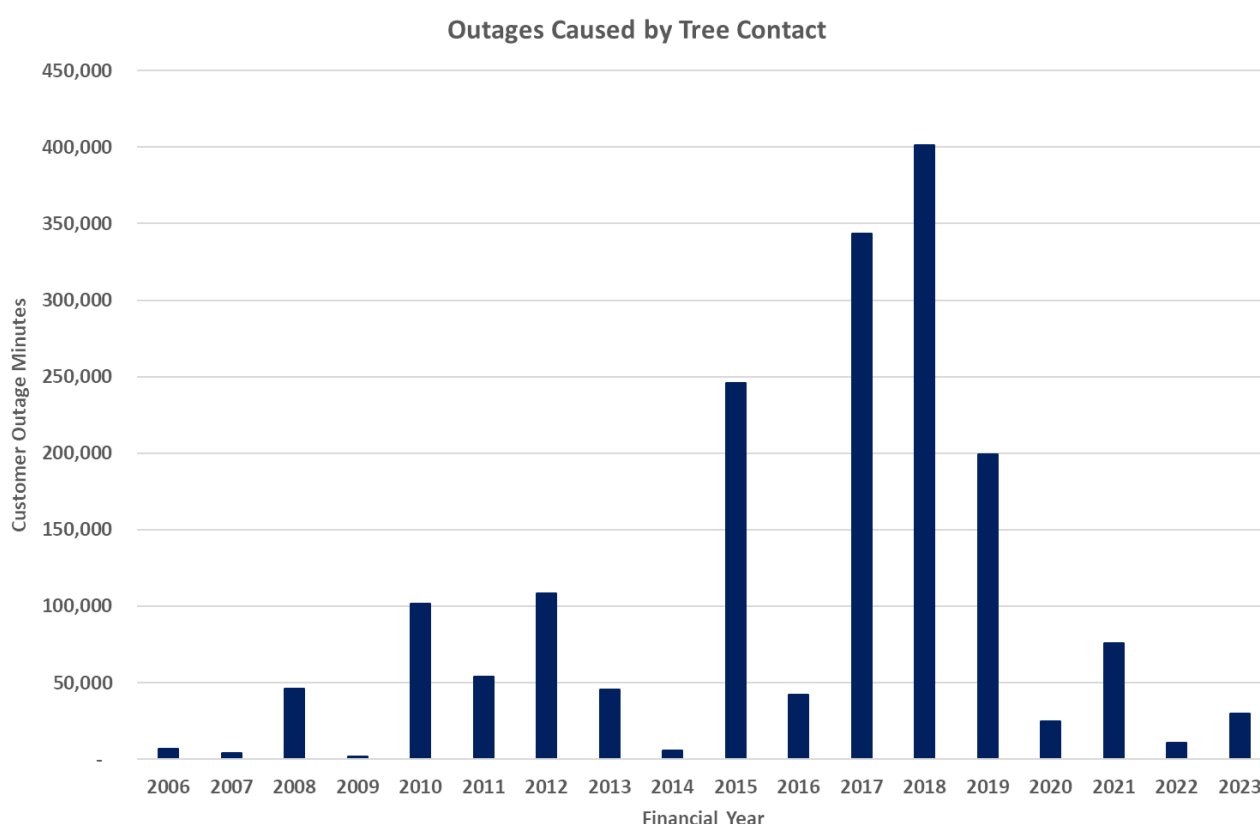


Figure 59. Outage Minutes Caused by Tree Contact.

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 overspent on both capex and operational budget forecast for the 2022-2023 Year. Material, labour and vehicle operating costs increased at a higher rate than what had been forecast. Weather events dominated the fault expenditure with high wind, lightning storms and a potential Westport flooding event adding an additional \$173k over the forecast. Contractor costs for vegetation control work also escalated adding an additional \$66k to the spend. Material delays of over 12 months have caused some effect on planned work and spend budget. Additionally, some

planned work was altered due to the Westport flood events in 2021 and 2022 with changes incorporated as part of resilience improvements.

Expenditure Class	Forecast (\$000)	Actual (\$000)	Comment
Consumer Connections	172	425	Consumer connection works far exceeded expectations. This was due to a variety of factors including the delayed or unexpected subdivision and rehousing developments following the Westport flooding (\$133k) and the delayed implementation of coal fired school boiler replacement projects (\$135k). New connections are difficult to forecast with any accuracy and occur sporadically in the Buller region.
System Growth	0	121	Unexpected Network growth occurred mainly in the outlying subdivision areas of Alma Road and McPaddens Road where new connection growth required the upgrading of some transformers and distribution lines.
Asset Replacement and renewal	1,137	902	A 21% variance compared the forecast AMP budget. While BEL achieved most of its asset replacements works during the year, equipment, material delays did delay some projects. Additionally, some work was reconfigured, bought forward and incorporated into the Reliability, safety and environment category as part of the resilience work following the Westport floods.
Asset relocations	0	12	No budget had been allowed for as relocation work is extremely rare in the BEL network. One job to relocate poles at Charleston for a driveway entrance was undertaken.
Reliability, safety and environment	616	804	Additional resilience related work was completed during the year such as raising padmount transformers, installing additional LV switching points and generator connections as construction of an emergency relocatable control room. This was outcomes and follow up actions as part of the review and lessons learned debrief following the Westport floods.
Total Network Capex	1,924	2,264	Overall, a 18% variation in Network Capex
Non-Network Capex	1,544	931	Forecast spend did not materialise as planned as explained in the introductory paragraph.
Service interruptions and emergencies	267	440	43% overspend for the year as Buller was hit with multiple weather events during the year. Lightning storm damage amounted to a \$140k overspend during June and July 2022, damage was mainly restricted to failed fuses, lightning arrestors and distribution transformers. A 33kV VT also failed at Ngakawau substation causing a widespread outage. An additional \$70k expenditure was incurred due to a high wind event in July that covered most of the BEL supply area. The main areas hit was from Waimangaroa through to Seddonville along with Oparara and Arapito in Karamea. \$60k was also spent on emergency preparatory work following civil defence meetings due to Red weather warnings and potential flooding of Westport during August.
Vegetation Management	375	441	An 18% overspend for the year. This overspend was mainly for additional public safety vegetation control work and external vegetation contractor price increases

