THEPOWERCOMPANYLTD

Asset Management Plan Update 2014 to 2024

Publicly disclosed in March 2014

Update Overview

TPCL's Asset Management Plan update 2014-24 is presented as the sections shown below under contents, which have been updated from TPCL's Asset Management Plan 2013-23. The headings shown in the contents retain the same numbering as the previous AMP for convenient referencing. Updates are highlighted by a green shaded background generally to indicate where project implementation timeframes have varied from those indicated in the previous AMP, where new projects have been added to the capital or maintenance programmes or where projects have been completed and therefore do not form part of the updated work plan for future years.

Contents

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4. Development plans

4.8 Development programme [A.11.9. & A.11.10.]

General individual estimates are only given as work is tendered and disclosure of estimates would negate the benefit of tendering.

4.8.1 Current material projects

Expected projects for year one (YE 31 March 2015) are as follows. These projects have a high certainty.

4.8.1.1 Hedgehope Project (HP)

Project not completed 2013/14. Minor works and commissioning first quarter 2014/15. See previous AMP for project details.

(a) **Cost and type**

Under $0.5M 2014/15

4.8.1.2 Athol Project (AP)

Project not completed 2013/14. Minor works and commissioning first quarter 2014/15. See previous AMP for project details.

(a) **Cost and type**

Under $0.5M 2014/15

4.8.1.3 Oreti Valley Project (OVP)

(a) **Description**

The long term plan is to extend the 66kV network so it includes Centre Bush, Dipton and Mossburn substations. The southern connection is proposed at Winton to avoid all 66kV lines going through Heddon Bush substation.

The initial connection out of Winton substation is planned to be a new 66kV crossing the Oreti River to the west of the substation.

Over a number of years sections of the 33kV network will be upsized to 66kV but initially will operate at 33kV. At a date when load growth makes the 33kV unable to meet the service levels in the region, these sites can be upsized to 66/11kV transformers with the present 66/33kV transformer at Heddon Bush relocated to a new substation at Castlerock.

Work on this project may be accelerated in consultation with Meridian Energy to lower the losses occurring in transporting its generation output to the national grid.

Work planned includes:

- Add an additional 66kV bay off the Winton Substation to supply the new 66kV line up the Oreti Valley.
- New 66kV line out of Winton to the west across the Oreti River and north to Centre Bush substation.
- Upgrade Centre Bush with a new 66/11+11kV 5/7.5MVA transformer[1] and add one additional 11kV feeder to supply along the now free 33kV line back to Heddon Bush area. Feeder upgrading to 22kV will be possible.
- Reinsulate the 33kV lines from Centre Bush to Mossburn to 66kV.

[1] 66/11+11kV transformer can be connected to provide 11kV or 22kV output by parallel or series connecting the two 11kV windings.

- Incorporate dual protection on the lines to maintain less than 200mS clearance of faults, as required for the White Hill Wind Turbines.
- Upgrade Dipton by replacing the transformer with a new 66/11+11kV 3MVA unit and upgrade protection on the 66kV by having digital differential on the two sides of the substation but no 66kV Circuit Breakers.
- Construct a new 66kV substation at Castlerock at the point where the present two 33kV lines meet.
- Construct a step down at Lumsden utilising the 66/33kV 10/15MVA transformer and 33kV circuit breaker from Heddon Bush to supply the 33kV.
- The reinsulated 66kV line to connect into Mossburn substation by the spare 66kV bay.

Figure 1 - Winton 66kV Substation

(b) **Issues**

Load growth has made the existing back-ups to Riversdale, Lumsden, Dipton and Centre Bush marginal.

Losses occurring on the 66kV lines are significant when White Hill generation is high.

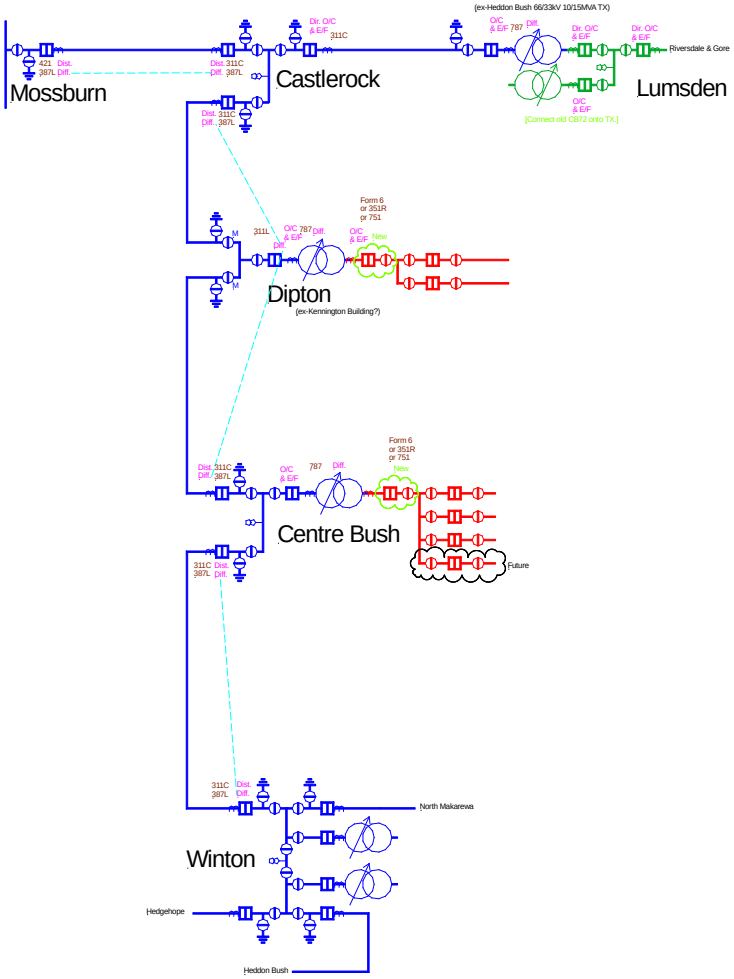
Desire by Meridian to increase generation at White Hill to the consented levels.

(c) **Options**

- Upgrade to 66kV from Mossburn to Winton. [Selected option that provides the greatest benefits.]
- Conversion to 110kV. [Too expensive.]
- 33kV regulators. [Increased losses and increase system impedance.]
- Up-sizing of components (Conductor, Transformer).[Limited future capacity.]

(d) **Details**

Planned outcome is shown in the diagram below:



(e) **Cost and type**

$2M - $5M p.a. 2013 to 2017, System Growth.

(f) **Goal / Strategy**

Achieve 100% regulatory compliance. Migrate from a 33kV network to 66kV.

4.8.1.4 Isla Bank Project (IBP)

(a) **Description**

Project completion has been delayed from 2013/14 due to resource shortages and will now be completed in the first half of 2014/15

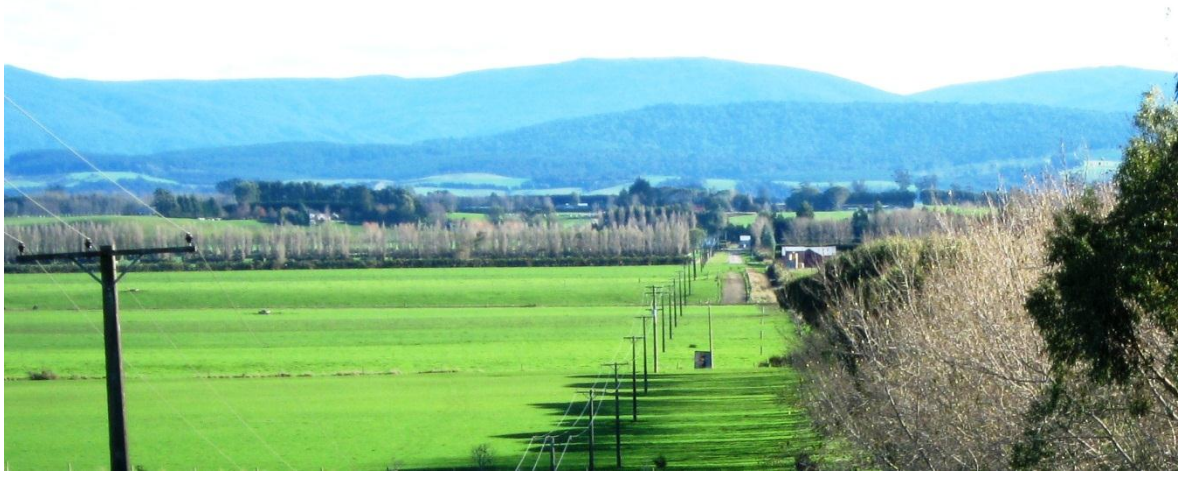


Figure 2 - Isla Bank area - looking towards the village

Planning work for the construction of a new 66/11kV zone substation in the Isla Bank area with supply sourced from the 66kV line at Fairfax.

Work planned for the project:

- Construct a 66kV over 11kV line from Fairfax to Isla Bank.
- Construct a new zone substation with a single 66/11+11kV 5/7.5MVA transformer with three 11kV feeders.

(b) **Issues**

Due to dairy conversions the network in this area has been calculated to be at the limit of acceptable voltage and the installation of additional 11kV regulators is considered not optimal. The projected peak load occurring at Otautau is also nearing the firm capacity so a transfer of load is also desirable.

(c) **Options**

- New substation on the 66kV network. [Selected option as provides the most benefits.]
- Conversion to 22kV. [More expensive.]
- 11kV regulators. [Increased losses.]
- Demand-side management (Tariff? Dairying loads…)[Limited capability from farmers.]

(d) **Details**

Consultants are designing the substation based on a port-a-com transportable building with equipment installed prior to transport to site similar to Kennington solution.

Design of the 66kV line from Fairfax will be done and major equipment ordered for delivery in 2013/14.

Final construction details will be defined when designs are completed.

(e) **Cost and type**

$0.5 - $2.5M p.a. 2013 to 2015, System Growth.

