Wellington Electricity Annual Compliance Statement

Year ended 31 March 2021

Contents

Contact details

Email: we_customerservice@welectricity.co.nz

Web: www.welectricity.co.nz

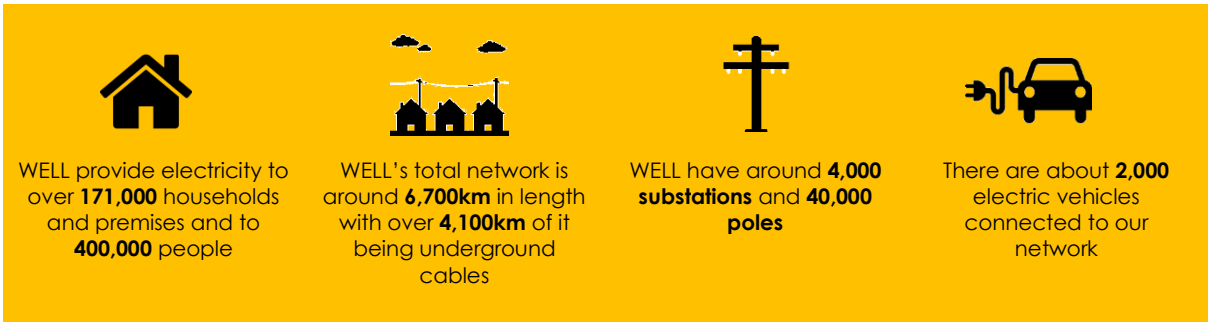
A copy of this Annual Compliance Statement and the Asset Management Plan can be downloaded from www.welectricity.co.nz/disclosures

Any comments or suggestions regarding the Annual Compliance Statement can be made to:

Scott Scrimgeour
Commercial and Regulatory Manager
Wellington Electricity Lines Limited
scott.scrimgeour@welectricity.co.nz

1 Introduction

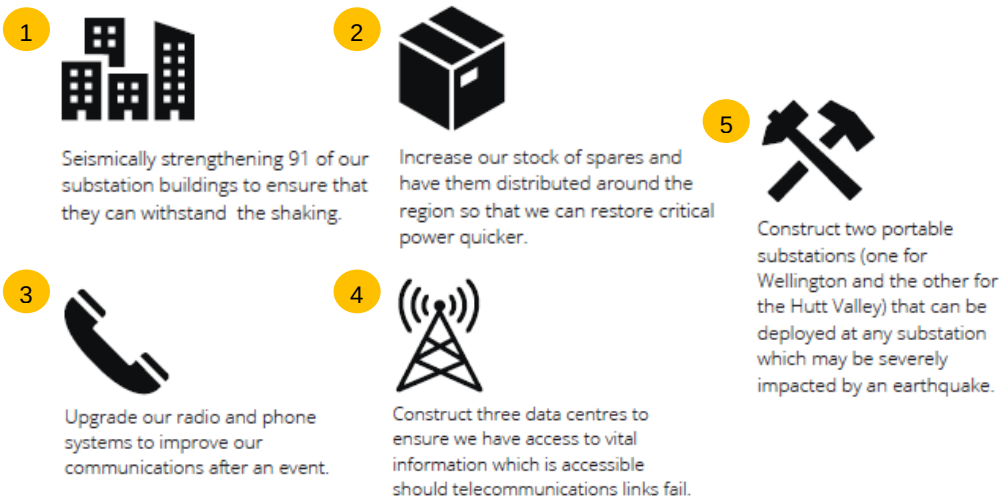
Wellington Electricity Lines Limited (WELL) owns and operates the electricity distribution network in the Wellington region. WELL manages the poles, wires and equipment that provide electricity to approximately 400,000 customers in the Wellington, Porirua, Lower Hutt and Upper Hutt areas.



Under Part 4 of the Commerce Act 1986, the Commerce Commission (Commission) regulates markets where competition is limited, including electricity distribution services. Regulation for electricity distribution services includes regulation of price and quality through a price-quality path to ensure incentives and pressures, similar to those in a workably competitive market, are faced by distributors so that consumers will benefit in the long term.

WELL has completed its three-year Customised Price-Quality Path (CPP) which ran from 1 April 2018 to 31 March 2021. The CPP included prices to operate the Wellington network and to deliver an earthquake readiness programme.