Routine and corrective maintenance and inspection	365	340	7% variation. A minor underspend. Some minor asset inspection and maintenance work was not completed at Ngakawau Zone substation and rolled into the 2023-2024 financial year.
Asset Replacement and renewal	89	72	Delays with distribution transformer tank refurbishments completed by third party contractors meant there was some transformer repair backlog at the end of the year.
Total Network Opex	1,095	1,293	Overall a 18 % variation in Network Opex
System operations and support	253	241	A minor \$12k (5%) Variation for the year
Business support	2,727	2,580	A minor 5.7% 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 2022/23 year. BEL did not meet our planned performance targets for the year with an actual SAIDI of 208 while our target was 190.8. Outage duration for unplanned work was significantly higher than anticipated with SAIDI at 483 due to adverse weather events, windstorms and lightning, and a car vs pole incident.

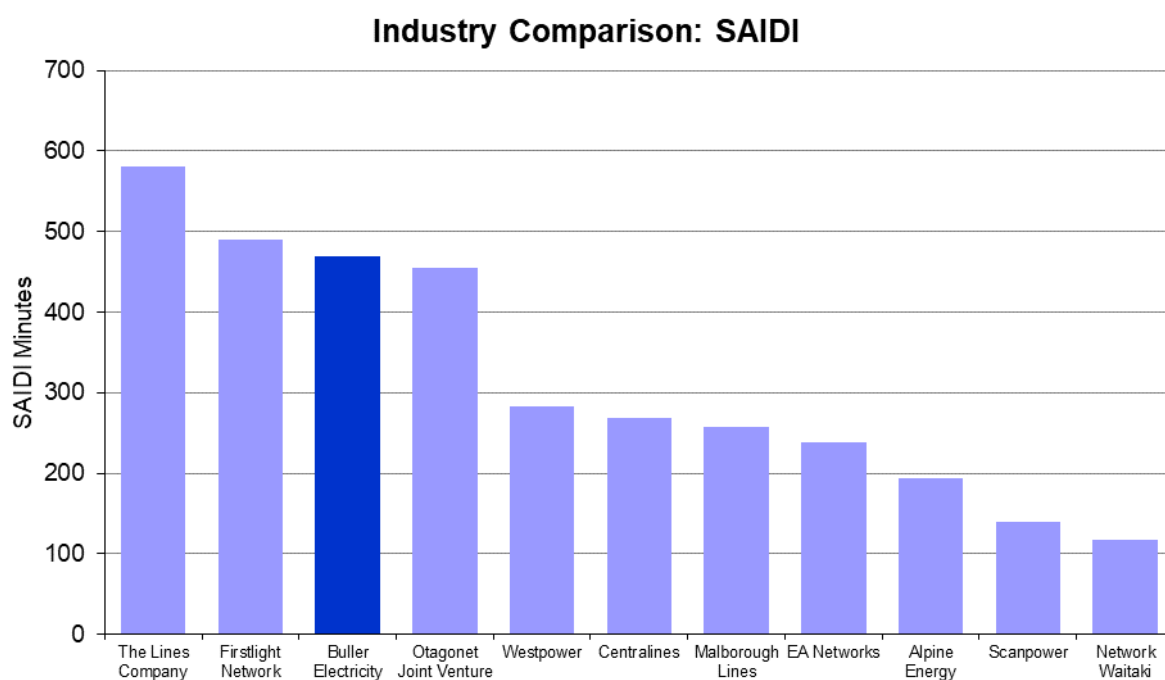


Figure 60. BEL Unplanned SAIDI Performance Compared with Other EDBs.

BEL's loss ratio (kWh lost in the network during the year / kWh entering the network during the year) is at present 6.99% on a one year rolling average basis.