(f) **Goal / Strategy**

Achieve 100% regulatory compliance. Provide its customers with above average levels of service.

4.8.1.5 New Colyer Road Substation (aka Awarua 2)

(a) **Description**

Open Country Dairy are in the construction phase of doubling their plant at Awarua, which requires that Colyer Road Substation is operational before September 2014. This project has been brought forward to meet the customer request and has impacted on the timeframe for the Waikiwi Project with flow-on effects on the Riversdale Transformer Project.

The Invercargill City Council has purchased an area of land southeast of the present substation for industrial zoning, but has yet to attract any customers.

It is proposed to begin planning and design to build a new substation to supply most existing industrial customers and have provision for expansion. The new site will be developed and incorporate indoor 33kV and 11kV switchgear and space for up to three 11.5/23MVA transformers, giving a firm capacity of 46MVA. Note that if load did grow an additional 33kV heavy line could be added from Invercargill.

First stage will purchase the two 33/11kV transformers and store these until customer demand requires the extra capacity.

The existing site would be retained to continue supply to the South Wood Exports 1500kVA chipper motor.

(b) **Issues**

The present substation is not close to the likely load centre, is limited in expansion and is a very damp site.

Short timeframe for new industrial customers wanting supply.

Marine / Coastal location, with high salt pollution.

(c) **Options**

- New substation on the 33kV network. [Selected as provides the greatest benefits.]
- Expansion of the present site. [Limited space and prone to liquefaction.]
- Upsize of the old 33/11kV 5MVA transformer. [Would not provide reliability level desired.]

(d) **Cost and type**

$0.5M - $2.5M p.a. 2013 to 2015, System Growth.

(e) **Goal / Strategy**

Achieve 100% regulatory compliance. Provide its customers with above average levels of service.

4.8.1.6 Waikiwi Project

(a) **Description**

Initial planning work and major equipment procurement for the upgrade of the Waikiwi substation.

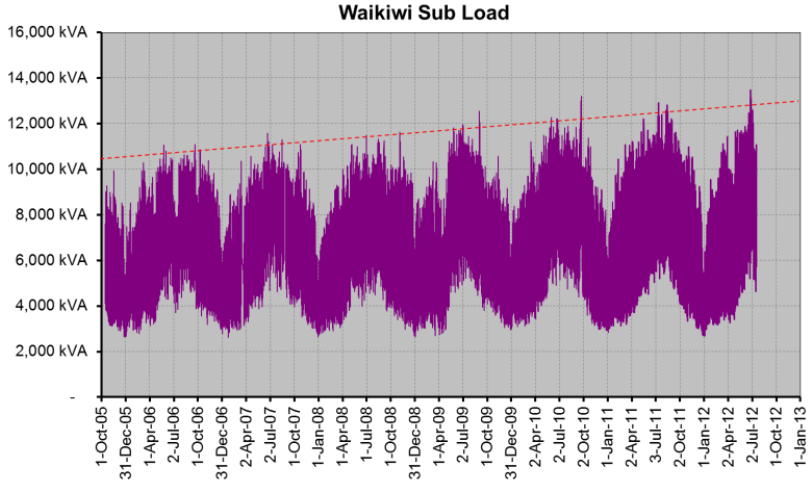
Figure 3 – Aerial view of Waikiwi Substation

(b) **Issues**

Load growth has reached the capacity trigger point of 12MW.

Site has been in-built with residences now on three side of the site.

Noise levels on boundary exceed District Plan requirements.



(c) **Options**

- Upgrade 33/11kV transformers. [Selected option as provides the most benefits.]

- Conversion to 66kV. [More expensive.]
- Transfer loads to other substations. [Some planned to go to Kennington.]
- Move equipment indoor to reduce noise level. [Most likely only option to achieve noise level requirements.]

(d) **Details**

Consultants are designing the substation upgrade based on indoor transformer rooms with external radiators.

Two indoor 33/11kV 11.5/23MVA transformers with external radiators have been procured with delivery in December 2013. These will be stored until required.

Final construction details will be defined when the design is completed.

Detailed design is progressing and this project will now be completed in 2016/17 following deferral to enable Colyer Road Substation to be completed to meet customer requirements.

(e) **Cost and type**

$0.5 - $2.0M p.a. 2013 to 2017, System Growth.

(f) **Goal / Strategy**

Achieve 100% regulatory compliance. Provide its customers with above average levels of service.

4.8.1.7 Riversdale Transformer

(a) **Description**

Add extra capacity at Riversdale.

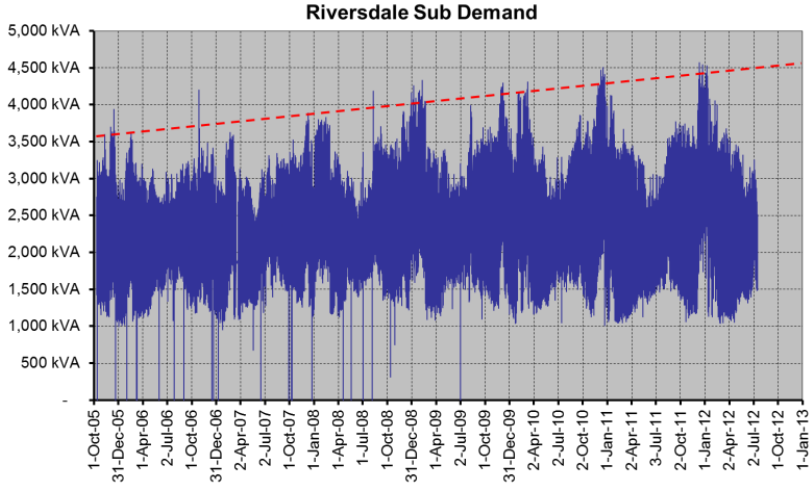
Figure 4 - Present Riversdale substation

(b) **Issues**

Nearing capacity trigger.

Risk with a single power transformer on-site.

Limitation of 11kV to supply new irrigation in the area.



Reliability issue with 11/22kV autotransformers. (Energising forces stress the coils, and impedance requires downstream regulation.)

(c) **Options**

- Replace 33/11kV 5MVA power transformer with a 6/12MVA unit. [Selected option as least cost but needs backup option of mobile sub or generator to be developed.]
- Add a second 33/11kV power transformer on-site. [Limited space.]
- Add a 33/11+11kV power transformer on-site. [Existing unit has remaining life.]
- Transfer some load to new substation, Balfour and/or Mandeville. [Higher cost as would require a fully new site.]

(d) **Details**

Design work will begin to detail the installation of a 33/11kV 6/12MVA transformer that is planned to be removed from Waikiwi.

The Waikiwi project was deferred due to Colyer Road Substation being brought forward and this will lead to this project being delayed. Completion is now planned for 2016/17. Final construction details will be defined when the design is completed.

(e) **Cost and type**

$0.5M - $1.5M p.a. 2013 to 2017, Growth.

(f) **Goal / Strategy**

Strive to become an efficient and effective operation.

4.8.1.8 Neutral Earthing Resistor (NER) project

(a) **Description**

As part of compliance with the new EEA Guide to Power System Earthing Practice 2009, Neutral Earthing Resistors (NERs) are being installed at each zone substation to limit earth fault currents on the 11kV network. While NERs alone will not ensure network safety they will generally significantly reduce the earth potential rise which may appear on and around network equipment when an earth fault occurs. TPCL considers NERs to be effectively a requirement of the EEA guide as when cost is considered to be distributed over all affected earth sites downstream of the zone substation this per site cost is quite low.

(b) **Issues**

Safety of the public due to earth faults is reducing the earth potential rise (EPR) at the site under acceptable limits. This is achieved by either reducing the earth resistance, clearing the fault quicker or limiting the fault current.

Historic practice was to have an earth resistance under 10Ω (ohms) and protection operation of under 5 seconds. As some locations having poor ground resistivity achieving under 10Ω was found to be impractical and the level of EPR with 10Ω was still not low enough to mitigate the hazard.

This project plans to install a resistance in the neutral point that will greatly reduce the earth fault current and limit the EPR to acceptable levels. All zone substations will have an NER installed to limit the current to under 200A.

(c) **Options**

- Larger earth systems at each distribution site. [Expensive.]
- Fault current neutralisation. [Worst hazard when a second fault occurs.]
- Faster protection clearing. [At practical limits of mechanical devices. Wish to maintain discriminate between protection devices.]

(d) **Details**

Install a NER on each neutral at each zone substation.

(e) **Cost and type**

Under $0.5M p.a. 2013 to 2017. Other Reliability, Safety and Environmental.

(f) **Goal / Strategy**

Risk Management.

4.8.1.9 Distribution Automation

(a) **Description**

To improve reliability it is planned to continue automating and remotely controlling field circuit breakers, increasing the number of these and integrating with an Outage Management System.

(b) **Issues**

Manual reclosing is longer than the one minute trigger level for outages.

Number of control devices is low based on network size.

Greater Operator knowledge needed to manually operate.

(c) **Options**

- Automate existing equipment. [Not always reliable, based on past experiences.]
- Install earth-fault neutralisation methods. [Would reduce fault impact but could create extra safety issues. High cost.]
- Increased inspections and maintenance. [Possibly beyond point of demising returns.]
- Add extra substations to add more feeders. [Expensive.]

(d) **Details**

Install new field reclosers on worst performing feeders.

Install additional field reclosers, and fault locators, to allow automatic restoration and reduce average length of medium voltage per device to one per 25km. (about 75 extra devices.)

(e) **Cost and type**

$0.5 - $2.5M 2013 to 2018. Quality of Supply.

(f) **Goal / Strategy**

Improve reliability by sectionalising poorly performing feeders.

Expand remote controllability of the distribution.

4.8.2 Current routine and non-material projects

Expected routine and non-material projects for year one (YE 31 March 2015) are as follows.

4.8.2.1 Quality Remedies

(a) **Description**

Projects to remedy poor power quality.

