

Northpower

2022 - 2032  
Asset Management Plan

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Update  
March 2022

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# 2022 - 2032 Asset Management Plan Update March 2022

## Table of contents

<b>1. Asset Management Plan Update</b>	<b>2</b>
<b>2. Our Next Asset Management Plan</b>	<b>4</b>
<b>3. Material Changes</b>	<b>7</b>
3.1 Overview	7
3.2 Material Changes to Network Development Plan	7
3.3 Material Changes to Asset Life Cycle Management	8
3.4 Material Changes to Expenditure Forecasts (Schedule 11a and 11b)	9
3.5 Material Changes to Asset Management Practices	11
<b>4. Schedules</b>	<b>13</b>
4.1 Schedule 11a: Report on Forecast Capital Expenditure	13
4.2 Schedule 11b: Report on Forecast Operational Expenditure	17
4.3 Schedule 12a: Report on Asset Condition	18
4.4 Schedule 12b: Report on Forecast Capacity	20
4.5 Schedule 12c: Report on Forecast Network Demand	21
4.6 Schedule 12d: Report on Forecast Interruptions and Duration	22
4.7 Schedule 14a: Mandatory Explanatory Notes on Forecast Information	23
<b>5. Director Certification</b>	<b>25</b>

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Section 1

Asset Management Plan Update

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## 1. Asset Management Plan Update

This supplement to our Asset Management Plan published in March 2021 (for the period 2021-2031) provides an update to Northpower's approach to managing its assets and delivering the planned programmes of capital and operational spend, as well as planned maintenance work for the period 1 April 2022 to 30 March 2032.

Northpower's 2021 Asset Management Plan is available from Northpower's website at: <https://northpower.com/company/disclosures>. This update should be read in conjunction with the 2021 AMP and outlines how we are managing our Network assets for the efficient and reliable delivery of electricity to consumers.

Covered in this update are:

1. Our improvements underway that will be included in our next full AMP (in 2023)
2. Material changes to the network development plans disclosed in the last AMP
3. Material changes to the lifecycle asset management (maintenance and renewal) plans disclosed in the last AMP
4. Material changes to Northpower's asset management practices; and
5. An outline of the reasons for material changes to the previous disclosures in the Report on Forecast Capital Expenditure set out in Schedule 11a and Report on Forecast Operational Expenditure set out in Schedule 11b.

### Information Disclosure Requirements

Our AMP update is written in accordance with the Commerce Commission's Electricity Distribution Information Disclosure Determination 2012. Clause 2.6.3 of this document requires that Northpower publicly disclose an AMP Update prior to 1 April 2022.

Clause 2.6.5 states that the AMP update must:

1. Relate to the electricity distribution services supplied by the EDB
2. Identify any material changes to the network development plans disclosed in the last AMP under clause 11 of Attachment A or in the last AMP update disclosed under this clause
3. Identify any material changes to the lifecycle asset management (maintenance and renewal) plans disclosed in the last AMP pursuant to clause 12 of Attachment A
4. Provide the reasons for any material changes to the previous disclosures in the Report on Forecast Capital Expenditure set out in Schedule 11a and Report on Forecast Operational Expenditure set out in Schedule 11b
5. Identify any changes to the asset management practices of the EDB that would affect a Schedule 13 Report on Asset Management Maturity disclosure and
6. Contain the information set out in the schedules 11a, 11b, 12a, 12b, 12c and 12d

### Stakeholder Feedback

Northpower encourages feedback to enable continued improvement in meeting the needs of its consumers and stakeholders.

Feedback should be addressed to:

**Mike Gibbs**  
**Asset Strategy and Planning Manager**

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Whangarei Mail Centre  
Whangarei 0148  
**Email: [mike.gibbs@northpower.com](mailto:mike.gibbs@northpower.com)**

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Section 2

Our Next Asset Management Plan

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## 2. Our Next Asset Management Plan

We have already begun work on several initiatives to improve our asset management that will be included in our next full asset management plan in 2023. These are outlined in the following sections:

### Risk Management

- **Climate Change Resilience:** Northpower is working with the Northland Lifelines group to assess the impact of climate change on regional infrastructure. The group has employed a consultant to undertake a spatial analysis that will include Northpower assets and fault data. The resulting analysis will highlight areas of risk and aid in future planning.
- **Emissions reduction:** We have undertaken a baseline assessment of Northpower's carbon footprint, to assist in developing an emissions reduction roadmap. A focus on reducing emissions also improves other environmental aspects including air quality, resource usage and waste production. Northpower has used science-based targets, intended to hold global warming at or below 1.5oC, to direct the development of this roadmap, focussing on the key contributors to the emissions profile of our Network (excluding line losses), namely transport/fuel consumption (70%) and production of waste (13%).

### Customer Experience

- **Customer Notifications:** Through our ongoing surveys and customer engagement, customers tell us that communication is important, and they particularly need up to date and accurate information about outages (both planned and unplanned). Our investment in a Customer Relationship Management (CRM) system in recent years means we are now in a position to integrate this with our new outage management system and provide up to date information to customers about planned and unplanned outages. We expect planned outages to be integrated by the first half of 2022 and unplanned outages several months later.
- **Helping customers navigate their energy choices:** We recognise that energy hardship is a serious issue in our communities and one of our key goals is to reduce total energy costs for consumers. Northpower is embarking on a consumer outreach programme, where energy assessors will be visiting homes and providing practical energy saving advice and energy saving devices such as LED bulbs and energy-efficient shower heads to help customers reduce their total electricity costs. Northpower was awarded \$55,000 funding from the Government's Support for Energy Education in Communities (SEEC) programme to support this activity. We expect to complete assessments of 220 homes in the first quarter of 2022 and save the average home over \$500 per annum.

### Planning our Network

- **Future Networks:** We have developed a first-cut LV model for our network to identify any areas that may become constrained with the uptake of distributed energy resources (DER) and help us to prioritise the installation of monitoring devices. We are working through specifying what data we need to obtain from these LV networks and then will look to select and plan a roll out of a monitoring device to keep on top of our possible constraints.