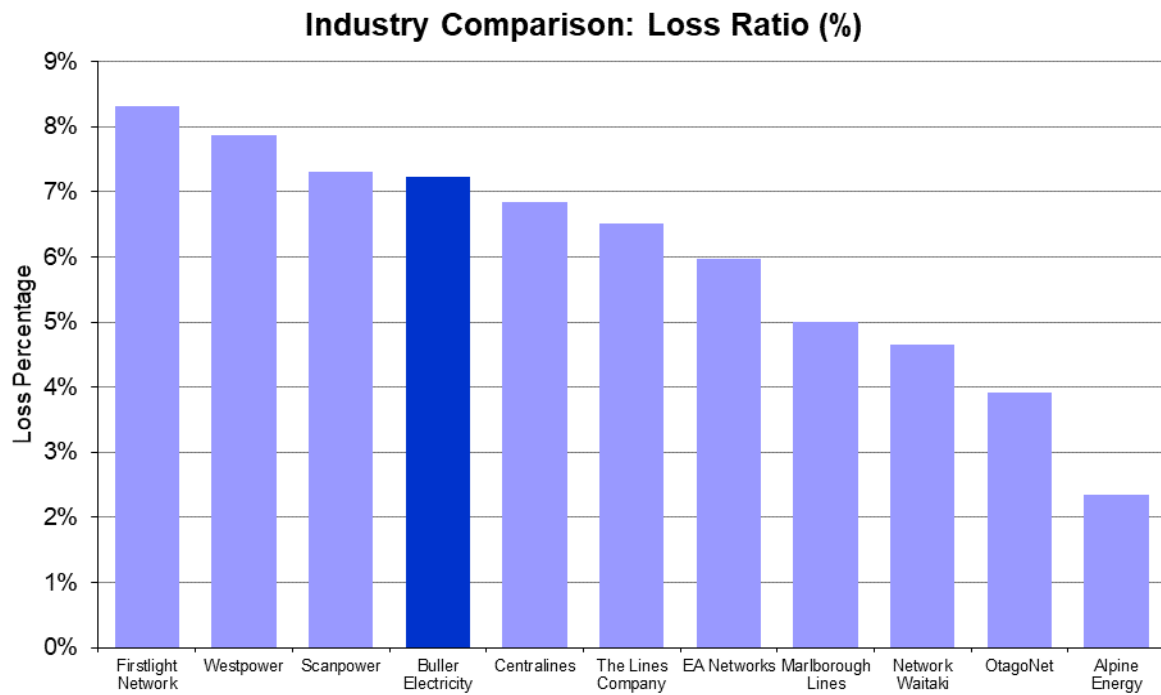


Figure 61. Energy Loss Ratio Compared with Other EDBs.

BEL's costs per km are 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.

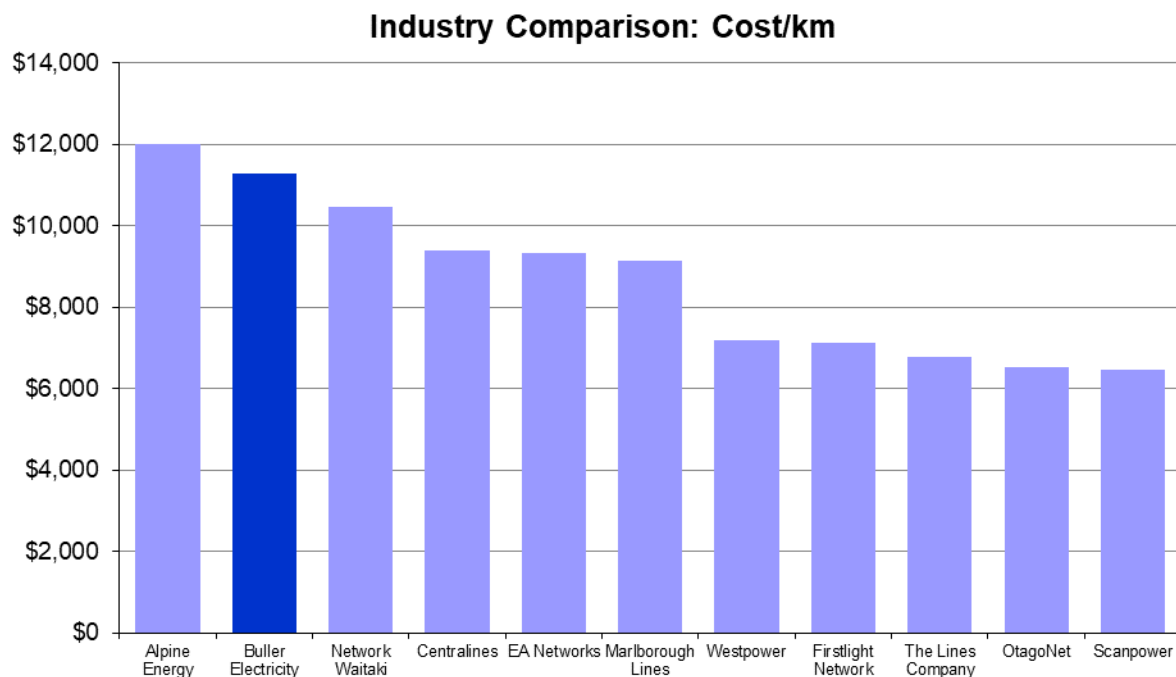


Figure 62. Financial Cost per km for Y/E 2022 Compared with Other EDBs.

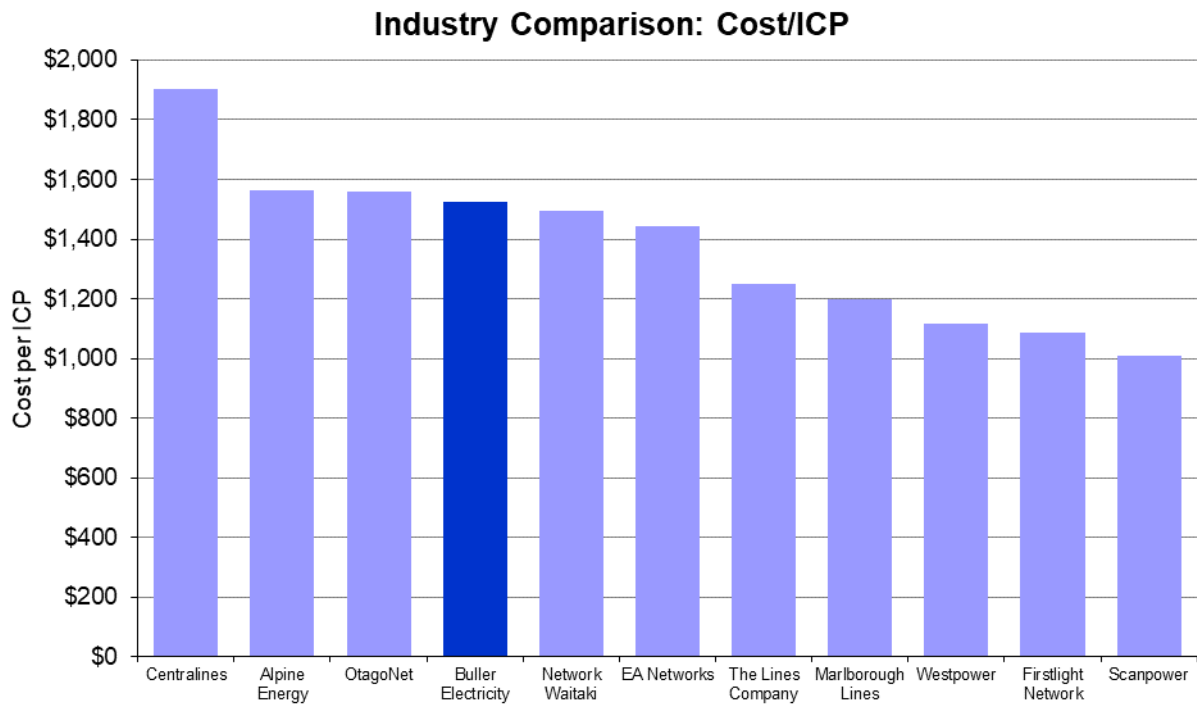


Figure 63. Financial Cost per ICP for Y/E 2022 Compared with Other EDBs.