Voltage is measured (or calculated to vary) outside of regulatory limits.

The smart metering project will provide greater visibility of power quality data. It is expected that this will lead to additional costs during the lifetime of the project and for a period of up to two years following the completion of smart metering project.

(b) **Alternatives**

Each of the below options / situations are considered and an appropriate solution implemented.

- Installation of 11kV regulators.
- Up-sizing of components (Conductor, Transformer).

- Demand side management. (Planning an Irrigation ripple control channel.)
- Power factor improvements. (Ensuring customer loads are operating effectively.)
- Harmonic filtering / blocking. (Ensuring customers are not injecting harmonics.)
- Motor starter faults / settings remedied. (Ensuring customer equipment is working and configured appropriately.)

Cost is budgeted at $250k p.a. 2014 to 2018 and then reducing to 148k p.a. on-going, Quality of Supply.

(c) **Goal / Strategy**

Achieve 100% regulatory compliance. Migrate from a 33kV subtransmission network to 66kV.

4.8.2.2 New connections

(a) **Description**

Allowance for new connections to the network. Each specific solution will depend on location and customer requirements.

Some subdivision developments are occurring but we receive little or no prior notification of these. Request to Developers and Regional Authorities provided only minor subdivisions occurring, or no firm commitments. An estimated allowance based on past experience and projected development has been included in the plan.

An allowance has been made to connect Distributed Generation to the network as the proposed regulations have this as a TPCL's cost.

(b) **Alternatives**

Vary due to customer type and location.

Cost is budgeted at $2.7M p.a. on-going, Consumer Connection.

(c) **Goal / Strategy**

Undertake new investments, which are 'core business', acceptable return for risk involved.

4.8.2.3 Earth upgrades

(a) **Description**

Regular testing of earths across the network is still locating sites with earths that are not sufficient. This programme is to upgrade these to an acceptable level and ensure that missing or stolen components are replaced.

Resistance to earth and earthing systems on equipment needs to be sufficient to maintain a safe environment for staff and the public.

(b) **Alternatives**

- Upgrade and/or extension of electrodes in the ground.
- Limit earth fault current by installing NER's.
- Isolate equipment for contact.
- Separate HV / MV and LV / MEN earths.

Cost is budgeted at around $504k for the next two years. Then reducing for following years, once NER's are installed. Other Reliability, Safety and Environmental.

(c) **Goal / Strategy**

Undertake safety and environmental improvements. Achieve 100% regulatory compliance.

4.8.2.4 Mobile Substation

(a) **Description**

With multiple single transformer substations and reducing back-up capability from neighbouring substations the option of building a mobile substation was investigated. Cost

varied between options from Alstom, Australia and ABB, Italy. A consulting firm has currently been contracted to provide a design for a purpose built mobile substation to meet requirements.

Finalising of the detail is planned with the mobile substation operational during 2013/14.

(b) **Issues**

Single transformer substations with little or no periods where backup from neighbouring substations can be used.

Significant periods to move spare transformers into sites where the transformer has failed.

Differing vector angles between the 66kV, 33kV, 22kV and 11kV.

(c) **Options**

- Mobile Substation(s). [Selected option.]
- Mobile Generator(s). [Requires fuel to run that is not recoverable.]
- Add second transformer to single transformer substations. [Expensive.]
- Add extra substations to restore backup capability. [Expensive.]

(d) **Details**

Finalise solution to develop the best solution for TPCL.

(e) **Cost and type**

$0.5 - $2.5M 2014/15 Supply of Quality.

(f) **Goal / Strategy**

Strive to become an efficient and effective operation.

4.8.2.5 Line Relocation

(a) **Description**

Works to move lines around trees or for roadway realignments.

Needed to achieve clearances between lines and trees, due to high tree value to community or individuals.

(b) **Alternatives**

- Move line to other side of road.
- Underground line next to the trees.
- Insulate the line next to the trees.
- Remove or trim the trees.
- Move line to a long-side new alignment.

Cost budgeted at $57k pa, Asset Relocations.

(c) **Goal / Strategy**

Undertake safety and environmental improvements. Achieve 100% regulatory compliance.

4.8.3 Planned projects [A.11.10.2.]

Expected projects for year two to five (YE 31 March 2016 to 2019) are as follows. These projects have some certainty.

Note some projects are planned to start in year one and continue over following years, these are not repeated in following sections.

4.8.3.1 Gore Supply Transformers upgrade

(a) **Description**

Transpower is likely to upgrade the 110/33kV supply transformers and may have some impact on TPCL's assets around Gore GXP.

As an alternate to upgrading the ripple injection plant it is proposed to install 'Smart' meters on each consumers premise. A separate Metering business will install the 'smart' meters and provide control and information to TPCL.

(b) **Issues**

Existing Ripple Injection plant overloaded.

Network electrical parameters changing.

(c) **Options**

- Replace with a higher rated plant. [Likely to be superseded by 'smart' meters.]
- Change to another methodology. [Radio]
- 'Smart' meters. [Could be provided by Smart Meters if bulk replacement occurs.]

(d) **Details**

Estimate is assuming that 'smart' meters are installed.

Transpower new investment agreement if supply transformer upgraded.

(e) **Cost and type**

No capital expenditure but would have additional Transpower and metering charges.

(f) **Goal / Strategy**

Strive to become an efficient and effective operation.

4.8.3.2 Mataura Transformer Upgrade

(a) **Description**

Replacement of the two 33/11kV, 10MVA power transformers at Mataura substation.

(b) **Issues**

Possible load growth may exceed the firm capacity of the substation.

Age of the two power transformers is nearing expected life with mechanical components likely to start to become unreliable.

Limited space at Mataura substation.

(c) **Options**

- Replace the two power transformers with 33/11kV, 6/12MVA units. [Limited extra capacity.]
- Replace the two power transformers with 33/11kV, 11½/23MVA units. [Planned option that will provide good future capacity.]
- Major refurbishment of the two units with fitting of pumps, fans, and monitoring to enable the units to operate at 12MVA or higher. [Limited life of paper in existing units that would be consumed quicker if ran at higher temperatures.]

(d) **Detail**

Replace the two transformers with 33/11kV 11½/23MVA units.

Redo the transformer pads to provide fire protection or blocking between the units.

Change 11kV to cable connection to provide better clearances.

(e) **Cost and type**

$0.5 - $2.5M p.a. 2015/16, Growth.

(f) **Goal / Strategy**

Replace critical assets near to their technical end-of-life.

4.8.3.3 Edendale Supply Transformers and Substation Upgrade

(a) **Description**

Load growth at Fonterra is likely to require an upgrade at Edendale but will be driven by Fonterra.

Should an upgrade occur, the Edendale Injection Plant may need to be upgraded or superseded by a 'smart' meter roll-out.

(b) **Issues**

Possible load growth may exceed the firm capacity of the substation.

(c) **Options**

- Replace the two power transformers with 33/11kV, 18/36MVA units. [Limited capacity of 33kV Cables and 11kV equipment.]
- Add third 33/11kV, 11½/23MVA power transformer. [Planned option that will provide good future capacity and allows a separate site to be used to achieve diversity.]
- Supersede the Ripple Injection system with Smart Meters. [This is expected.]

(d) **Detail**

Add third 33/11kV 11½/23MVA transformer on Fonterra site, supplied by a new 33kV cable.

Arrange for Transpower to upgrade the 110/33kV supply transformers.

Utilise 'smart' meters to provide load control functions.

(e) **Cost and type**

$0.5 - $2.5M p.a. 2016/17, Growth.

Additional operational expenditure for Transpower new investment and metering.

(f) **Goal / Strategy**

Provide its customers with above average levels of service.

4.8.3.4 New Invercargill to Colyer Rd 33kV Line

(a) **Description**

Should development occur in the Awarua industrial zone additional capacity will likely be required.

It is proposed to begin planning and design to build a new heavy 33kV line from Invercargill to the new Colyer Road substation.

Construction is estimated to occur during 2017/18.

(b) **Issues**

A new line route from Invercargill to Awarua will be difficult to obtain with early consultation with affect parties desired.

Marine / Coastal location, with high salt pollution.

(c) **Options**

- New 33kV line.
- Upgrade existing 33kV lines.
- Upgrade lines to 66kV. (Would require a 66kV source from Transpower.)
- New Transpower supply substation. (Could be required if customer demand is expected to exceed 60MW.)
- New 33kV Cable. (Can be considered if no line route available, but likely more expensive.)

(d) **Cost and type**

$50k initial design and landowner consultation in 2014/15.

$2M - $5M consultation in 2017/18, System Growth.

(e) **Goal / Strategy**

Achieve 100% regulatory compliance. Provide its customers with above average levels of service.

4.8.3.5 New Balfour Substation

(a) **Description**

Growth in the Waimea Plains between Gore and Lumsden is estimated to reach the level where an additional zone substation is required.

Present planning is to construct a 33/11kV zone substation next to the Riversdale to Lumsden 33kV line close to Balfour.

(b) **Issues**

Need to obtain land next to the Riversdale to Lumsden 33kV line.

(c) **Options**

- New substation on the 33kV network.
- Additional 11kV lines into area.
- More 11kV Voltage Regulators
- Upgrade area to 22kV.

(d) **Cost and type**

$1M - $2.5M 2015 to 2018, System Growth.

(e) **Goal / Strategy**

Achieve 100% regulatory compliance. Provide its customers with above average levels of service.

4.8.4 Considered projects [A.11.10.3.]

Expected projects for year six to ten (YE 31 March 2020 to 2024) are as follows. These projects have little if any certainty.

Note some projects that are on-going throughout this period are detailed above.

4.8.4.1 Township Undergrounding

Underground conversion of the 11kV and 400V lines in the townships. Mostly driven and funded by the local community.

4.8.4.2 North Makarewa Supply Transformers

Load growth is likely to require an upgrade at North Makarewa. The suggested upgrade would add one or two 220/66kV supply transformers.