## Managing our Assets

- **Asset Strategies:** We are working on finalising a suite of asset strategies that document our asset management approach across the asset lifecycle for each of our asset classes. This also includes reviewing our existing performance objectives to ensure they are measurable and then setting up reporting to track the performance of our strategies to help in identifying future improvements.
- **Asset Renewal Modelling and Expenditure Forecasting:** We have started to produce data-driven asset health and expenditure forecast models in line with our asset strategies. This will help us quantify the impact our aging asset fleet will have on our investment requirements and help us prioritise investments to ensure we keep our service affordable.
- **Vegetation Management:** We have developed a new risk-based vegetation management strategy to manage the safety and network performance risks associated with our vegetation. We are looking to finalise and implement this strategy during FY23. This strategy will help us deal with the high-risk vegetation first and minimise the leading causes of vegetation related faults as observed through current trends.
- **Asset Management System (AMS):** We have started to scope our new asset management system to replace our obsolete WASP system. We intend to complete the system selection during FY23 and move into implementation by FY24.
- **Network Information Strategy and Data Standards:** We are working through defining our approach to Network Information and building data standards for each fleet. This will give greater clarity around our expectations with Network Information and help us to improve our information over time – leading to better decision making. It will also assist in the system selection and implementation of our new AMS.
- **ESRI:** We are deploying the ESRI ArcGIS suite as our front-end GIS tools and viewer. This will give improved access to asset locations and details, the ability to query and overlay asset data with external data such as council layers, and allows for the development of custom tools, enhanced dash boarding and reporting, and automated workflows.
- **Drawings Management:** We are developing a Drawings Management System (DMS) as a proof-of-concept project. The DMS will store all as built and construction drawings in a single location; it will make searching and versioning easier for those working in the field and provide digital mark-up tools for making live edits. The system will also allow for reporting and tracking drawing statuses and document lifecycle management.

## Ability to Deliver

- **ADMS:** We are currently in the final stages of phase 2 of our Advanced Distribution Management System (ADMS) deployment and expect to have this completed mid-2022. This phase will integrate our SCADA system with our GIS, alongside new permitting processes and safety controls. This enables our operators to have visibility and control of our distribution system in real time to manage switching activities digitally on our distribution network.



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Section 3  
Material Changes

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### 3. Material Changes

#### 3.1 Overview

Since the 2021 AMP, we have continued to review the existing Asset Management Plan for the electricity business, including our approach to investment and maintenance, with a focus on continual improvement.

The key inputs into this review have included:

- A review of forecast changes in investment need relating to aging major items of plant and load growth for the 10-year planning period FY23-FY32.
- A review of unit costs associated with our investment programmes, noting Northpower has seen significant price increase in costs across the board since the Covid-19 pandemic.
- Unforeseen significant customer connection requests (primarily in Mangawhai).
- Reviewing security of supply criteria against updated demand forecasts.
- A review of Opex and Capex programs to ensure SAIDI and SAIFI remain in line with long-term averages, taking into account an aging asset base, increases in planned work and ongoing vegetation challenges.

This 2022 AMP Update summarises the resulting changes to our Asset Management Plan.

#### 3.2 Material Changes to Network Development Plan

**Overall \$2.3M increase in the 10-year Network Development profile compared with the 2021 Asset Management Plan<sup>1</sup>**

We have revisited growth forecasts to validate the need for our Network development investments for the next 10-year period and revalidated our plan.

The material changes to the plan are outlined in the below table.

##### Material Changes to Network Development Plan<sup>2</sup>

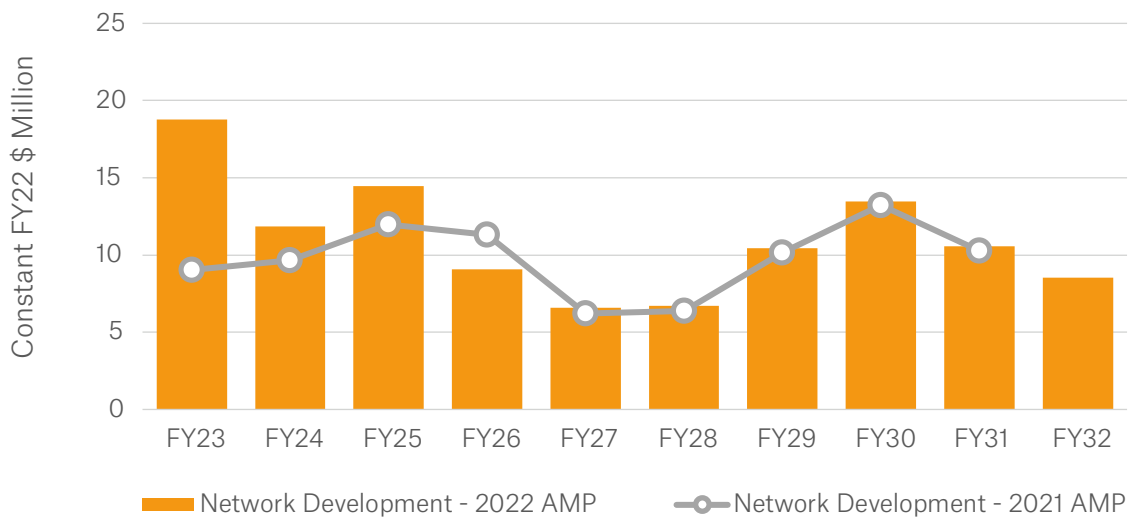
Year	Change (\$)	Description of Change	Reasons for change
FY23-FY24	+\$7.6M	Mangawhai Central Substation	Due to a significant customer development, and taking into account the increasing amount of other developments in the area, a new substation is required in Mangawhai to meet the future demand.
FY23-FY26	+\$1.5M	Mangawhai 2nd line - updated forecast	Following further investigation into the Mangawhai line, the forecast and timing for the project has been updated. This project is required to improve the reliability of the Mangawhai area and meet security of supply standards.

The resulting investment profile sees an uplift in investment related to Network Development compared with our 2021 AMP, particularly in the first 5 years of the planning period.

<sup>1</sup> For the comparison period FY22 to FY31

<sup>2</sup> Includes the following investment categories: consumer connections, system growth, asset relocations, reliability, safety & environment

### 10-Year Network Development Investment Profile (2022 AMP Update vs. 2021 AMP) - \$M



### 3.3 Material Changes to Asset Life Cycle Management

**Overall \$14.2M increase in the 10-year Asset Life Cycle Management profile compared with the 2021 Asset Management Plan<sup>3</sup>.**

Our recent review of our Asset Lifecycle Management Plan found a significant increase in costs associated with our distribution asset replacements. We will continue to look for opportunities for efficiency in the delivery of these assets.

We have also reviewed the timing of some of our existing projects following the significant disruption to work delivery we have seen during FY22, which has resulted in some project delays. Further detailed investigation of some of these projects has also resulted in an increased estimate for the project.