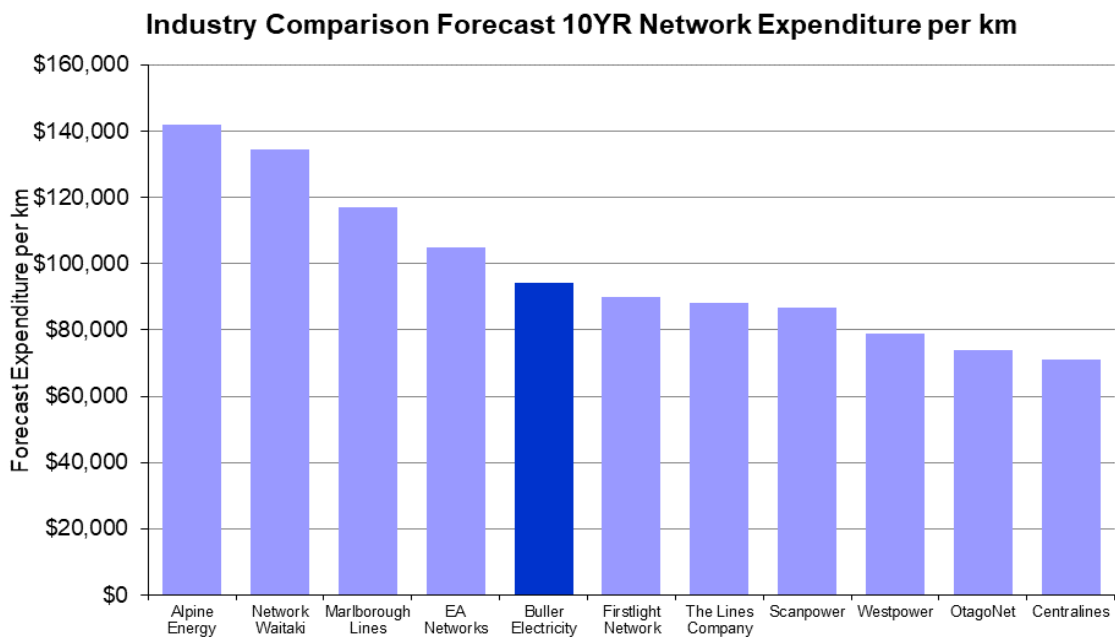


Figure 64. 10 Year Financial Forecast Comparison with Other EDBs.

8.2.4 CONSUMER EVALUATIONS

BEL completed its last customer survey in late 2021 to determine their preferences and expectations. Commercial and domestic customers were targeted, and expectations have not changed from the last survey conducted. Overall consumers are generally pleased with the reliability and power quality of BEL's network.

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 AMD is in 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. The core asset register, regulatory asset base (RAB) valuation and asset criticality rating are scheduled for completion during FY24.