4.8.5 Contingent projects

The following projects are contingent on uncertain events. These have been excluded from TPCL's spend plans until they become certain.

4.8.5.1 Mataura Valley Milk

Possible additional Milk Powder plant at the old saleyards site in McNab. Will require a new substation and reinforcement of the 33kV network.

4.8.5.2 Additional Milk Processing

Possible additional Milk Processing plants at existing or new sites.

4.8.5.3 Solid Energy Briquette Plant

Possible production of Lignite Briquettes in the Mataura area. Depending on the location, may require a new substation and subtransmission lines to supply or a step increase in capacity at an existing substation.

4.8.5.4 Coal to Liquid Plants

Possible major new industry that may require a new substation and subtransmission lines, most likely would be onto the Transpower 220kV network.

4.8.5.5 Mines

Possible mineral extraction with power required to operate the mine and/or process the material. Possible resources include coal, lignite, silicon, gold, platinum…

4.8.5.6 Oil Refineries

Possible major new industry that may require a new substation and subtransmission lines, most likely would be onto the Transpower 220kV network.

4.8.6 Proposed network configuration

The proposed network configuration at the end of the planning period is shown in figure 5.

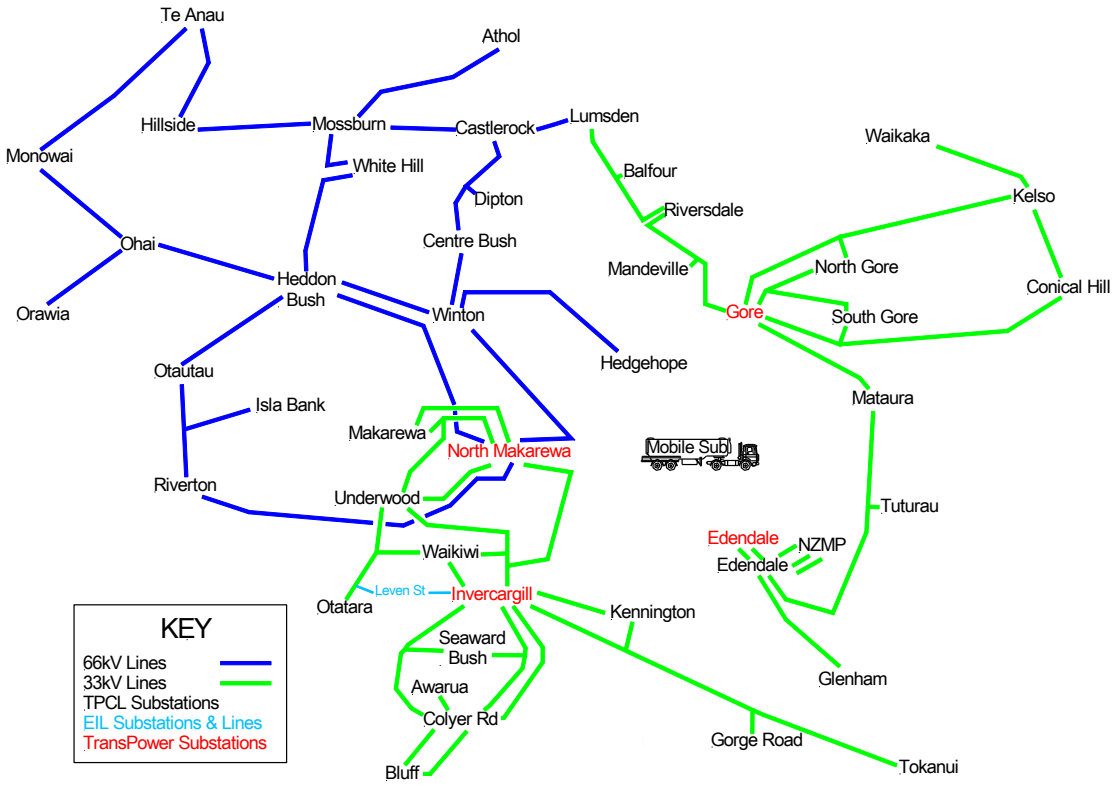


Figure 5 2023 proposed network configuration

4.8.7 Capital Budget

The estimated capital budget for TPCL is given in Figure 6. Note the actual cost of some projects is not shown so as not to compromise the contractors' estimating and tendering processes.

CAPEX: System Growth	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
New Hedgehope Substation		-	-	-	-	-	-	-	-	-
New Athol Substation		-	-	-	-	-	-	-	-	-
New Mossburn to Athol 66kV Line		-	-	-	-	-	-	-	-	-
New Isla Bank Substation		-	-	-	-	-	-	-	-	-
New Fairfax to Isla Bank 66kV Line		-	-	-	-	-	-	-	-	-
Waikiwi Substation Upgrade				-	-	-	-	-	-	-
OVP-Design		-	-	-	-	-	-	-	-	-
OVP-Winton to Centre Bush 66kV Line		-	-	-	-	-	-	-	-	-
OVP-Centre Bush to Mossburn 66kV Line	-				-	-	-	-	-	-
OVP-Dipton Substation Upgrade			-	-	-	-	-	-	-	-
OVP-Centre Bush Substation Upgrade			-	-	-	-	-	-	-	-
OVP-Lumsden Substation Upgrade	-			-	-	-	-	-	-	-
OVP-New Castlerock Substation	-			-	-	-	-	-	-	-
Riversdale Substation Upgrade	-			-	-	-	-	-	-	-
New Colyer Road Substation		-	-	-	-	-	-	-	-	-
TPNZ Gore 110/33kV Transformer Upgrade	-	-	-	-	-	-	-	-	-	
Mataura Substation Transformer Upgrade	-				-	-	-	-	-	-
TPNZ Edendale 110kV Transformer Upgrade	-	-		-	-	-	-	-	-	-
Edendale Substation Upgrade	-			-	-	-	-	-	-	-
New Invercargill to Colyer Rd 33kV Line		-	-		-	-	-	-	-	-
New Balfour Substation	-				-	-	-	-	-	-
Gore to Mataura 33kV Line	-	-	-	-	-		-	-	-	-
TPNZ North Makarewa 220/66kV Transformer	-	-	-	-	-	-		-	-	-
Kelso Transformer Upgrade	-	-	-			-	-	-	-	-
New Tuturau Substation	-	-	-				-	-	-	-
Kennington 2nd 33kV Line	-	-	-			-	-	-	-	-
Unspecified Projects	-	-	-	-						
	11,329,219	**5,112,952**	**6,893,658**	**7,449,750**	**5,255,250**	**3,927,000**	**3,927,000**	**3,927,000**	**3,927,000**	**3,927,000**

CAPEX: Consumer Connection	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Customer Connections (≤ 20kVA)	939,708	939,708	939,708	939,708	939,708	939,708	939,708	939,708	939,708	939,708
Customer Connections (21 to 99kVA)	1,409,562	1,409,562	1,409,562	1,409,562	1,409,562	1,409,562	1,409,562	1,409,562	1,409,562	1,409,562
Customer Connections (≥ 100kVA)	234,927	234,927	234,927	234,927	234,927	234,927	234,927	234,927	234,927	234,927
Distributed Generation Connection	17,620	17,620	17,620	17,620	17,620	17,620	17,620	17,620	17,620	17,620
New Subdivisions	176,195	176,195	176,195	176,195	176,195	176,195	176,195	176,195	176,195	176,195
	2,778,012	**2,778,012**	**2,778,012**	**2,778,012**	**2,778,012**	**2,778,012**	**2,778,012**	**2,778,012**	**2,778,012**	**2,778,012**

CAPEX: Asset Replacement and Renewal	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
General Distribution Replacement-West	807,708	807,708	807,708	1,037,350	1,037,350	1,037,350	1,037,350	1,037,350	1,037,350	1,037,350
General Distribution Replacement-East	450,442	450,442	450,442	450,442	458,108	458,108	458,108	458,108	458,108	458,108
General Technical Replacement	30,541	30,541	30,541	30,541	30,541	30,541	30,541	30,541	30,541	30,541
Transformer Replacement - West	1,003,373	1,003,373	1,003,373	1,003,373	1,003,373	1,003,373	1,003,373	1,003,373	1,003,373	1,003,373
Transformer Replacement - East	494,228	494,228	494,228	494,228	494,228	494,228	494,228	494,228	494,228	494,228
11kV Line Replacement - West	1,362,577	2,699,605	2,640,873	2,640,873	2,701,661	2,701,661	2,701,661	2,701,661	2,701,661	2,701,661
11kV Line Replacement - East	1,080,664	1,168,762	884,794	1,377,847	1,377,847	1,377,847	1,377,847	1,377,847	1,377,847	1,377,847
Subtransmission Lines Replacement - West	0	0	0	0	58,732	58,732	58,732	58,732	58,732	58,732
Subtransmission Lines Replacement - East	363,825	363,825	0	0	58,732	58,732	58,732	58,732	58,732	58,732
Zone Substation Minor Replacement	55,654	97,941	96,766	67,988	70,478	70,478	70,478	70,478	70,478	70,478
RTU Replacement	115,500	172,232	172,232	172,232	176,195	176,195	176,195	176,195	176,195	176,195
Regulator Replacement	171,497	171,497	476,692	187,942	-	187,942	-	187,942	-	187,942
Relay Replacement	-	28,706	28,706	28,706	46,985	46,985	46,985	46,985	46,985	46,985
Communications Replacement	58,732	229,641	229,641	117,464	-	-	-	-	-	-
Seismic Remedial Zone Substations	747,575	231,000	231,000	-	-	-	-	-	-	-
Seismic Remedial Distribution	-	58,732	-	-	-	-	-	-	-	-
Power Transformer Refurbishment										
Riversdale to Lumsden 33kV Replacement			-	-	-	-	-	-	-	-
Winton Switchboard Replacement		-	-	-	-	-	-	-	-	-
Riverton Switchboard Replacement		-	-	-	-	-	-	-	-	-
Seaward Bush Transformer Replacement	-				-	-	-	-	-	-
Counsel Rd Nth - Winton 66kV Replacement		-	-	-	-	-	-	-	-	-
Counsel Rd Sth - Ingill 33kV Replacement	-	-				-	-	-	-	-
Gore to Riversdale 33kV Line Replacement	-			-	-	-	-	-	-	-
Hillside to Te Anau 66kV Replacement	-				-	-	-	-	-	-
Lumsden 11kV Switchgear renewal	-			-	-	-	-	-	-	-
Unspecified Projects	-	-	-	-	1,732,500	2,310,000	2,310,000	2,310,000	2,310,000	2,310,000
	11,433,498	**9,372,610**	**10,273,281**	**10,448,361**	**10,232,513**	**10,258,843**	**10,123,760**	**10,329,321**	**10,141,380**	**10,364,560**