The key changes to our plan are outlined in the table below:

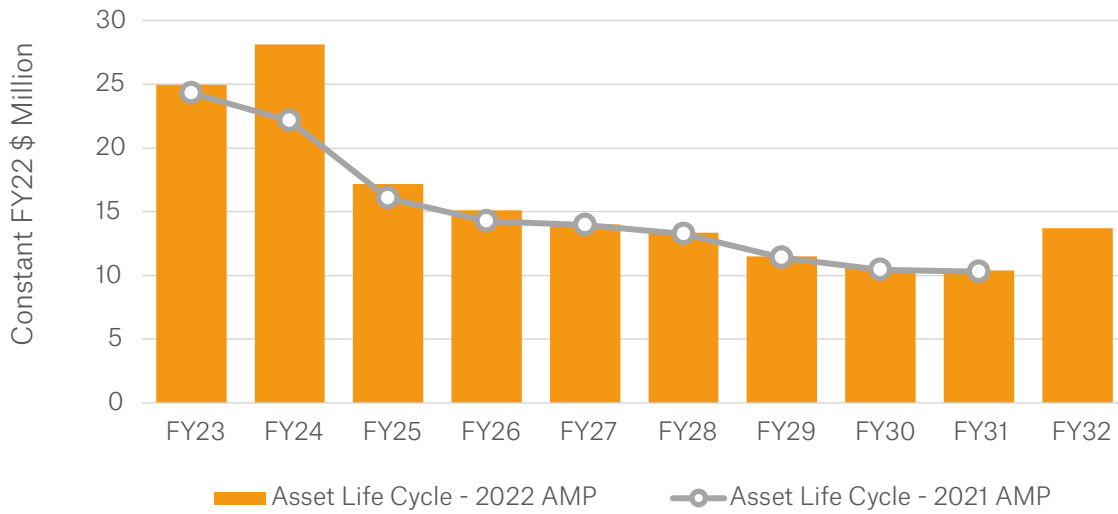
#### Material Changes to Asset Life Cycle Management Plan<sup>4</sup>

Year	Change (\$)	Description of Change	Reasons for change
All years	+\$3.0m	Distribution replacement cost increases	We have seen a significant (unexpected) uplift in material costs across our distribution asset replacements
FY23-FY24	+\$3.9M	Kensington Project scope and delay	After a more detailed investigation into the Kensington projects, including a review of the resiliency of this high-criticality substation, the project timeline has been updated (resulting in a delay from original plan). We have also seen some increase in cost, in particular transformer pricing
All years	+\$1.1M	Distribution Transformer Costs	Following a recent change in our capital contributions policy, we have included budget to cover distribution transformer installs / upgrade costs.
FY23-FY24	+\$6.2M	Rollover of existing programmes	We have seen significant delays during FY22 leading to a rollover of expenditure into FY23 and FY24.

<sup>4</sup> Includes the following investment categories: asset replacement and renewal, non-network assets

The resulting investment profile sees an uplift in investment related to Asset Lifecycle Management, compared with our 2021 AMP across the planning period.

### 10-Year Asset Life Cycle Management Investment Profile (2020 AMP vs. 2019 AMP) - \$M

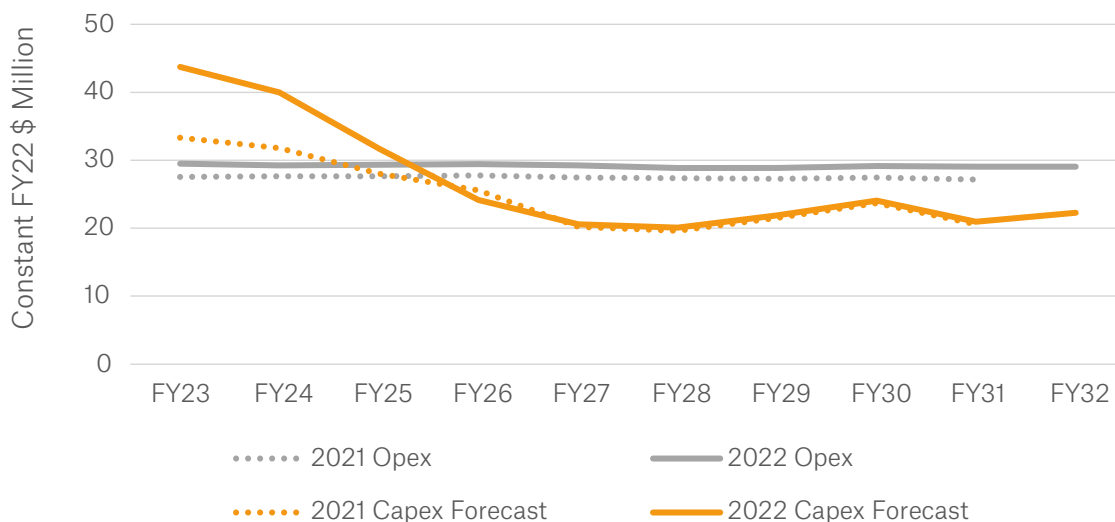


### 3.4 Material Changes to Expenditure Forecasts (Schedule 11a and 11b)

Compared to the 2021 AMP we are forecasting an increase across both Capex and Opex expenditure.

- The reasons for the Capex increase are detailed in sections 3.2 and 3.3.
- The reasons for the Opex increase are detailed at the end of this section.