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

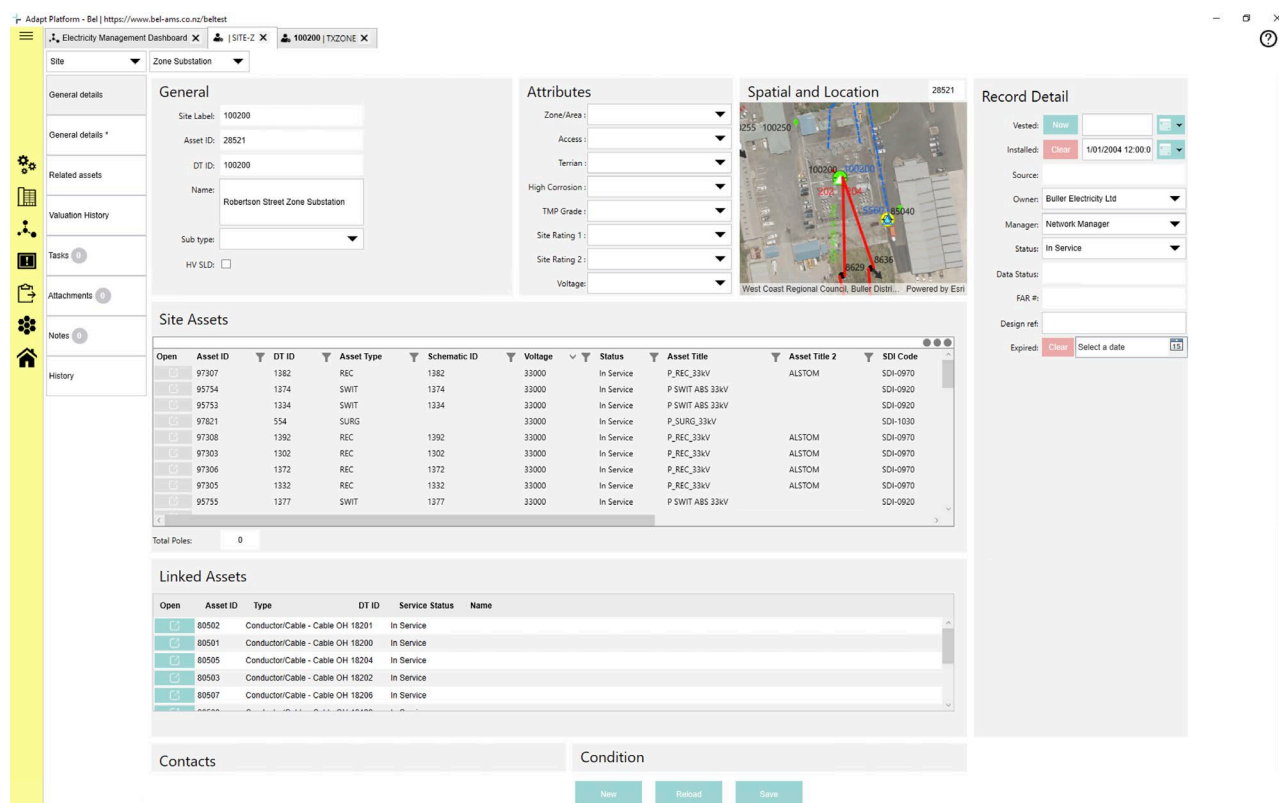


Figure 65. Adapt Application View of Zone Substation Site Asset Details.

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 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 resilience 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 51. Field Staffing Requirements.

Division Requirement	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Design, Consents & Project Management	3	3	3	3	3	3	3	3	3	3
Line Mechanics and vegetation control staff	9	9	9	9	9	9	9	9	9	9
Electrical / Tech	2	2	2	2	2	2	2	2	2	2

While the staffing levels in the above table are 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 – MANDATORY EXPLANATORY NOTES

Company Name Buller Electricity Ltd

For Year Ended 31 March 2024

– 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)	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
	7.30	6.50	11.30	15.98	20.38	24.96	29.71	34.64	39.75	45.06

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)	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
	5.11	3.90	6.78	9.59	12.23	14.98	17.82	20.78	23.85	27.04

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 RAS 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.

	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
11a(i): Expenditure on Assets Forecast	\$000 (in nominal dollars)										
Consumer connection	280	233	264	278	290	301	312	324	337	349	363
System growth	65	71	54	57	60	62	64	67	69	72	75
Asset replacement and renewal	1,144	896	1,578	1,494	2,081	1,909	1,837	1,704	2,040	1,810	1,927
Asset relocations	-	-	-	-	-	-	-	-	-	-	-
Reliability, safety and environment:											
Quality of supply	49	177	25	27	28	29	30	31	32	34	35
Legislative and regulatory	90	141	64	67	144	73	81	39	40	42	44
Other reliability, safety and environment	230	367	131	138	143	149	154	160	166	173	179
Total reliability, safety and environment	369	684	220	232	315	251	266	230	239	248	258
Expenditure on network assets	1,858	1,885	2,117	2,061	2,745	2,523	2,480	2,325	2,685	2,480	2,622
Expenditure on non-network assets	795	996	1,119	618	644	668	694	720	747	776	805
Expenditure on assets	2,653	2,881	3,236	2,679	3,389	3,191	3,173	3,045	3,432	3,255	3,427
plus Cost of financing											
less Value of capital contributions	345	233	264	278	290	301	312	324	337	349	363
plus Value of vested assets	50	50	53	56	58	60	62	65	67	70	73
Capital expenditure forecast	2,358	2,698	3,025	2,456	3,157	2,950	2,923	2,786	3,163	2,976	3,137
Assets commissioned	2,373	2,931	3,289	2,734	3,447	3,251	3,236	3,110	3,500	3,325	3,499
	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
\$000 (in constant prices)											
Consumer connection	280	233	250	250	250	250	250	250	250	250	250
System growth	65	71	51	51	51	51	51	51	51	51	51
Asset replacement and renewal	1,144	896	1,493	1,342	1,794	1,586	1,470	1,314	1,515	1,295	1,328
Asset relocations	-	-	-	-	-	-	-	-	-	-	-
Reliability, safety and environment:											
Quality of supply	49	177	24	24	24	24	24	24	24	24	24
Legislative and regulatory	90	141	61	61	124	61	65	30	30	30	30
Other reliability, safety and environment	230	367	124	124	124	124	124	124	124	124	124
Total reliability, safety and environment	369	684	208	208	272	209	213	178	178	178	178
Expenditure on network assets	1,857	1,884	2,003	1,852	2,367	2,096	1,984	1,792	1,994	1,774	1,807
Expenditure on non-network assets	795	996	1,059	555	555	555	555	555	555	555	555
Expenditure on assets	2,652	2,880	3,062	2,407	2,922	2,651	2,539	2,347	2,549	2,329	2,362
Subcomponents of expenditure on assets (where known)											
*EDBs' must disclose both a public version of this Schedule (excluding cybersecurity cost data) and a confidential version of this Schedule (including cybersecurity costs)											
Energy efficiency and demand side management, reduction of energy losses											
Overhead to underground conversion											
Research and development											
Cybersecurity (Commission only)											

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
Difference between nominal and constant price forecasts	\$000										
Consumer connection	0	-	14	28	40	51	62	74	87	99	113
System growth	(0)	-	3	6	8	10	13	16	18	21	24
Asset replacement and renewal	0	0	85	152	287	323	367	390	525	515	599
Asset relocations	-	-	-	-	-	-	-	-	-	-	-
Reliability, safety and environment:											
Quality of supply	0	(0)	1	3	4	5	6	7	8	10	11
Legislative and regulatory	-	0	3	7	20	12	16	9	10	12	14
Other reliability, safety and environment	-	0	7	14	20	25	31	37	43	49	56
Total reliability, safety and environment	0	(0)	12	24	43	42	53	53	62	71	80
Expenditure on network assets	1	0	114	209	378	427	496	523	691	706	815
Expenditure on non-network assets	0	-	60	63	89	113	139	165	192	221	250
Expenditure on assets	1	0	175	272	467	540	634	698	883	926	1,065