CAPEX: Other Reliability, Safety and Environmen	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Earth Upgrades	592,016	592,016	234,927	117,464	117,464	117,464	117,464	117,464	117,464	117,464
NER Installation	649,688	635,250	635,250	-	-	-	-	-	-	-
Substation Safety	58,732	231,000	231,000	-	-	-	-	-	-	-
Lumsden Oil Bunding	-	57,750	-	-	-	-	-	-	-	-
Township Undergrounding	-	-	-	-	288,750	288,750	288,750	288,750	288,750	288,750
	1,300,435	**1,516,016**	**1,101,177**	**117,464**	**406,214**	**406,214**	**406,214**	**406,214**	**406,214**	**406,214**

CAPEX: Asset Relocations	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Line Relocations	58,732	58,732	58,732	58,732	88,098	88,098	88,098	88,098	88,098	88,098
	58,732	**58,732**	**58,732**	**58,732**	**88,098**	**88,098**	**88,098**	**88,098**	**88,098**	**88,098**

CAPEX: Quality of Supply	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Supply Quality Upgrades	293,659	293,659	293,659	293,659	173,846	173,846	173,846	173,846	173,846	173,846
Mobile Substation	2,067,450	-	-	-	-	-	-	-		-
Distribution Automation	519,750	519,750	519,750	519,750	-	-	-	-	-	-
Network Improvement Projects	-	-	-	-	117,464	117,464	117,464	117,464	117,464	117,464
	2,880,859	**813,409**	**813,409**	**813,409**	**291,309**	**291,309**	**291,309**	**291,309**	**291,309**	**291,309**

CAPEX: Legislative and Regulatory	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-

CAPEX Grand Total	29,780,755	19,651,730	21,918,268	21,665,726	19,051,395	17,749,476	17,614,393	17,819,954	17,632,012	17,855,193

Figure 6 - Capital Budget

4.9 Non-network assets

4.9.1 Non-network asset description and treatment [A.13.1. & A.13.2.]

TPCL owns none of the following assets that are non-network, as these are owned by PowerNet:

- Information and technology systems.
- Asset management systems.
- Office buildings.
- Office furniture and equipment.
- Motor vehicles.
- Tools, plant and machinery.

The PowerNet costs of providing and servicing these are incorporated into charges to TPCL.

4.9.2 Non-network asset developments [A.13.3. & A.13.4.]

TPCL has been allocated a portion of PowerNet's capital expenditure, which is detailed following.

4.9.2.1 New office building fit-out

PowerNet is moving into new rented accommodation and $667,000 of the fit-out cost is allocated to TPCL.

4.9.2.2 MAXIMO

The upgrade of the asset management system to MAXIMO occurred during 2012/13 year and no additional costs are expected to be allocated to TPCL.

4.9.2.3 System control upgrade

Upgrade of the central System Control is planned for 2015 to 2017. This includes the installation of an Outage Management System and automatic Fault restoration schemes.

Allocation of costs for the upgrades is budgeted at $2.6 million over the two years.

4.9.2.4 Other CAPEX

General CAPEX of $308,000 to $400,000 per year has been allocated to TPCL over the next ten years.

CAPEX: Non-Network Assets	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
New Office Building Fit-out	-	-	-	-	-	-	-	-	-	-
MAXIMO	-	-	-	-	-	-	-	-	-	-
System Control Upgrade	-	-	1,276,000	1,276,000	-	-	-	-	-	-
Other CAPEX	308,374	352,302	382,797	398,905	400,000	400,000	400,000	400,000	400,000	400,000
	308,374	**352,302**	**1,658,797**	**1,674,905**	**400,000**	**400,000**	**400,000**	**400,000**	**400,000**	**400,000**

5. Managing the assets' lifecycle [A.12.]

5.3 Maintaining TPCL's assets [A.3.13.1. & A.12.1.]

5.3.2 Routine and corrective maintenance and inspection [A.3.13.1. & A.12.2.]

Each maintenance trigger has a related inspection period listed in Table 22. i.e. Zone substations are checked each month.

Monitoring of assets includes the following areas:

- Protection relay testing / checks.
- Earthing checks.
- DGA of transformer oil.
- Partial discharge and Infrared survey of substations and major distribution equipment.
- Injection plant tuning checks.
- Supply quality checks.
- Line surveys and testing.

The on-going maintenance of assets is also covered by this budget. Items covered include:

- Lubrication of ABS's.
- Cleaning of air insulated switchgear.
- Battery replacements.
- Rust repairs and painting.
- TCOL and CB service.
- Minor customer connections.

Two extra tasks are planned for the coming year:

- Spares checks: What do we have and what is its condition?
- Seismic checks: Will our substations continue to operate after likely earthquakes?

OPEX on this is budgeted at $2.7 to $2.8 million per annum.

5.3.3 Service interruptions and emergencies

Fault and emergency maintenance provides for the provision of staff, plant and resources to be ready for faults and/or emergencies. This resource attends and makes the area safe, then may isolate the faulty section so other customers are restored or undertake quick repairs to restore supply to all customers.

OPEX on this is budgeted at $2.6 million per annum.

5.3.4 Vegetation Management

Electricity (Hazards from Trees) Regulations 2003, put the requirement on TPCL to undertake the first trim of trees free, and this budget is the on-going actioning of this. While some customers have received their first free trim, some are disputing the process and additional costs are occurring to resolve the situation.

OPEX on this is budgeted at $1.2 million per annum.

5.4 TPCL's maintenance policies [A.12.2.1.]

TPCL's maintenance policies are embodied in the PowerNet standards PNM-99, PNM-105 and PNM-97 which broadly follow manufacturers' recommendations but tend to be modified by industry experience.

5.5 Renewing TPCL's assets [A.12.3.]

5.5.1 Current Renewal projects [A.12.3.3.]

Renewal projects planned to year end 31 March 2015.

5.5.1.1 General replacement

This covers the on-going operation of the network and covers the following items / areas:

- Red tagged pole replacement
- Increasing road crossing height
- Minor distribution renewals and upgrades.

Cost: $0.4M to $1.1M per annum, CAPEX Renewals.

5.5.1.2 Transformer replacement

On-going renewals of distribution transformers. Most are identified during distribution inspections with projects grouping like work in an area.

Some removed units are refurbished.

Cost: $1.3M per annum, CAPEX Renewals.

5.5.1.3 Line replacement

Work discovered during previous years inspections are combined by feeders into projects. As work is planned based on feeders, this renewal and refurbishment covers distribution lines, cables, dropouts and ABS's. Distribution transformers are covered by the previous item.

Cost: $2.4M - $3.5M per annum, CAPEX Renewals.

5.5.1.4 Zone Substation replacement

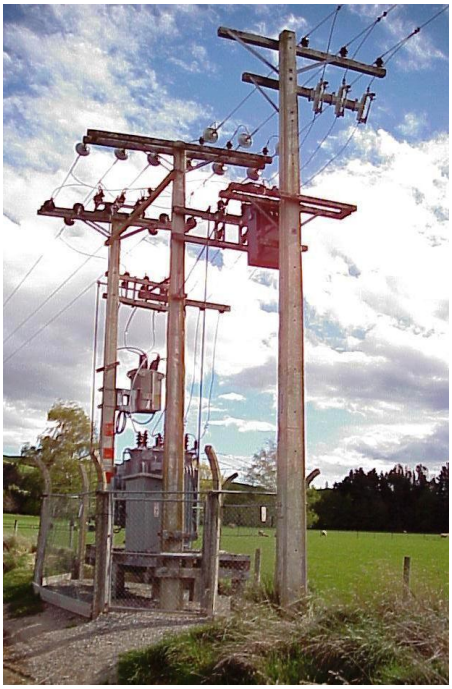
Minor work discovered during previous years inspections are combined by sites into projects. Allows for renewal of equipment and minor upgrades.

Cost: Under $0.1M per annum, CAPEX Renewals.

5.5.1.5 Regulator replacement

Replacement of voltage regulators as they reach the condition where maintenance and repair become uneconomic.

Cost: About $160k per site with one per annum for the next five years then one every two years. CAPEX Renewals.



Old Dunrobin Regulator

New Browns Regulator

5.5.1.6 Seismic remedial work

After the earthquakes in Christchurch a review of substations and the network is planned and some strengthening works will be undertaken.

Liquefaction and high horizontal forces damaged equipment in Christchurch, beyond what was expected. CPG have reviewed each substation and have highlighted equipment that is likely to be damaged due to current learnings on earthquakes. Next stage is to detail reinforcement works and get the strengthening work done.

Cost: Under $0.5M p.a. 2013 to 2016, CAPEX Renewal.

5.5.1.7 Switchboard Renewals

The 11kV switchboards at Winton (2012/13) and Riverton (2013/14) reach the standard ODV life of 45 years. Due to the impact that failure of these would do to service levels and the strategy of "Replace critical assets near to their technical end-of-life" these units are programmed for renewal / replacement.