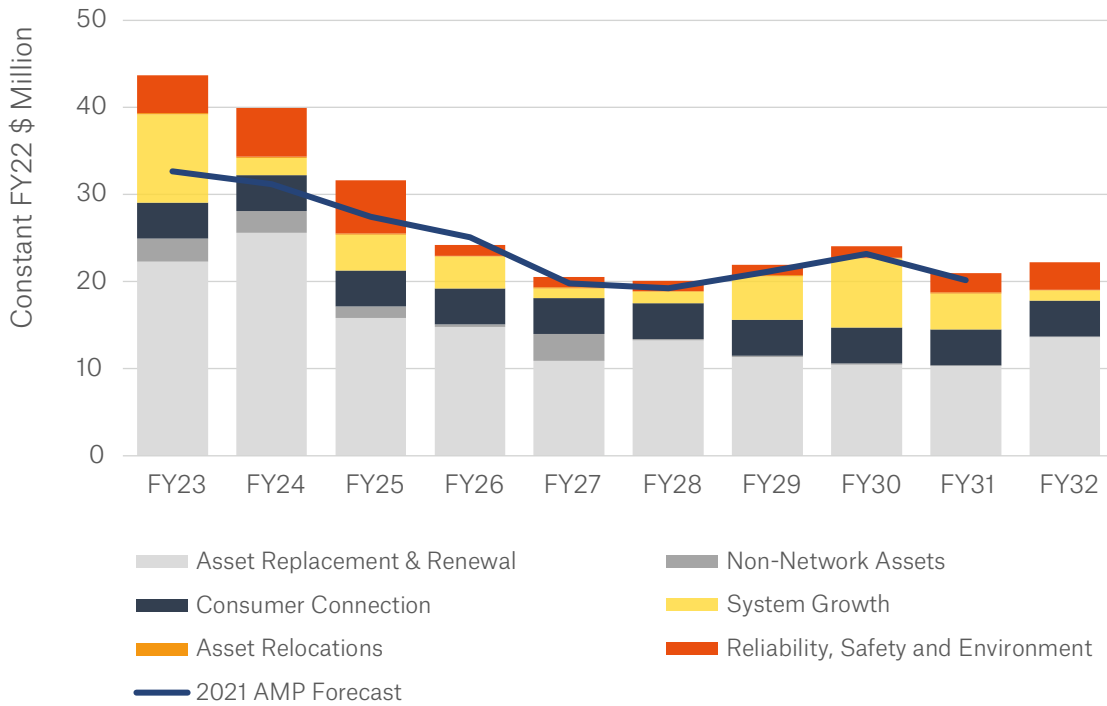
### Forecast expenditure 2021 AMP vs. 2022 AMP Update



### Capex Expenditure Forecast

The 10-year forecast capital expenditure is \$269.3M for the period FY23-FY32, up \$13.5M from the 2021 AMP (for the period FY22-FY31) and is shown below.

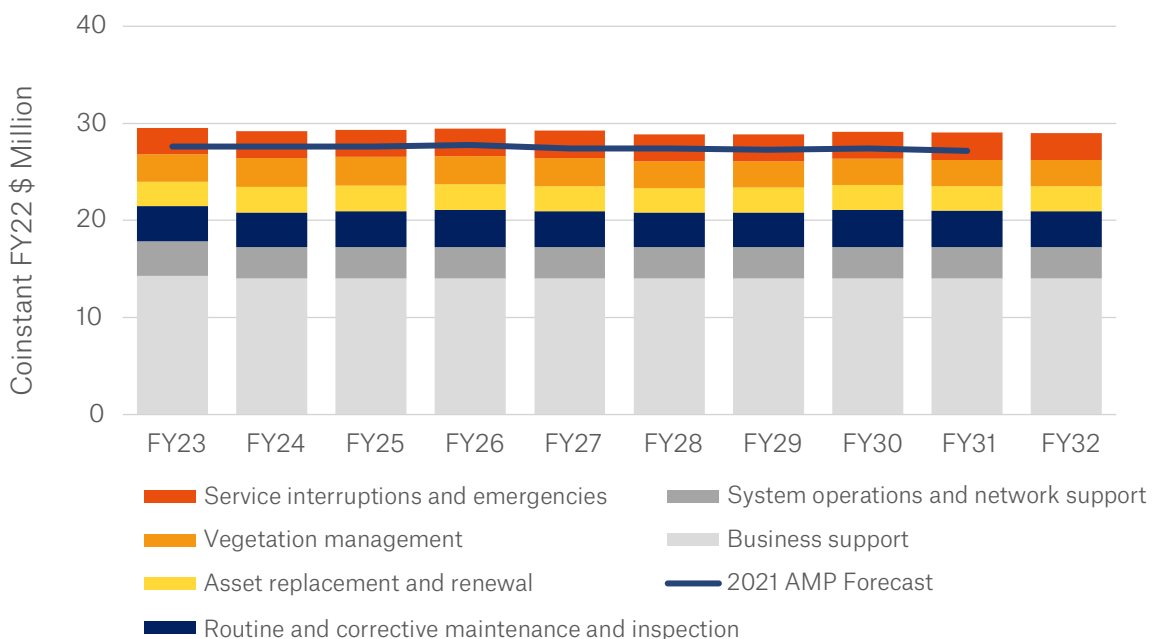
#### Forecast Capex expenditure 2021 AMP vs. 2022 AMP Update



### Opex Expenditure Forecast

The 10-year forecast operational expenditure is \$291.7M for the period FY23-FY32, up \$16.5M from the 2021 AMP (for the period FY22-FY31) and is shown below.

#### Forecast Opex expenditure 2021 AMP vs. 2022 AMP Update



The changes in the operational expenditure forecast are detailed in the below table.

Change (\$)	Description of Change	Reasons for change
+ \$0.4M	Software as a service no longer capitalised	With recent accounting rule changes, development work on software as a service can no longer be capitalised. This will result in a re-categorisation of some upcoming spend.
+ \$2.0M	Increased licensing and digital support	With new systems being installed the expected costs of digital support and licensing have increased across the 10 year period.
+ \$1.5M	Increased people costs	Increasing people costs due to market conditions
+ \$4.7M	Routine and corrective maintenance and inspection increases	We have reviewed our planned maintenance schedules to ensure they are in line with our maintenance and inspection standards and introduced acoustic inspection into our overhead lines inspection routine.
- \$0.6M	Vegetation strategy	We are forecasting a lower amount of spend in later years of our 10 year period due to the introduction of a risk-based vegetation strategy.
+ \$1.8M	Asset replacement and renewal	We expect to see an increase in corrective maintenance across in later parts of the 10-year period due to our aging fleet of assets (and increasing probability of failure).
+ \$0.4M	Software as a service no longer capitalised	With recent accounting rule changes, software as a service can no longer be capitalised. This will result in a re-categorisation of some upcoming spend

### 3.5 Material Changes to Asset Management Practices

There have been no material changes in our Asset Management Practices since our 2021 AMP. However, as outlined in the “Our Next Asset Management Plan” section, we are working on several initiatives to improve our asset management approach and these will be discussed further in our next full AMP in 2023.