In the Wellington region there are a number of known earthquake fault lines. In March 2018, WELL was granted $31.24 million of additional funding to improve its ability to respond after a major earthquake. WELL's earthquake readiness programme included:



The price-quality path set by the Commission included the allowances WELL had to operate the network, how much revenue WELL could collect from its customers, the quality levels that WELL was required to perform to and the earthquake readiness milestones WELL was required to reach. To demonstrate that WELL had met these performance targets, it is required to provide two compliance statements, the *Annual Price-Setting Compliance Statement,* and the *Annual Compliance Statement.*

The *Annual Price-Setting Compliance Statement* confirmed that WELL's forecast prices for the 12-month period ended 31 March 2021 were set at a level to collect the allowances determined by the CPP price path. The Annual Price-Setting Compliance Statement for the year ended 31 March 2021 was submitted to the Commission and provided on WELL's website in February 2020 (https://www.welectricity.co.nz/disclosures/price-quality-path-annual-compliance-statements/).

This document is the *Annual Compliance Statement* (Compliance Statement). The Compliance Statement confirms that WELL has met its revenue, quality and earthquake readiness expectations set out by the CPP price-quality path. The CPP price-quality path compliance targets and the requirements of the Annual Compliance Statement are provided in *Wellington Electricity Lines Limited Electricity Distribution Customised Price-Quality Path Determination 2018* (2018 CPP Determination).

This statement is WELL's Annual Compliance Statement for the third (and final) CPP assessment period ended 31 March 2021 (third assessment period).

1.1 2018 CPP Determination requirements

This Compliance Statement is made in accordance with the requirements of clause 11.5 of the 2018 CPP Determination. The statement includes WELL's compliance with the requirement to calculate the wash-up amount in clause 8.4, WELL's compliance with the quality standards in clause 9 and WELL's compliance to provide the transaction notifications in clause 10.

This Compliance Statement provides supporting information to demonstrate WELL has complied with clauses 8.4, 9 and 10. The supporting information meets the minimal specifications detailed in clause 11.6 of the 2018 CPP Determination.

1.2 Disclaimer

The information contained in the Compliance Statement has been prepared for the express purpose of complying with the requirements of clause 11 of the 2018 CPP Determination. The Compliance Statement has not been prepared for any other purpose. WELL expressly disclaims any liability to any other party who may rely on the Compliance Statement for any other purpose.

Representations in this Compliance Statement made by WELL relate solely to the services offered on the electricity distribution network in the Wellington region.

1.3 Rounding

For presentation purposes some numbers in this document have been rounded. In most cases calculations are based on more detailed numbers (i.e. to more decimal places than shown in this document). This may cause small discrepancies or rounding inconsistencies when aggregating some of the information presented in this document. Any rounding discrepancies do not affect the overall compliance calculations which have been based on the more detailed information.

2 Compliance statements

The following statements are made in accordance with the requirements of clause 11.4 and 11.5 of the 2018 CPP Determination.

2.1 Presentation of the Annual Compliance Statement

The Compliance Statement has been presented in accordance with clause 11.4:

Presentation requirement	Confirmation
Clause 11.4 (a) provide to the Commission 50 working days following the end of the assessment period	To be emailed to the Commission
Clause 11.4 (b) make public within 5 days of providing to the Commission	To be made publicly available on WELL's website
Clause 11.4 (c) provide prices and actual quantities used to calculate the wash-up amount in Excel to the Commission	To be emailed to the Commission

2.2 Wash-up calculation statement

As per clause 11.5 (a) (i) of the 2018 CPP Determination, WELL confirms that it has complied with the requirement to calculate the wash-up amount in clause 8.4 for the third assessment period.

The wash-up amount, as provided by clause 8.4, has been calculated as:

Wash-up amount calculation	Amount $000
Actual allowable revenue	$145,980
less actual revenue	$148,177
less revenue foregone	$0
Wash-up amount	**($2,197)**

The detailed calculation and supporting information are provided in section 3, '*Wash-up amount calculation and supporting information'*.

2.3 Quality standard statement

As per clause 11.5 (a) (ii) of the 2018 CPP Determination, WELL confirms that it has complied with the quality standards provided in clause 9 for the third assessment period.

2.3.1 Compliance with the annual reliability assessment

WELL confirms that it has complied with the annual reliability assessment provided in clause 9.1 (a) and 9.3 for the third assessment period.

For the third assessment period, the SAIDI and SAIFI assessed values did not exceed the limits specified in Schedule 3 of 2018 CPP Determination:

Reliability measure	Assessed value	Limit	Variance
SAIDI	32.6278	40.6300	(8.0022)
SAIFI	0.4015	0.6250	(0.2235)

The detailed calculation and supporting information are provided in section 4, '*Reliability calculation and supporting information'*.