Options considered included:

- Retrofit existing circuit breaker trucks with modern units.
    - Does not renew other fittings on switchboard, e.g. bus supports, metalwork, current transformers, bushings, cable terminations.
    - Very little interruption to implement.
    - Lower cost.
- Replace the board with modern 11kV switchboard.
    - Renews all parts of switchboard with modern protection and control.
    - Requires substantial outage of the switchboard.
    - Higher cost.
- Do nothing and wait until switchboard fails.
    - May not be able to repair when fails.

- Failure could destroy or damage whole switchboard.

- Mass install individual generation so no need for network.
  - Not economic as no reticulated fuel. (H_2, LPG, CNG)

The selected solution is to replace the whole switchboard with modern units.

Initial design and planning work is programmed for the year prior to installation.

Cost: $0.5M - $1.5M per site, CAPEX Renewals.

Riverton Switchboard

New switchboard at South Gore Sub

5.5.1.8 Riversdale to Lumsden 33kV replacement

The 33kV line from Riversdale to Lumsden will reach its Standard Life in 2010 and limitations exist in transporting power though this line. The age of the pole on this line can be seen on Figure 11. Consideration was given to upgrading this line to 66kV but the need for this capacity is not expected until after 2016. Initial works will consider the condition of each pole and replace if the expected life is less than five years or the strength of the pole is not sufficient for upsizing to neon conductor. Neon AAAC[2] is selected to match the capacity of the Wolf ACSR[3] Riversdale to Gore 33kV section of this route.

Cost: $35k for initial design work is planned to occur during 2013/14. Rebuild is estimated at $1.8 million and is scheduled from 2014 to 2016. CAPEX Renewal.

5.5.1.9 Counsel Rd Nth to Winton 66kV replacement

The line is nearing its Standard Life and renewal is expected during 2014/15. Line was purchased from Transpower and full refurbishment or renewal of all components is desired to maintain service levels in Western and Northern Southland. The age of the poles on this line can be seen on Figure 11. Some poles have been replaced and these will be reviewed and maintained.

Cost: Initial design work was completed during 2013/14. Rebuild is estimated at $2.0 million and is scheduled for 2014/15. CAPEX Renewal.

5.5.1.10 Distribution refurbishment

A budget to allow refurbishment work that doesn't impact on the valuation of the distribution asset. This covers items like crossarms, insulators, strains, re-sagging lines, stay guards, straightening poles, pole caps, ABS handle replacements etc.

Cost: $0.6M per annum, OPEX Renewals.

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[2] AAAC = All Aluminium Alloy Conductor

[3] ACSR = Aluminium Conductor Steel Reinforced.

5.5.1.11 Subtransmission refurbishment

A budget to allow refurbishment work that doesn't impact on the valuation of the subtransmission assets. This covers items like crossarms, insulators, strains, re-sagging lines, stay guards, straightening poles, pole caps, ABS handle replacements etc.

Cost: $40k per annum, OPEX Renewals.

5.5.1.12 Substation refurbishment

A budget to allow refurbishment work that doesn't impact on the valuation of the substation assets. This covers items like power transformers, earth sticks, safety equipment, buildings, battery systems etc.

Cost: $31k per annum, OPEX Renewals.

5.5.1.13 Transformer refurbishment

A budget to allow refurbishment work that doesn't impact on the valuation of the distribution assets.

Cost: $36k per annum, OPEX Renewals.

5.5.1.14 Power transformer refurbishment

A budget to allow refurbishment work on large power transformers. Generally this work only insures that the power transformer will achieve its expected life.

Cost: Varies but generally $250k per annum, OPEX Renewals.

5.5.2 Planned renewal projects [A.12.3.4.]

Project planned for year two to five, YE 2016 to YE 2019.

5.5.2.1 SCADA RTU replacements

This project will replace an average of two sites each year. Beginning with the GPT RTU's then the Harris RTU's. Some substation projects will include the RTU replacement and costs included. i.e. Kelso and switchboard replacement projects.

This was chosen as the present units are becoming unreliable and full remote operation is required to meet the service levels. Rate of renewal could be increased if unreliability reaches unacceptable levels.

Cost: Under $0.25M per annum from 2015/16, CAPEX Renewals.

5.5.2.2 Relay replacements

On-going testing and fault investigation sometimes highlight protection and control relays that are not performing as desired; this programme allows renewal of these with modern protection and control relays. (Includes Voltage Regulating Relays)

Some replacements will occur with other replacement projects, i.e. Switchboard replacement projects.

Cost: Under $50k per annum from 2015/16, CAPEX Renewals.

5.5.2.3 Communications replacements

Equipment is becoming obsolete with manufactures ending support. This project will replace the total communications network with a modern scheme to provide the required communication for TPCL.

Cost: $700k from 2015 to 2018, CAPEX Renewals.

5.5.2.4 Seaward Bush Transformer

The two 33/11kV 10MVA power transformers at Seaward Bush are nearing their 'end-of-life' and additional refurbishments are not considered desirable due to insulation degradation, corrosion of main tank, corrosion of radiators and TCOL[4] mechanism wear. Due to the impact that failure of these would do to service levels and the strategy of "Replace critical assets near to their technical end-of-life", these units are programmed for replacement. The old units are planned to be retained until newer spares are obtained.

Cost: $0.5M - $2.5M 2015 to 2018, CAPEX renewal.

5.5.2.5 North Makarewa to Invercargill renewal

The line is nearing its Standard Life and renewal is expected during 2016 to 2018.

Cost: $0.5 - $2.5M 2015 to 2019, CAPEX renewal.

5.5.2.6 Hillside to Te Anau renewal

The 66kV line is nearing its Standard Life and renewal is expected during 2016 to 2018, with design work during 2015/16.

Cost: $0.5 - $2.5M 2015 to 2018, CAPEX renewal.

5.5.3 Future renewal projects [A.12.3.5.]

Projects planned for year five to ten, YE 2020 to YE 2024.

5.5.3.1 Subtransmission Line replacement

Work discovered during previous years' inspections are combined by circuits into projects. Allows for renewal of equipment and minor upgrades.

Budgeted at $100k per annum from 2018/19, CAPEX Renewals.

5.5.4 Renewal/replacement budget

CAPEX renewals are budgeted in the capital budget, see section 4.8.7.

[4] TCOL = Tap Change On-Load

5.10 TPCL's Maintenance Budget [A.12.2.3.]

Estimated expenditure on maintaining the assets are given below. Target is maintaining the ratio of maintenance to under 2% of the total network replacement cost. This budget covers both Operation and Maintenance areas.

OPEX: Routine and Corrective Maintenance and Inspection	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Routine Dist Insp Check & Mtce - West	335,610	335,610	335,610	335,610	335,610	335,610	335,610	335,610	335,610	335,610
Routine Dist Insp Check & Mtce - East	329,383	329,383	329,383	329,383	329,383	329,383	329,383	329,383	329,383	329,383
Minor Work Dist Insp Check & Mtce - West	218,147	218,147	218,147	218,147	218,147	218,147	218,147	218,147	218,147	218,147
Minor Work Dist Insp Check & Mtce - East	98,446	98,446	98,446	98,446	98,446	98,446	98,446	98,446	98,446	98,446
Distribution Earthing Maintenance	477,685	477,685	477,685	477,685	477,685	477,685	477,685	477,685	477,685	477,685
Routine Tech Insp Check & Mtce - TSL	462,945	462,945	462,945	462,945	462,945	462,945	462,945	462,945	462,945	462,945
Routine Tech Insp Check & Mtce	67,681	67,681	67,681	67,681	67,681	67,681	67,681	67,681	67,681	67,681
Minor Work Tech Insp Check & Mtce - TSL	536,976	536,976	536,976	536,976	536,976	536,976	536,976	536,976	536,976	536,976
Minor Work Tech Insp Check & Mtce	115,226	115,226	115,226	115,226	115,226	115,226	115,226	115,226	115,226	115,226
Infrared Survey	16,500	16,500	16,500	16,500	16,500	16,500	16,500	16,500	16,500	16,500
Partial Discharge Survey	27,968	27,968	27,968	27,968	27,968	27,968	27,968	27,968	27,968	27,968
Supply Quality Checks	16,781	16,781	16,781	16,781	16,781	16,781	16,781	16,781	16,781	16,781
Spares Checks and Minor Maintenance	33,561	33,561	33,561	33,561	33,561	33,561	33,561	33,561	33,561	33,561
Seismic Checks - Distribution	-	66,000	-	-	-	-	-	-	-	-
Seismic Checks - Zone Substations	253,000	-	-	-	-	-	-	-	-	-
Customer Connections	105,158	105,158	105,158	105,158	105,158	105,158	105,158	105,158	105,158	105,158
	3,095,065	**2,908,065**	**2,842,065**	**2,842,065**	**2,842,065**	**2,842,065**	**2,842,065**	**2,842,065**	**2,842,065**	**2,842,065**

OPEX: Asset Replacement and Renewal	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
General Dist Refurbishment - West	700,664	700,664	700,664	700,664	700,664	392,664	392,664	392,664	392,664	392,664
General Dist Refurbishment - East	369,164	369,164	369,164	369,164	369,164	237,164	237,164	237,164	237,164	237,164
Subtransmission Refurbishment - West	60,410	60,410	60,410	60,410	60,410	60,410	60,410	60,410	60,410	60,410
Subtransmission Refurbishment - East	16,781	16,781	16,781	16,781	16,781	16,781	16,781	16,781	16,781	16,781
Overhead Line Design TPCL	55,935	55,935	55,935	55,935	55,935	55,935	55,935	55,935	55,935	55,935
Zone Substation Refurbishment	39,155	39,155	39,155	39,155	39,155	39,155	39,155	39,155	39,155	39,155
Power Transformer Refurbishment	110,000	-	-	-	-	-	-	-	-	-
Transformer Refurbishment	40,542	40,542	40,542	40,542	40,542	40,542	40,542	40,542	40,542	40,542
	1,392,650	**1,282,650**	**1,282,650**	**1,282,650**	**1,282,650**	**842,650**	**842,650**	**842,650**	**842,650**	**842,650**