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Section 4  
Schedules

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**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).  
This information is not part of audited disclosure information.

sch ref	Current Year CY	for year ended									
		CY+1 31 Mar 23	CY+2 31 Mar 24	CY+3 31 Mar 25	CY+4 31 Mar 26	CY+5 31 Mar 27	CY+6 31 Mar 28	CY+7 31 Mar 29	CY+8 31 Mar 30	CY+9 31 Mar 31	CY+10 31 Mar 32
		<b>\$000 (in nominal dollars)</b>									
7	6,156	4,238	4,362	4,464	4,559	4,656	4,755	4,857	4,961	5,066	5,168
8	2,376	10,535	2,155	4,485	4,021	1,275	1,329	5,915	9,514	5,051	1,405
9	18,277	23,055	27,285	17,240	16,418	12,355	15,304	13,346	12,582	12,635	17,008
10	56	109	112	114	116	119	121	126	129	131	131
11	351	3,624	5,076	6,058	206	209	150	153	294	1,384	2,661
12	-	-	-	-	-	-	-	-	-	-	-
13	716	921	888	620	1,142	1,171	1,200	1,236	1,261	1,286	1,312
14	1,067	4,545	5,965	6,678	1,349	1,380	1,350	1,389	1,555	2,670	3,972
15	27,932	42,481	39,878	32,982	28,463	19,783	23,060	25,680	28,738	25,551	27,684
16	1,796	2,780	2,630	1,446	360	3,479	121	153	150	92	94
17	29,728	45,261	42,508	34,428	28,823	23,262	23,181	25,783	28,888	25,642	27,778
18	195	226	211	170	133	115	115	128	143	127	138
19	6,984	6,575	6,972	7,131	7,280	7,431	7,586	7,744	7,906	8,070	8,232
20	-	-	-	-	-	-	-	-	-	-	-
21	22,938	38,912	35,747	27,467	19,676	15,946	15,710	18,167	21,125	17,699	19,684
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
		<b>\$000 (in constant prices)</b>									
32	6,156	4,095	4,100	4,105	4,111	4,116	4,121	4,126	4,132	4,137	4,137
33	2,376	10,179	2,025	4,125	3,625	1,125	1,325	5,025	7,925	4,125	1,125
34	18,277	22,275	25,644	15,855	14,803	10,921	13,262	11,339	10,480	10,318	13,617
35	56	105	105	105	105	105	105	105	105	105	105
36	351	3,501	4,771	5,571	186	185	130	130	245	1,130	2,130
37	-	-	-	-	-	-	-	-	-	-	-
38	716	890	835	570	1,030	1,035	1,040	1,050	1,050	1,050	1,050
39	1,067	4,391	5,606	6,141	1,216	1,220	1,170	1,180	1,295	2,180	3,180
40	27,932	41,045	37,480	30,331	23,859	17,487	19,983	21,776	23,937	20,865	22,164
41	1,796	2,686	2,472	1,330	325	3,075	105	130	125	75	75
42	29,728	43,750	39,952	31,661	24,184	20,562	20,088	21,906	24,062	20,940	22,239
43											
44											
45											
46											
47											
48											
49											

**Subcomponents of expenditure on assets (where known)**  
Energy efficiency and demand side management, reduction of energy losses  
Overhead to underground conversion  
Research and development





**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).  
This information is not part of audited disclosure information.

sch\_ref

for year ended	Current Year CY		CY+1		CY+2		CY+3		CY+4		CY+5		CY+6		CY+7		CY+8		CY+9		CY+10	
	31 Mar 22	31 Mar 23	31 Mar 23	31 Mar 24	31 Mar 24	31 Mar 25	31 Mar 25	31 Mar 26	31 Mar 26	31 Mar 27	31 Mar 27	31 Mar 28	31 Mar 28	31 Mar 29	31 Mar 29	31 Mar 30	31 Mar 30	31 Mar 31	31 Mar 31	31 Mar 32	31 Mar 32	
\$'000	-	-	143	262	359	449	540	634	730	829	929	1,030	-	-	-	-	-	-	-	-	-	-
Consumer connection	-	-	356	130	360	396	448	504	580	669	766	870	-	-	-	-	-	-	-	-	-	-
System growth	-	-	780	1,641	1,386	1,615	1,434	2,042	2,007	2,102	2,317	3,391	-	-	-	-	-	-	-	-	-	-
Asset replacement and renewal	-	-	4	7	9	11	14	16	19	21	24	26	-	-	-	-	-	-	-	-	-	-
Asset relocations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reliability, safety and environment:	-	-	123	305	487	20	24	20	23	49	254	531	-	-	-	-	-	-	-	-	-	-
Quality of supply	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Legislative and regulatory	-	-	31	53	50	112	136	160	186	211	236	262	-	-	-	-	-	-	-	-	-	-
Other reliability, safety and environment	-	-	154	359	537	133	160	180	209	260	490	792	-	-	-	-	-	-	-	-	-	-
<b>Total reliability, safety and environment</b>	-	-	1,437	2,398	2,651	2,604	2,296	3,076	3,855	4,801	4,686	5,520	-	-	-	-	-	-	-	-	-	-
<b>Expenditure on network assets</b>	-	-	94	158	116	35	404	16	23	25	19	26	-	-	-	-	-	-	-	-	-	-
Expenditure on non-network assets	-	-	1,531	2,556	2,767	2,639	2,700	3,092	3,878	4,826	4,703	5,589	-	-	-	-	-	-	-	-	-	-
<b>Expenditure on assets</b>	-	-	1,625	2,714	2,883	2,674	2,704	3,108	3,901	4,851	4,723	5,615	-	-	-	-	-	-	-	-	-	-

for year ended	Current Year CY		CY+1		CY+2		CY+3		CY+4		CY+5	
31 Mar 22	31 Mar 23	31 Mar 23	31 Mar 24	31 Mar 24	31 Mar 25	31 Mar 25	31 Mar 26	31 Mar 26	31 Mar 27	31 Mar 27	31 Mar 28	
\$'000 (in constant prices)	333	-	-	-	-	-	-	-	-	-	-	-
Capital Contributions (Network)	5,765	4,010	4,015	4,020	4,026	4,031	4,036	4,041	4,046	4,051	4,056	
Capital Contributions (Customer)	58	85	85	85	85	85	85	85	85	85	85	
Ripple Relay Purchases	-	-	-	-	-	-	-	-	-	-	-	
Consumer connection expenditure	6,156	4,095	4,100	4,105	4,111	4,116	4,121	4,126	4,131	4,136	4,141	
less Capital contributions funding consumer connection	5,764	4,010	4,015	4,020	4,026	4,031	4,036	4,041	4,046	4,051	4,056	
Consumer connection less capital contributions	392	85	85	85	85	85	85	85	85	85	85	

**11a(ii): Consumer Connection**

Consumer Types defined by EDG*	
Capital Contributions (Network)	
Capital Contributions (Customer)	
Ripple Relay Purchases	

\*Include additional rows if needed

**Consumer connection expenditure**  
less Capital contributions funding consumer connection  
Consumer connection less capital contributions