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

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

	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
11a(ii): Consumer Connection	\$000 (in constant prices)					
Consumer types defined by EDB*						
Residential Users	164	233	250	250	250	250
Non Residential Small ≤ 15kW						
Non Residential Medium > 15kW						
Non Residential Large > 69kW	116					
(EDB consumer type)						
*include additional rows if needed						
Consumer connection expenditure	280	233	250	250	250	250
less Capital contributions funding consumer connection		233	250	250	205	205
Consumer connection less capital contributions	280	-	-	-	45	45
11a(iii): System Growth						
Subtransmission						
Zone substations						
Distribution and LV lines						
Distribution and LV cables						
Distribution substations and transformers	65	71	51	51	51	51
Distribution switchgear						
Other network assets						
System growth expenditure	65	71	51	51	51	51
less Capital contributions funding system growth	37					
System growth less capital contributions	28	71	51	51	51	51

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.

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	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
96						
97						
98	11a(iv): Asset Replacement and Renewal					
99	\$000 (in constant prices)					
100	Subtransmission	249	287	274	182	140
101	Zone substations	-	25	54	20	20
102	Distribution and LV lines	812	480	1,066	1,042	1,136
103	Distribution and LV cables	-	-	-	-	-
104	Distribution substations and transformers	36	51	51	51	51
105	Distribution switchgear	47	48	48	48	48
106	Other network assets	-	5	-	400	400
107	Asset replacement and renewal expenditure	1,144	896	1,493	1,342	1,794
108	less Capital contributions funding asset replacement and renewal	-	-	-	-	-
109	Asset replacement and renewal less capital contributions	1,144	896	1,493	1,342	1,794
110						
111						
112	11a(v): Asset Relocations					
113	\$000 (in constant prices)					
114	Project or programme*					
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	*Include additional rows if needed					
120	All other project or programmes - asset relocations					
121	Asset relocations expenditure	-	-	-	-	-
122	less Capital contributions funding asset relocations	-	-	-	-	-
123	Asset relocations less capital contributions	-	-	-	-	-
124						
125						
126						
127	11a(vi): Quality of Supply					
128	\$000 (in constant prices)					
129	Project or programme*					
130	Upgrade Recloser Controllers	24	24	24	24	24
131	Connection of ex Transpower Buller River Crossing line	25	128			
132	(Description of material project or programme)					
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		25			
137	Quality of supply expenditure	49	177	24	24	24
138	less Capital contributions funding quality of supply	-	-	-	-	-
139	Quality of supply less capital contributions	49	177	24	24	24

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
11a(vii): Legislative and Regulatory						
<i>Project or programme*</i>	\$000 (in constant prices)					
2 Pole substation replacement	90	65	61	61	61	61
Replacement of low clearance line Buller Rd-Martins Bridge					63	
Correction of Hector LV voltage		42				
Utopia Road LV line clearance correction		34				
(Description of material project or programme)						
<i>*include additional rows if needed</i>						
All other projects or programmes - legislative and regulatory						
Legislative and regulatory expenditure	90	141	61	61	124	61
less Capital contributions funding legislative and regulatory						
Legislative and regulatory less capital contributions	90	141	61	61	124	61
	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
11a(viii): Other Reliability, Safety and Environment						
<i>Project or programme*</i>	\$000 (in constant prices)					
Earthing Upgrades	26	27	27	27	27	27
Replace pillar boxes Palmerston and Henley Streets	26	26	26	26	26	26
Five year Asset Surveys	68	71	71	71	71	71
LV service upgrade and ownership confirmation	96	99				
(Description of material project or programme)						
<i>*include additional rows if needed</i>						
All other projects or programmes - other reliability, safety and environment	14	144				
Other reliability, safety and environment expenditure	230	367	124	124	124	124
less Capital contributions funding other reliability, safety and environment						
Other reliability, safety and environment less capital contributions	230	367	124	124	124	124
	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
11a(ix): Non-Network Assets						
Routine expenditure						
<i>Project or programme*</i>	\$000 (in constant prices)					
Plant and Equipment	25	80	145	145	145	145
Furniture and Fittings	1	15	30	30	30	30
Computer and Communications Equipment	27	85	85	85	85	85
Vehicles	170	260	295	295	295	295
(Description of material project or programme)						
<i>*include additional rows if needed</i>						
All other projects or programmes - routine expenditure	73					
Routine expenditure	295	440	555	555	555	555
Atypical expenditure						
<i>Project or programme*</i>						
Asset management and GIS system Upgrade	500	500				
Land & Buildings		56	504			
(Description of material project or programme)						
(Description of material project or programme)						
(Description of material project or programme)						
<i>*include additional rows if needed</i>						
All other projects or programmes - atypical expenditure						
Atypical expenditure	500	556	504	-	-	-
Expenditure on non-network assets	795	996	1,059	555	555	555

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. EDBs must provide explanatory comment on the difference between constant price and nominal dollar operational expenditure forecasts in Schedule 14a (Mandatory Explanatory Notes). EDBs must express the information in this schedule (11b) as a specific value rather than ranges. If EDBs wish to provide any supporting information about these values, this 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
7												
8												
9	Operational Expenditure Forecast	\$000 (in nominal dollars)										
10	Service interruptions and emergencies	283	283	295	306	315	323	331	340	349	359	368
11	Vegetation management	203	329	351	364	374	384	395	405	416	427	438
12	Routine and corrective maintenance and inspection	362	347	323	317	285	343	349	339	382	411	394
13	Asset replacement and renewal	56	85	88	91	94	97	99	102	105	107	110
14	Network Opex	904	1,044	1,057	1,078	1,068	1,147	1,175	1,186	1,252	1,304	1,310
15	System operations and network support	456	401	467	484	496	572	552	567	582	636	613
16	Business support	2,689	3,054	3,176	3,293	3,390	3,480	3,573	3,668	3,766	3,866	3,969
17	Non-network opex	3,144	3,455	3,643	3,778	3,886	4,053	4,125	4,235	4,348	4,501	4,582
18	Operational expenditure	4,048	4,499	4,699	4,855	4,954	5,199	5,300	5,421	5,600	5,805	5,892

		Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
		\$000 (in constant prices)										
	Service interruptions and emergencies	283	283	283	283	283	283	283	283	283	283	283
	Vegetation management	203	329	337	337	337	337	337	337	337	337	337
	Routine and corrective maintenance and inspection	362	347	311	294	257	301	299	282	310	325	303
	Asset replacement and renewal	56	85	85	85	85	85	85	85	85	85	85
	Network Opex	904	1,044	1,016	999	962	1,006	1,004	988	1,015	1,030	1,008
	System operations and network support	456	401	449	449	447	502	472	472	472	502	472
	Business support	2,689	3,054	3,054	3,054	3,054	3,054	3,054	3,054	3,054	3,054	3,054
	Non-network opex	3,144	3,455	3,503	3,503	3,500	3,556	3,526	3,526	3,526	3,556	3,526
	Operational expenditure	4,048	4,499	4,519	4,502	4,463	4,562	4,530	4,513	4,541	4,586	4,534

Subcomponents of operational expenditure (where known)

**EDBs' must disclose both a public version of this Schedule (excluding cybersecurity cost data) and a confidential version of this Schedule (including cybersecurity costs)*

[illegible]

* 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
40												
41												
42	Difference between nominal and real forecasts	\$000										
43	Service interruptions and emergencies	-	-	11	22	31	40	48	57	66	75	85
44	Vegetation management	-	-	13	26	37	47	57	68	79	90	101
45	Routine and corrective maintenance and inspection	-	-	12	23	28	42	51	57	72	86	91
46	Asset replacement and renewal	-	-	3	7	9	12	14	17	20	23	25
47	Network OpeX	-	-	41	78	106	141	171	199	237	274	302
48	System operations and network support	-	-	18	35	49	70	80	95	110	133	141
49	Business support	-	-	122	240	336	427	519	614	712	812	915
50	Non-network opeX	-	-	140	275	386	497	600	709	822	946	1,056
51	Operational expenditure	-	-	180	353	492	637	770	908	1,059	1,219	1,358

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

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	1 April 2024 – 31 March 2034

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
All	Overhead Line	Concrete poles / steel structure	No.	0.25%	1.96%	19.91%	75.61%	2.27%			3	1.93%
All	Overhead Line	Wood poles	No.	0.44%	2.39%	22.31%	71.28%	3.58%			3	5.02%
All	Overhead Line	Other pole types	No.		2.28%	5.94%	83.10%	8.68%			2	27.00%
HV	Subtransmission Line	Subtransmission OH up to 66kV conductor	km		0.17%	9.03%	89.39%	1.41%		-	3	-
HV	Subtransmission Line	Subtransmission OH 110kV+ conductor	km				100.00%				4	
HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	km			63.54%	36.46%				4	
HV	Subtransmission Cable	Subtransmission UG up to 66kV (Oil pressurised)	km							[Select one]		
HV	Subtransmission Cable	Subtransmission UG up to 66kV (Gas pressurised)	km							[Select one]		
HV	Subtransmission Cable	Subtransmission UG up to 66kV (PILC)	km							[Select one]		
HV	Subtransmission Cable	Subtransmission UG 110kV+ (XLPE)	km							[Select one]		
HV	Subtransmission Cable	Subtransmission UG 110kV+ (Oil pressurised)	km							[Select one]		
HV	Subtransmission Cable	Subtransmission UG 110kV+ (Gas Pressurised)	km							[Select one]		
HV	Subtransmission Cable	Subtransmission UG 110kV+ (PILC)	km							[Select one]		
HV	Subtransmission Cable	Subtransmission submarine cable	km							[Select one]		
HV	Zone substation Buildings	Zone substations up to 66kV	No.				66.66%	33.34%			4	-
HV	Zone substation Buildings	Zone substations 110kV+	No.				100.00%				4	-
HV	Zone substation switchgear	22/33kV CB (Indoor)	No.							[Select one]		
HV	Zone substation switchgear	22/33kV CB (Outdoor)	No.				100.00%				4	
HV	Zone substation switchgear	33kV Switch (Ground Mounted)	No.							[Select one]		
HV	Zone substation switchgear	33kV Switch (Pole Mounted)	No.				100.00%				4	-
HV	Zone substation switchgear	33kV RMU	No.							[Select one]		
HV	Zone substation switchgear	50/66/110kV CB (Indoor)	No.							[Select one]		
HV	Zone substation switchgear	50/66/110kV CB (Outdoor)	No.				100.00%				4	-
HV	Zone substation switchgear	3.3/6.6/11/22kV CB (ground mounted)	No.							[Select one]		
HV	Zone substation switchgear	3.3/6.6/11/22kV CB (pole mounted)	No.				100.00%				4	-

Company Name	Buller Electricity Ltd
AMP Planning Period	1 April 2024 – 31 March 2034

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

Consumer types defined by EDB*

Residential Users
Non Residential Small ≤ 15kW
Non Residential Medium > 15kW
Non Residential Large > 69kW
[EDB consumer type]

Connections total

*include additional rows if needed

Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
100	25	25	25	25	25
4					
3					
1					
108	25	25	25	25	25

Distributed generation

Number of connections made in year

Capacity of distributed generation installed in year (MVA)

Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
11	10	10	10	10	10
0	0	0	1	1	1

12c(ii) System Demand

Maximum coincident system demand (MW)