OPEX: Service Interruptions and Emergencies	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Incident Response Dist - West	1,752,242	1,752,242	1,752,242	1,752,242	1,752,242	1,752,242	1,752,242	1,752,242	1,752,242	1,752,242
Incident Response Dist - East	551,855	551,855	551,855	551,855	551,855	551,855	551,855	551,855	551,855	551,855
Incident Additional Time Dist - West	223,740	223,740	223,740	223,740	223,740	223,740	223,740	223,740	223,740	223,740
Incident Additional Time Dist - East	27,968	27,968	27,968	27,968	27,968	27,968	27,968	27,968	27,968	27,968
Incident Response Technical - TSL	138,156	138,156	138,156	138,156	138,156	138,156	138,156	138,156	138,156	138,156
Incident Response Technical	6,394	6,394	6,394	6,394	6,394	6,394	6,394	6,394	6,394	6,394
Incident Additional Time Technical - TSL	230,452	230,452	230,452	230,452	230,452	230,452	230,452	230,452	230,452	230,452
Incident Additional Time Technical	71,440	71,440	71,440	71,440	71,440	71,440	71,440	71,440	71,440	71,440
	3,002,247	**3,002,247**	**3,002,247**	**3,002,247**	**3,002,247**	**3,002,247**	**3,002,247**	**3,002,247**	**3,002,247**	**3,002,247**

OPEX: Vegetation Management	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Vegetation Management	1,403,969	1,403,969	1,403,969	1,403,969	1,403,969	1,403,969	1,403,969	1,403,969	1,403,969	1,403,969
	1,403,969	**1,403,969**	**1,403,969**	**1,403,969**	**1,403,969**	**1,403,969**	**1,403,969**	**1,403,969**	**1,403,969**	**1,403,969**

Operational Expenditure Total	**8,893,931**	**8,596,931**	**8,530,931**	**8,530,931**	**8,530,931**	**8,090,931**	**8,090,931**	**8,090,931**	**8,090,931**	**8,090,931**
System Management and Operations	1,992,104	1,652,000	1,652,000	1,652,000	1,652,000	1,652,000	1,652,000	1,652,000	1,652,000	1,652,000
AMP OPEX Total	**10,886,035**	**10,248,931**	**10,182,931**	**10,182,931**	**10,182,931**	**9,742,931**	**9,742,931**	**9,742,931**	**9,742,931**	**9,742,931**

E. Appendix – Schedule 11a

Company Name	The Power Company Limited
AMP Planning Period	1 April 2014 – 31 March 2024

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.

	for year ended	Current Year CY 31 Mar 14	CY+1 31 Mar 15	CY+2 31 Mar 16	CY+3 31 Mar 17	CY+4 31 Mar 18	CY+5 31 Mar 19	CY+6 31 Mar 20	CY+7 31 Mar 21	CY+8 31 Mar 22	CY+9 31 Mar 23	CY+10 31 Mar 24
11a(i): Expenditure on Assets Forecast	$000 (in nominal dollars)											
Consumer connection		2,511	2,778	3,010	3,196	3,338	3,441	3,525	3,613	3,744	3,880	4,020
System growth		8,294	11,329	5,541	7,931	8,947	6,509	4,983	5,108	5,291	5,484	5,683
Asset replacement and renewal		7,353	11,431	10,157	11,820	12,548	12,671	13,078	13,387	13,921	14,163	14,999
Asset relocations		53	59	64	68	71	109	113	115	119	121	127
Reliability, safety and environment:												
Quality of supply		236	2,881	881	936	972	361	370	376	393	407	422
Legislative and regulatory												
Other reliability, safety and environment		708	1,300	1,443	1,267	141	501	513	526	547	567	588
Total reliability, safety and environment		947	4,181	2,324	2,203	1,118	864	885	907	940	974	1,009
Expenditure on network assets		19,158	29,781	21,296	25,218	26,021	23,596	22,524	22,910	24,017	24,624	25,839
Non-network assets		700	6,763	965	1,833	1,872	456	465	475	484	492	502
Expenditure on assets		19,858	36,544	22,261	27,051	27,893	24,051	22,990	23,385	24,500	25,117	26,341
plus Cost of financing		764	1,462	890	1,082	1,116	962	901	935	981	1,005	1,054
less Value of capital contributions		1,760	1,441	1,475	1,510	1,546	1,583	2,135	2,168	2,246	2,328	2,413
plus Value of vested assets												
Capital expenditure forecast		18,892	36,563	21,677	26,623	27,462	23,430	21,794	22,152	23,234	23,794	24,982
Value of commissioned assets		15,469,923	43,250,093	20,448,296	23,625,755	30,059,976	25,542,483	22,524,490	22,909,767	24,016,767	24,624,352	25,839,402

	for year ended	Current Year CY 31 Mar 14	CY+1 31 Mar 15	CY+2 31 Mar 16	CY+3 31 Mar 17	CY+4 31 Mar 18	CY+5 31 Mar 19	CY+6 31 Mar 20	CY+7 31 Mar 21	CY+8 31 Mar 22	CY+9 31 Mar 23	CY+10 31 Mar 24
	$000 (in constant prices)											
Consumer connection		2,511	2,778	2,778	2,778	2,778	2,778	2,778	2,778	2,778	2,778	2,766
System growth		8,294	11,329	5,113	6,894	7,450	5,255	3,927	3,927	3,927	3,927	3,910
Asset replacement and renewal		7,353	11,431	9,373	9,407	10,448	10,233	10,299	10,124	10,329	10,141	10,330
Asset relocations		53	59	59	59	59	88	88	88	88	88	88
Reliability, safety and environment:												
Quality of supply		236	2,881	813	813	813	291	291	291	291	291	290
Legislative and regulatory												
Other reliability, safety and environment		708	1,300	1,516	1,101	117	406	406	406	406	406	404
Total reliability, safety and environment		947	4,181	2,329	1,915	931	698	698	698	698	698	695
Expenditure on network assets		19,158	29,781	19,652	21,052	21,666	19,051	17,749	17,614	17,820	17,632	17,778
Non-network assets		700	6,763	902	402	402	400	400	400	400	400	400
Expenditure on assets		19,858	36,544	20,554	21,454	22,068	19,451	18,148	18,014	18,220	18,032	18,178
Subcomponents of expenditure on assets (where known)												
Energy efficiency and demand side management, reduction of energy losses		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Overhead to underground conversion		N/A	N/A	N/A	N/A	N/A	375	275	275	275	275	275
Research and development		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

	for year ended	Current Year CY 31 Mar 14	CY+1 31 Mar 15	CY+2 31 Mar 16	CY+3 31 Mar 17	CY+4 31 Mar 18	CY+5 31 Mar 19	CY+6 31 Mar 20	CY+7 31 Mar 21	CY+8 31 Mar 22	CY+9 31 Mar 23	CY+10 31 Mar 24
Difference between nominal and constant price forecasts	$000											
Consumer connection		-	-	232	418	558	663	747	835	966	1,102	1,254
System growth		-	-	428	1,038	1,498	1,254	1,056	1,181	1,366	1,557	1,773
Asset replacement and renewal		-	-	784	2,413	2,100	2,441	2,780	3,263	3,592	4,022	4,670
Asset relocations		-	-	5	9	12	21	24	26	31	35	40
Reliability, safety and environment:												
Quality of supply		-	-	68	122	164	69	79	86	101	116	132
Legislative and regulatory		-	-	-	-	-	-	-	-	-	-	-
Other reliability, safety and environment		-	-	127	166	24	97	109	122	141	161	183
Total reliability, safety and environment		-	-	195	288	187	166	188	210	243	277	315
Expenditure on network assets		-	-	1,645	4,166	4,356	4,544	4,775	5,295	6,197	6,992	8,061
Non-network assets		-	-	63	1,431	1,470	56	65	75	84	92	102
Expenditure on assets		-	-	1,708	5,597	5,825	4,600	4,840	5,370	6,280	7,085	8,163

	for year ended	Current Year CY 31 Mar 14	CY+1 31 Mar 15	CY+2 31 Mar 16	CY+3 31 Mar 17	CY+4 31 Mar 18	CY+5 31 Mar 19
11a(ii): Consumer Connection							
*Consumer types defined by EDB**	$000 (in constant prices)						
Customer Connections (≤ 20kVA)		892	940	940	940	940	940
Customer Connections (21 to 99kVA)		1,093	1,410	1,410	1,410	1,410	1,410
Customer Connections (≥ 100kVA)		526	235	235	235	235	235
Distributed Generation Connection		2	18	18	18	18	18
New Subdivisions		42	176	176	176	176	176
*include additional rows if needed							
Consumer connection expenditure		2,511	2,778	2,778	2,778	2,778	2,778
less Capital contributions funding consumer connection		1,760	1,441	1,441	1,441	1,441	1,441
Consumer connection less capital contributions		751	1,335	1,335	1,335	1,335	1,335
11a(iii): System Growth							
Subtransmission		3,214	3,957	601	1,271	3,875	1,255
Zone substations		5,080	9,372	4,512	5,623	3,774	3,427
Distribution and LV lines							547
Distribution and LV cables							116
Distribution substations and transformers							49
Distribution switchgear							68
Other network assets							-
System growth expenditure		8,294	11,329	5,113	6,894	7,450	5,255
less Capital contributions funding system growth							
System growth less capital contributions		8,294	11,329	5,113	6,894	7,450	5,255