**11a(iii): System Growth**

Subtransmission	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zone substations	1,100	8,060	900	2,000	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
Distribution and LV lines	57	1,069	75	1,075	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
Distribution and LV cables	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Distribution substations and transformers	1,219	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050
Distribution switchgear	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other network assets	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>System growth expenditure</b>	2,376	10,179	2,025	4,125	3,625	3,625	3,625	3,625	3,625	3,625	3,625	3,625	3,625	3,625	3,625	3,625	3,625	3,625	3,625	3,625	3,625	3,625
less Capital contributions funding system growth	1,220	2,343	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538
<b>System growth less capital contributions</b>	1,156	7,836	(513)	1,587	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087







**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. EDIs must provide explanatory comment on the difference between constant price and nominal dollar operational expenditure forecasts in Schedule 14a (Mandatory Explanatory Notes). This information is not part of audited disclosure information.

sch ref	Current Year CY										
	31 Mar 22	CY+1 31 Mar 23	CY+2 31 Mar 24	CY+3 31 Mar 25	CY+4 31 Mar 26	CY+5 31 Mar 27	CY+6 31 Mar 28	CY+7 31 Mar 29	CY+8 31 Mar 30	CY+9 31 Mar 31	CY+10 31 Mar 32
	\$'000 (in nominal dollars)										
9	2,704	2,799	2,960	3,025	3,086	3,147	3,210	3,275	3,340	3,407	3,475
10	2,899	2,902	3,131	3,200	3,264	3,329	3,357	3,220	3,284	3,350	3,417
11	3,904	3,724	3,822	4,039	4,231	4,211	4,112	4,217	4,632	4,575	4,649
12	2,552	2,642	2,804	2,866	2,923	2,860	2,917	2,976	3,035	3,096	3,158
13	12,059	12,066	12,717	13,130	13,503	13,547	13,397	13,688	14,291	14,428	14,699
14	3,616	3,673	3,408	3,483	3,552	3,624	3,696	3,770	3,845	3,922	4,001
15	12,169	14,796	14,950	15,279	15,584	15,896	16,214	16,538	16,869	17,206	17,550
16	15,785	18,469	18,358	18,761	19,137	19,519	19,910	20,308	20,714	21,128	21,551
17	27,844	30,535	31,075	31,892	32,640	33,067	33,306	33,996	35,005	35,556	36,250
18											
19											
20											
21											
22	2,704	2,782	2,782	2,782	2,782	2,782	2,782	2,782	2,782	2,782	2,782
23	2,899	2,804	2,943	2,943	2,943	2,943	2,736	2,736	2,736	2,736	2,736
24	3,904	3,598	3,592	3,715	3,814	3,722	3,564	3,583	3,858	3,736	3,722
25	2,552	2,552	2,635	2,635	2,635	2,528	2,528	2,528	2,528	2,528	2,528
26	12,059	11,658	11,952	12,075	12,175	11,975	11,609	11,629	11,904	11,782	11,768
27	3,616	3,548	3,203	3,203	3,203	3,203	3,203	3,203	3,203	3,203	3,203
28	15,785	17,844	17,254	17,254	17,254	17,254	17,254	17,254	17,254	17,254	17,254
29	27,844	29,502	29,206	29,329	29,428	29,229	28,863	28,883	29,157	29,036	29,022
30											
31											
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sch ref	Current Year CY										
	31 Mar 22	CY+1 31 Mar 23	CY+2 31 Mar 24	CY+3 31 Mar 25	CY+4 31 Mar 26	CY+5 31 Mar 27	CY+6 31 Mar 28	CY+7 31 Mar 29	CY+8 31 Mar 30	CY+9 31 Mar 31	CY+10 31 Mar 32
	\$'000 (in constant prices)										
21	2,704	2,782	2,782	2,782	2,782	2,782	2,782	2,782	2,782	2,782	2,782
22	2,899	2,804	2,943	2,943	2,943	2,943	2,736	2,736	2,736	2,736	2,736
23	3,904	3,598	3,592	3,715	3,814	3,722	3,564	3,583	3,858	3,736	3,722
24	2,552	2,552	2,635	2,635	2,635	2,528	2,528	2,528	2,528	2,528	2,528
25	12,059	11,658	11,952	12,075	12,175	11,975	11,609	11,629	11,904	11,782	11,768
26	3,616	3,548	3,203	3,203	3,203	3,203	3,203	3,203	3,203	3,203	3,203
27	15,785	17,844	17,254	17,254	17,254	17,254	17,254	17,254	17,254	17,254	17,254
28	27,844	29,502	29,206	29,329	29,428	29,229	28,863	28,883	29,157	29,036	29,022
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47											
48											
49											
50											

sch ref	Current Year CY										
	31 Mar 22	CY+1 31 Mar 23	CY+2 31 Mar 24	CY+3 31 Mar 25	CY+4 31 Mar 26	CY+5 31 Mar 27	CY+6 31 Mar 28	CY+7 31 Mar 29	CY+8 31 Mar 30	CY+9 31 Mar 31	CY+10 31 Mar 32
	Subcomponents of operational expenditure (where known)										
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
46											
47											
48											
49											
50											

sch ref	Current Year CY										
	31 Mar 22	CY+1 31 Mar 23	CY+2 31 Mar 24	CY+3 31 Mar 25	CY+4 31 Mar 26	CY+5 31 Mar 27	CY+6 31 Mar 28	CY+7 31 Mar 29	CY+8 31 Mar 30	CY+9 31 Mar 31	CY+10 31 Mar 32
	Difference between nominal and real forecasts										
41											
42											
43											
44											
45											
46											
47											
48											
49											
50											

sch ref	Current Year CY										
	31 Mar 22	CY+1 31 Mar 23	CY+2 31 Mar 24	CY+3 31 Mar 25	CY+4 31 Mar 26	CY+5 31 Mar 27	CY+6 31 Mar 28	CY+7 31 Mar 29	CY+8 31 Mar 30	CY+9 31 Mar 31	CY+10 31 Mar 32
	\$'000										
41	-	95	178	243	304	365	428	492	558	625	693
42	-	98	188	257	321	386	421	484	549	614	681
43	-	126	230	325	416	489	549	634	774	839	927
44	-	89	169	230	288	332	389	448	507	568	630
45	-	408	1,329	1,055	1,287	1,573	1,787	2,059	2,387	2,646	2,931
46	-	124	205	280	350	421	493	567	642	719	798
47	-	500	899	1,228	1,845	1,845	2,163	2,487	2,818	3,155	3,500
48	-	15,785	18,469	18,358	18,761	19,137	19,519	19,910	20,308	20,714	21,128
49	-	27,844	30,535	31,075	31,892	32,640	33,067	33,996	35,005	35,556	36,250
50	-	1,033	1,869	2,563	3,212	3,838	4,443	5,113	5,848	6,521	7,228