GXP demand

plus Distributed generation output at HV and above

Maximum coincident system demand

less Net transfers to (from) other EDBs at HV and above

Demand on system for supply to consumers' connection points

Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
7	8	10	12	14	16
4					
11	8	10	12	14	16
11	8	10	12	14	16

Electricity volumes carried (GWh)

Electricity supplied from GXPs

less Electricity exports to GXPs

plus Electricity supplied from distributed generation

less Net electricity supplied to (from) other EDBs

Electricity entering system for supply to ICPs

less Total energy delivered to ICPs

Losses

Load factor

Loss ratio

36	36	36	36	36	36
18	18	18	18	18	18
53	54	54	54	54	54
50	50	50	50	50	50
4	4	4	4	4	4
57%	77%	61%	51%	44%	38%
7.2%	7.0%	7.0%	7.0%	7.0%	7.0%

Company Name

Buller Electricity Ltd

AMP Planning Period

1 April 2024 – 31 March 2034

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
8							
9							
10	SAIDI						
11	Class B (planned interruptions on the network)	168.0	202.0	200.0	180.0	180.0	180.0
12	Class C (unplanned interruptions on the network)	145.0	588.0	588.0	588.0	588.0	588.0
13	SAIFI						
14	Class B (planned interruptions on the network)	0.65	0.70	0.70	0.70	0.70	0.70
15	Class C (unplanned interruptions on the network)	1.55	3.85	3.85	3.85	3.85	3.85

				Company Name	Bulfer Electricity Ltd			
				AMP Planning Period	1 April 2024 – 31 March 2024			
				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.		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 policies, 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 data are captured.		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 AMP Planning Period Asset Management Standard Applied					Buller Electricity Ltd 1 April 2024 – 31 March 2034		
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		1 April 2024 – 31 March 2034		
				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		1 April 2024 – 31 March 2034		
				Asset Management Standard Applied				
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)								
Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/document 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 supervisory 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 addressed		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. 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.

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)					Company Name	Buller Electricity Ltd	
					AMP Planning Period	1 April 2024 – 31 March 2034	
					Asset Management Standard Applied		
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)					Company Name	Buller Electricity Ltd	
					AMP Planning Period	1 April 2024 – 31 March 2034	
					Asset Management Standard Applied		
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	1 April 2024 – 31 March 2034			
				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	1 April 2024 – 31 March 2034			
				Asset Management Standard Applied				
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)								
Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/documentd 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		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		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 walkabouts 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.

			Company Name		Buller Electricity Ltd		
			AMP Planning Period		1 April 2024 – 31 March 2034		
			Asset Management Standard Applied				
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)							
			Company Name		Buller Electricity Ltd		
			AMP Planning Period		1 April 2024 – 31 March 2034		
			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 AMP Planning Period Asset Management Standard Applied		Buller Electricity Ltd 1 April 2024 – 31 March 2034		
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY This schedule requires information on the EDI's self-assessment of the maturity of its asset management practices .								
				Company Name AMP Planning Period Asset Management Standard Applied		Buller Electricity Ltd 1 April 2024 – 31 March 2034		
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)								
Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/document 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 normally have a high turn over of staff 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.
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 level of 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.

					Company Name		Buller Electricity Ltd	
					AMP Planning Period		1 April 2024 – 31 March 2034	
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SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)								
					Company Name		Buller Electricity Ltd	
					AMP Planning Period		1 April 2024 – 31 March 2034	
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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.	
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.	

				Company Name		Buller Electricity Ltd		
				AMP Planning Period		1 April 2024 – 31 March 2034		
				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		1 April 2024 – 31 March 2034		
				Asset Management Standard Applied				
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)								
Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/document 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)							
				Company Name AMP Planning Period Asset Management Standard Applied		Buller Electricity Ltd 1 April 2024 – 31 March 2034	
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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				AMP Planning Period		1 April 2024 – 31 March 2034		
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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 .								
				Company Name		Buller Electricity Ltd		
				AMP Planning Period		1 April 2024 – 31 March 2034		
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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. This is being reviewed as to its suitability for the AMP.		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. These are also included in the GIS system to aid in the identification of 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

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)					Company Name		Buller Electricity Ltd
					AMP Planning Period		1 April 2024 – 31 March 2034
					Asset Management Standard Applied		
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)					Company Name		Buller Electricity Ltd
					AMP Planning Period		1 April 2024 – 31 March 2034
					Asset Management Standard Applied		
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.

				Company Name		Buller Electricity Ltd		
				AMP Planning Period		1 April 2024 – 31 March 2034		
				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		1 April 2024 – 31 March 2034		
				Asset Management Standard Applied				
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)								
Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/document 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?	3	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.

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)					Company Name	Buller Electricity Ltd	
					AMP Planning Period	1 April 2024 – 31 March 2034	
					Asset Management Standard Applied		
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)							
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)					Company Name	Buller Electricity Ltd	
					AMP Planning Period	1 April 2024 – 31 March 2034	
					Asset Management Standard Applied		
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 conformance 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.

				Company Name		Buller Electricity Ltd		
				AMP Planning Period		1 April 2024 – 31 March 2034		
				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		1 April 2024 – 31 March 2034		
				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
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 Commission or audit reviews for any recommended improvements		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 than 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		1 April 2024 – 31 March 2034	
				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		1 April 2024 – 31 March 2034	
				Asset Management Standard Applied			
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)							
				Company Name		Buller Electricity Ltd	
				AMP Planning Period		1 April 2024 – 31 March 2034	
				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 inconsistent 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							
AMP Planning Period							
Asset Management Standard Applied							
Buller Electricity Ltd							
1 April 2024 – 31 March 2034							
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 Determination 2012 (consolidated July 2023)

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, 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.

A handwritten signature in black ink, appearing to read "SK Hollis", written over a dotted line.

Director

A handwritten signature in blue ink, appearing to read "M Frost", written over a dotted line.

Director

Dated: 28 March 2024