	for year ended	Current Year CY 31 Mar 14	CY+1 31 Mar 15	CY+2 31 Mar 16	CY+3 31 Mar 17	CY+4 31 Mar 18	CY+5 31 Mar 19
11a(iv): Asset Replacement and Renewal	$000 (in constant prices)						
Subtransmission		191	3,297	1,400	631	1,385	1,464
Zone substations		1,944	2,561	837	1,960	1,642	894
Distribution and LV lines		2,780	2,462	3,330	3,273	3,758	3,802
Distribution and LV cables		207	315	315	315	272	274
Distribution substations and transformers		1,316	1,815	1,780	1,803	1,797	1,787
Distribution switchgear		996	925	1,282	1,196	1,327	1,394
Other network assets			53	230	230	117	
Asset replacement and renewal expenditure		7,353	11,431	9,373	9,407	10,448	10,233
less Capital contributions funding asset replacement and renewal							
Asset replacement and renewal less capital contributions		7,353	11,431	9,373	9,407	10,448	10,233
11a(v):Asset Relocations							
*Project or programme**							
Line Relocations		53	59	59	59	59	88
*include additional rows if needed							
All other asset relocations projects or programmes							
Asset relocations expenditure		53	59	59	59	59	88
less Capital contributions funding asset relocations							
Asset relocations less capital contributions		53	59	59	59	59	88
11a(vi):Quality of Supply							
*Project or programme**							
Supply Quality Upgrades		152	294	294	294	294	174
Mobile Substation			2,067				
Distribution Automation		84	520	520	520	520	
Network Improvement Projects							117
*include additional rows if needed							
All other quality of supply projects or programmes							
Quality of supply expenditure		236	2,881	813	813	813	291
less Capital contributions funding quality of supply							
Quality of supply less capital contributions		236	2,881	813	813	813	291
11a(vii): Legislative and Regulatory							
*Project or programme**							
*include additional rows if needed							
All other legislative and regulatory projects or programmes							
Legislative and regulatory expenditure		-	-	-	-	-	-
less Capital contributions funding legislative and regulatory							
Legislative and regulatory less capital contributions							

	for year ended	Current Year CY 31 Mar 14	CY+1 31 Mar 15	CY+2 31 Mar 16	CY+3 31 Mar 17	CY+4 31 Mar 18	CY+5 31 Mar 19
11a(viii): Other Reliability, Safety and Environmer							
*Project or programme**	$000 (in constant prices)						
Earth Upgrades		528	592	592	235	117	117
NER Installation		126	650	635	635		
Substation Safety		53	59	231	231		
Lumsden DG Bunding				58			
Township Undergrounding							288
*include additional rows if needed							
All other reliability, safety and environment projects or programmes							
Other reliability, safety and environment expenditure		708	1,300	1,516	1,101	117	406
less Capital contributions funding other reliability, safety and environment							
Other reliability, safety and environment less capital contributions		708	1,300	1,516	1,101	117	406
11a(ix): Non-Network Assets							
Routine expenditure							
*Project or programme**							
ICT Hardware & Software, Plant & Office Equipment		400	402	402	402	402	400
Maxime							
*include additional rows if needed							
All other routine expenditure projects or programmes							
Routine expenditure		400	402	402	402	402	400
Atypical expenditure							
*Project or programme**							
New Office Building - Racecourse Road		300	3,200				
New Building - Lumsden Depot				500			
New Building - Crenshaw			2,000				
Racecourse Road Land			290				
New Office Building Fit-out			871				
System Control Upgrades					1,276	1,276	
*include additional rows if needed							
All other atypical projects or programmes							
Atypical expenditure		300	6,361	500	-	-	-
Non-network assets expenditure		700	6,763	902	402	402	400

Company Name	The Power Company Limited
AMP Planning Period	1 April 2014 – 31 March 2024

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

sch ref												
7		*Current Year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
8	for year ended	31 Mar 14	31 Mar 15	31 Mar 16	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24
9	**Operational Expenditure Forecast**	$000 (in nominal dollars)										
10	Service interruptions and emergencies	2,756	3,002	3,263	3,380	3,509	3,642	3,780	3,924	4,066	4,213	4,365
11	Vegetation management	1,255	1,404	1,526	1,581	1,641	1,703	1,768	1,835	1,901	1,970	2,041
12	Routine and corrective maintenance and inspection	2,961	3,095	3,160	3,200	3,321	3,448	3,579	3,715	3,849	3,988	4,132
13	Asset replacement and renewal	893	1,393	1,394	1,444	1,499	1,556	1,061	1,101	1,141	1,182	1,225
14	**Network Opex**	7,864	8,894	9,343	9,605	9,970	10,349	10,188	10,575	10,957	11,353	11,763
15	System operations and network support	1,992	1,652	1,707	1,765	1,829	1,896	1,967	2,037	2,107	2,180	2,255
16	Business support	3,350	3,156	3,261	3,371	3,494	3,623	3,757	3,891	4,026	4,165	4,309
17	**Non-network opex**	5,342	4,808	4,968	5,136	5,323	5,520	5,724	5,928	6,133	6,345	6,564
18	**Operational expenditure**	13,207	13,702	14,311	14,741	15,292	15,868	15,912	16,503	17,090	17,698	18,327
19		*Current Year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
20	for year ended	31 Mar 14	31 Mar 15	31 Mar 16	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24
21		$000 (in constant prices)										
22	Service interruptions and emergencies	2,756	3,002	3,002	3,002	3,002	3,002	3,002	3,002	3,002	3,002	3,002
23	Vegetation management	1,255	1,404	1,404	1,404	1,404	1,404	1,404	1,404	1,404	1,404	1,404
24	Routine and corrective maintenance and inspection	2,961	3,095	2,908	2,842	2,842	2,842	2,842	2,842	2,842	2,842	2,842
25	Asset replacement and renewal	893	1,393	1,283	1,283	1,283	1,283	843	843	843	843	843
26	**Network Opex**	7,864	8,894	8,597	8,531	8,531	8,531	8,091	8,091	8,091	8,091	8,091
27	System operations and network support	1,992	1,652	1,652	1,652	1,652	1,652	1,652	1,652	1,652	1,652	1,652
28	Business support	3,350	3,156	3,156	3,156	3,156	3,156	3,156	3,156	3,156	3,156	3,156
29	**Non-network opex**	5,342	4,808	4,808	4,808	4,808	4,808	4,808	4,808	4,808	4,808	4,808
30	**Operational expenditure**	13,207	13,702	13,405	13,339	13,339	13,339	12,899	12,899	12,899	12,899	12,899
31	**Subcomponents of operational expenditure (where known)**											
32	Energy efficiency and demand side management, reduction of energy losses	125	125	125	125	125	125	125	125	125	125	125
34	Direct billing*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
35	Research and Development	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Insurance	333	333	333	333	333	333	333	333	333	333	333
37	** Direct billing expenditure by suppliers that direct bill the majority of their consumers*											
38												
39		*Current Year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
40	for year ended	31 Mar 14	31 Mar 15	31 Mar 16	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24
41	**Difference between nominal and real forecasts**	$000										
42	Service interruptions and emergencies	-	-	260	378	506	640	778	922	1,063	1,210	1,363
43	Vegetation management	-	-	122	177	237	299	364	431	497	566	637
44	Routine and corrective maintenance and inspection	-	-	252	358	479	606	737	873	1,007	1,146	1,290
45	Asset replacement and renewal	-	-	111	161	216	273	218	259	298	340	382
46	**Network Opex**	-	-	746	1,074	1,439	1,818	2,097	2,484	2,866	3,262	3,672
47	System operations and network support	-	-	55	113	177	244	315	385	455	528	603
48	Business support	-	-	105	215	338	467	601	735	870	1,009	1,153
49	**Non-network opex**	-	-	160	328	515	712	916	1,120	1,325	1,537	1,756
50	**Operational expenditure**	-	-	906	1,402	1,953	2,529	3,013	3,604	4,191	4,799	5,428

G. Appendix – Schedule 13

Summary of Asset Management Maturity Assessment Tool.

Q No.	Function	Question	Score	Maturity Description
3	Asset management policy	To what extent has an asset management policy been documented, authorised and communicated?	3	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.
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	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.
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	The asset management strategy takes account of the lifecycle of all of its assets, asset types and asset systems.
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	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.
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?	3	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.
29	Asset management plan(s)	How are designated responsibilities for delivery of asset plan actions documented?	4	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)	3	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.
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	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.
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	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.
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	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.
42	Structure, authority and responsibilities	To what degree does the organisation's top management communicate the importance of meeting its asset management requirements?	3	Top management communicates the importance of meeting its asset management requirements to all relevant parts of the organisation.
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	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
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	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).
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	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.
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	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.
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	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.
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 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.
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	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.
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?	3	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.
64	Information management	How has the organisation's ensured its asset management information system is relevant to its needs?	2	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.
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?	3	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.
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	Outputs from risk assessments are consistently and systematically used as inputs to develop resources, training and competency requirements. Examples and evidence is available.
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	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.
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	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.
91	Life Cycle Activities	How does the organisation ensure that process(es) and/or procedure(s) for the implementation of asset management plan(s) and control of activities during maintenance (and inspection) of assets are sufficient to ensure activities are carried out under specified conditions, are consistent with asset management strategy and control cost, risk and performance?	2	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.
95	Performance and condition monitoring	How does the organisation measure the performance and condition of its assets?	4	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
99	Investigation of asset-related failures, incidents and nonconformities	How does the organisation ensure responsibility and the authority for the handling, investigation and mitigation of asset-related failures, incidents and emergency situations and non conformances is clear, unambiguous, understood and communicated?	3	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.
105	Audit	What has the organisation done to establish procedure(s) for the audit of its asset management system (process(es))?	3	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.
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	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.
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?	2	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.
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	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.

10. Approval by Board of Directors

Certification for Year-beginning Disclosures

We, Alan Bertram Harper and, Maryann Louise Macpherson being Directors of The Power Company Limited certify that, having made all reasonable enquiry, to the best of our knowledge-

a) The following attached information of The Power Company Limited prepared for the purposes of clause 2.6.1 and subclauses 2.6.3(4) and 2.6.5(3) 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 and 12c are based on objective and reasonable assumptions which both align with The Power Company Limited's corporate vision and strategy and are documented in retained records.

Alan Bertram Harper

Maryann Louise Macpherson

Date: 27. 3. 14