### 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	Voltage	Asset category	Asset class	Asset condition at start of planning period (percentage of units by grade)											% of asset forecast to be replaced in next 5 years
				H1	H2	H3	H4	H5	Grade unknown	Data accuracy (1-4)					
7	All	Overhead Line	Concrete poles / steel structure	2.68%	5.26%	37.63%	50.44%	3.99%	-	-	-	2	2.0%		
8	All	Overhead Line	Wood poles	11.60%	5.03%	41.30%	41.04%	1.02%	-	-	-	2	8.0%		
9	All	Overhead Line	Other pole types	44.00%	4.00%	36.00%	16.00%	-	-	-	2	30.0%			
10	HV	Subtransmission Line	Subtransmission OH up to 66kV conductor	1.03%	34.23%	33.54%	29.51%	1.68%	-	-	3	9.8%			
11	HV	Subtransmission Line	Subtransmission OH 110kV+ conductor	-	-	100.00%	-	-	-	-	3	-			
12	HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	-	-	4.62%	82.21%	13.17%	-	-	3	-			
13	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Oil pressurised)	-	-	98.87%	1.13%	-	-	-	4	26.5%			
14	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Gas pressurised)	-	-	-	-	-	-	-	4	-			
15	HV	Subtransmission Cable	Subtransmission UG up to 66kV (PILC)	-	-	-	100.00%	-	-	-	4	-			
16	HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	-	-	-	100.00%	-	-	-	4	-			
17	HV	Subtransmission Cable	Subtransmission UG 110kV+ (XLPE)	-	-	-	-	-	-	-	4	-			
18	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Oil pressurised)	-	-	-	-	-	-	-	4	-			
19	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Gas Pressurised)	-	-	-	-	-	-	-	4	-			
20	HV	Subtransmission Cable	Subtransmission UG 110kV+ (PILC)	-	-	-	-	-	-	-	4	-			
21	HV	Subtransmission Cable	Subtransmission submarine cable	-	-	-	100.00%	-	-	-	4	-			
22	HV	Subtransmission Cable	Zone substations up to 66kV	4.76%	-	38.10%	52.38%	4.76%	-	-	4	-			
23	HV	Zone substation Buildings	Zone substations 110kV+	-	-	-	100.00%	-	-	-	4	-			
24	HV	Zone substation Buildings	22/33kV CB (Indoor)	-	-	57.14%	28.57%	14.29%	-	-	4	25.0%			
25	HV	Zone substation switchgear	22/33kV CB (Outdoor)	-	-	18.33%	81.67%	-	-	-	4	-			
26	HV	Zone substation switchgear	33kV Switch (Ground Mounted)	-	-	58.06%	41.94%	-	-	-	2	-			
27	HV	Zone substation switchgear	33kV Switch (Pole Mounted)	-	-	57.87%	38.76%	3.37%	-	-	2	-			
28	HV	Zone substation switchgear	33kV RMU	-	-	-	100.00%	-	-	-	4	-			
29	HV	Zone substation switchgear	50/66/110kV CB (Indoor)	-	-	-	-	-	-	-	4	-			
30	HV	Zone substation switchgear	50/66/110kV CB (Outdoor)	-	-	57.89%	42.11%	-	-	-	2	-			
31	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (ground mounted)	6.21%	11.18%	12.42%	49.07%	21.12%	-	-	4	22.2%			
32	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (pole mounted)	-	-	-	-	-	-	-	4	-			
33	HV	Zone substation switchgear		-	-	-	-	-	-	-	4	-			
34	HV	Zone substation switchgear		-	-	-	-	-	-	-	4	-			
35															



### 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)										% of asset forecast to be replaced in next 5 years
Voltage	Asset category	H1	H2	H3	H4	H5	Grade unknown	Data accuracy (1-4)				
36	No.	2.44%	12.20%	39.02%	34.15%	12.20%	-	-	-	4	36.60%	
37	km	2.67%	3.36%	34.87%	52.82%	6.29%	-	-	-	4	12.00%	
	km	-	-	-	-	-	-	-	-	4	-	
	km	-	-	-	-	-	-	-	-	4	-	
38	km	0.42%	0.04%	4.58%	81.29%	13.67%	-	-	-	3	0.40%	
39	km	-	-	30.02%	67.54%	2.44%	-	-	-	2	0.74%	
40	km	-	100.00%	-	-	-	-	-	-	1	-	
41	No.	9.09%	-	-	81.82%	9.09%	-	-	-	4	9.38%	
42	No.	-	-	-	-	-	-	-	-	4	-	
43	No.	6.61%	3.88%	12.02%	67.90%	9.58%	-	-	-	3	5.84%	
44	No.	18.75%	25.00%	31.25%	12.50%	12.50%	-	-	-	2	66.67%	
45	No.	0.87%	0.44%	8.30%	76.42%	13.97%	-	-	-	4	7.30%	
46	No.	7.39%	3.02%	14.57%	62.98%	12.03%	-	-	-	3	1.00%	
47	No.	4.23%	5.42%	19.95%	57.73%	12.68%	-	-	-	3	4.00%	
48	No.	-	-	16.67%	66.67%	16.67%	-	-	-	4	-	
49	No.	16.81%	10.92%	25.21%	44.54%	2.52%	-	-	-	4	4.20%	
50	km	1.52%	2.72%	47.23%	44.81%	3.72%	-	-	-	4	1.08%	
51	km	0.04%	0.56%	10.92%	73.34%	15.14%	-	-	-	2	-	
52	km	14.69%	8.11%	36.36%	36.16%	4.68%	-	-	-	2	-	
53	No.	-	-	-	-	100.00%	-	-	-	3	0.05%	
54	No.	2.37%	0.30%	13.95%	72.11%	11.28%	-	-	-	2	13.55%	
55	Lot	-	-	-	100.00%	-	-	-	-	4	-	
56	No.	-	-	-	100.00%	-	-	-	-	4	7.41%	
57	Lot	66.67%	16.67%	16.67%	-	-	-	-	-	4	33.33%	
58	No.	31.71%	9.37%	33.08%	25.83%	0.01%	-	-	-	3	0.10%	
59	km	-	-	-	-	-	-	-	-	4	-	



**SCHEDULE 12b: REPORT ON FORECAST CAPACITY**

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

sch ref

**12b(i): System Growth - Zone Substations**

Existing Zone Substations	Current Peak Load (MVA)	Installed Firm Capacity (MVA)	Security of Supply Classification (type)	Transfer Capacity (MVA)	utilisation or Installed Firm Capacity %	Installed Firm Capacity +5 years (MVA)	utilisation or Installed Firm Capacity +5 years %	Installed Firm Capacity Constraint +5 years (cause)	Explanation
Alexander Street	12	15 N-1	N-1	12	79%	15	82%	No constraint within +5 years	
Bream Bay	5	10 N	N	4	54%	10	59%	No constraint within +5 years	
Dargaville	11	15 N-1	N-1	3	76%	15	78%	No constraint within +5 years	
Dargaville 110/50/66 kV	11	35 N-1	N-1	3	32%	35	34%	No constraint within +5 years	
Hikurangi	6	10 N-1	N-1	3	57%	10	61%	No constraint within +5 years	
Kaiwaka	2	5 N	N	2	49%	5	51%	No constraint within +5 years	
Kamo	12	15 N-1	N-1	4	79%	15	85%	No constraint within +5 years	
Kensington (Regional)	59	50 N-1	N-1	20	118%	100	63%	No constraint within +5 years	Transformer upgrade in FY24
Kareeroa	9	20 N-1	N-1	5	46%	20	46%	No constraint within +5 years	
Mangawhai	7	10 N	N	2	73%	10	49%	No constraint within +5 years	
Mareketu	3	5 N	N	2	51%	5	55%	No constraint within +5 years	
Maungatapere	6	8 N-1	N-1	6	82%	8	91%	No constraint within +5 years	Load transferred to new Mangawhai Central Zone Substation
Maungatapere (Regional)	45	30 N-1	N-1	22	149%	60	78%	No constraint within +5 years	Transformer upgrade in FY26
Mangaturoro	6	8 N-1	N-1	2	81%	8	84%	No constraint within +5 years	
Maunu	4	10 N	N	4	41%	10	45%	No constraint within +5 years	
Munguru	3	5 N	N	1	68%	5	77%	No constraint within +5 years	
Onerahi	8	15 N-1 Switchable	N-1	3	55%	15	59%	No constraint within +5 years	
Parua Bay	3	5 N	N	2	70%	5	78%	No constraint within +5 years	
Poroti	3	5 N	N	3	58%	5	63%	No constraint within +5 years	
Ruakaka	7	10 N-1	N-1	4	66%	10	76%	No constraint within +5 years	
Ruawai	3	5 N	N	3	68%	5	72%	No constraint within +5 years	
Tikipunga	15	20 N-1	N-1	9	75%	20	82%	No constraint within +5 years	
Whangarei South	10	10 N-1	N-1	7	101%	10	107%	Transformer	Transformer upgrade in FY28 - 11kV backfeed will maintain N-1

<sup>1</sup> Extend forecast capacity table as necessary to disclose all capacity by each zone substation



**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 in year by consumer type

	Number of connections					
	Current Year CY 31 Mar 22	CY+1 31 Mar 23	CY+2 31 Mar 24	CY+3 31 Mar 25	CY+4 31 Mar 26	CY+5 31 Mar 27
for year ended						
	-	-	-	-	-	-
	-	1	1	1	1	1
	1,033	961	980	1,000	1,020	1,040
	1,033	962	981	1,001	1,021	1,041

Consumer types defined by EDB\*

Very large industrial
Commercial and Industrial (demand based ND9)
Mass market

Connections total

\*include additional rows if needed

**Distributed generation**

Number of connections  
Capacity of distributed generation installed in year (MVA)

	258	263	268	274	279	285
	2	2	2	2	2	2

**12c(ii) System Demand**

**Maximum coincident system demand (MW)**

GXP demand  
Distributed generation output at HV and above  
plus  
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					
	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26	31 Mar 27
for year ended						
	173	153	107	110	113	117
	9	9	54	54	54	54
	182	162	161	164	167	171
	-	-	-	-	-	-
	182	162	161	164	167	171

**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

	1,136	897	922	947	972	996
	-	-	273	273	273	273
	19	20	293	293	294	294
	-	-	-	-	-	-
	1,155	917	942	967	993	1,017
	1,122	881	904	928	952	974
	33	35	38	40	41	43

Load factor

Loss ratio

	72%	65%	67%	67%	68%	68%
	2.9%	3.8%	4.0%	4.1%	4.2%	4.2%



Company Name  
**Northpower**

AMP Planning Period  
**1 April 2022 – 31 March 2032**

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

8

9

10

11

12

13

14

15

for year ended

Current Year CY

31 Mar 22

CY+1

31 Mar 23

CY+2

31 Mar 24

CY+3

31 Mar 25

CY+4

31 Mar 26

CY+5

31 Mar 27

**SAIDI**

Class B (planned interruptions on the network)

Class C (unplanned interruptions on the network)

120.0	120.0	120.0	120.0	120.0	120.0
105.0	100.0	100.0	100.0	100.0	100.0

**SAIFI**

Class B (planned interruptions on the network)

Class C (unplanned interruptions on the network)

0.50	0.50	0.50	0.50	0.50	0.50
2.75	2.75	2.75	2.75	2.75	2.75



## 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 3 April 2018.)*

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 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**

The differences between nominal and constant prices is based on the application of an escalation factor using Reserve Bank's inflationary outlook in Table 5.1 of its Monetary Policy Statement, February 2022. The FY23 inflation forecast has been adjusted based on management's expected impact and the mid-point inflationary target has been applied beyond the forecast provided in Table 5.1.

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

4. In the box below, comment on the difference between nominal and constant price operational expenditure for the 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**

The differences between nominal and constant prices is based on the application of an escalation factor using Reserve Bank's inflationary outlook in Table 5.1 of its Monetary Policy Statement, February 2022. The FY23 inflation forecast has been adjusted based on management's expected impact and the mid-point inflationary target has been applied beyond the forecast provided in Table 5.1.

Northpower

Section 5  
Director Certification

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## Director Certification

We, Mark Trigg and Michael James, being directors of Northpower Limited certify that, having made all reasonable enquiry, to the best of our knowledge:

- a. The following attached information of Northpower Limited prepared for the purposes of clauses 2.4.1, 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 non-financial 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 Northpower Limited's corporate vision and strategy and are documented in retained records.



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Director: Mark Trigg  
Date: 30 March 2022



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Director: Michael James  
Date: 30 March 2022