2.3.2 Compliance with the annual resilience assessment

WELL confirms that it has complied with the annual resilience assessment provided in clause 9.2 and 9.4 for the third assessment period.

For the third assessment period, WELL's resilience index assessed value was above the resilience index minimum specified in Schedule 3 of the 2018 CPP Determination. WELL exceeded its annual resilience target:

Reliability measure	Resilience index assessed value	Resilience index minimum	Variance
Resilience Index	100.0	60.0	40.0

The detailed calculation and supporting information are provided in section 5, '*Resilience calculation and supporting information'*.

2.4 Statement preparation date

As per clause 11.5 (b) of the 2018 CPP Determination, WELL states that this Compliance Statement was prepared and approved on 10 June 2021.

2.5 Transaction statement

As per clause 11.5 (c) of the 2018 CPP Determination, WELL states that it has not entered into any agreement with another EDB or Transpower for an amalgamation, merger, major transaction or non-reopener transaction for the third assessment period.

2.6 Assurance report

As per clause 11.5 (e) of the 2018 CPP Determination and schedule 8, WELL has provided an assurance report by an independent auditor. The auditor's assurance report is provided in Appendix A. The assurance report confirms that the Annual Compliance Statement has been prepared in accordance with Standard on Assurance Engagements 3100 – Compliance Engagements (SAE 3100) and International Standard on Assurance Engagements (New Zealand) 3000 (ISAE (NZ) 3000).

2.7 Director's certification

As per clause 11.5 (d) of the 2018 CPP Determination, WELL has provided a signed Director's certificate. The Director's certificate is provided in Appendix B. This certificate certifies that the information contained in this Compliance Statement is true and accurate. The attached Director's certificate is in the form required by Schedule 7 of the 2018 CPP Determination.

3 Wash-up amount calculation and supporting information

As per clause 11.5 (a) (i) of the 2018 CPP Determination, WELL has calculated the wash-up amount using the methodology provided in clause 8.4 (which refers to schedule 1.5) for the third assessment period. The calculations include the supporting information reasonably necessary to demonstrate whether WELL has complied with clause 8.4. At a minimum the supporting information includes the information requested in clause 11.6 (a). The wash-up amount has been calculated as:

Wash-up amount calculation	Definition	Amount $000	Reference to supporting calculation/ information
Actual allowable revenue	Actual net allowable revenue *plus* actual pass-through costs and recoverable costs *plus* revenue wash-up draw down amount *plus* pass-through balance annual recovery.	$145,980	Supporting calculation provided in section 3.1.
less actual revenue	Means the sum of actual revenue from prices for the assessment period 1 April 2020 to 31 March 2021.	$148,177	Supporting calculation provided in section 3.2.
less revenue foregone	Where the ***revenue reduction percentage*** is greater than 20%, the 'revenue foregone' must be calculated in accordance with the formula: **actual net allowable revenue** X (**revenue reduction percentage** – 20%); where the revenue reduction percentage is not greater than 20%, the 'revenue foregone' is nil. Revenue reduction percentage is -1.3% which is less than 20%. Therefore revenue foregone is nil. _____ ***Revenue reduction percentage*** is 1 minus (actual revenue from prices ÷ forecast revenue from prices); 1 – ($148,177 ÷ $146,212) = -1.3%	$0	Calculation method provided in clause 4.2 of the 2018 CPP Determination. Actual revenue from prices provided in section 3.2. Forecast revenue from prices is provided in section 2.1 of WELL's Annual Price Setting Compliance Statement[1].
Wash-up amount		**($2,197)**	

[1] This can be found at: https://www.welectricity.co.nz/disclosures/price-quality-path-annual-compliance-statements/

3.1 Actual allowable revenue calculation

Actual allowable revenue has been calculated using the methodology provided in schedule 1.5 (2) (b).

For the third assessment period, actual allowable revenue is calculated as:

Actual allowable revenue calculation	Definition	Amount $000	Reference to supporting calculation/ information
Actual net allowable revenue	For the third assessment period, the amount calculated in accordance with Schedule 1.5 (3).	$91,697	Supporting calculation provided in section 3.3.
plus actual pass-through costs and recoverable costs	For the third assessment period, the sum of all pass-through costs and recoverable costs that were incurred in the assessment period, excluding any recoverable cost that is a revenue wash-up draw down amount. The revenue wash-up draw down amount for this assessment period is nil.	$57,765	Supporting calculation provided in section 3.4.
plus revenue wash-up draw down amount	For the third assessment period, means the 'opening wash-up account balance' calculated in accordance with Schedule 1.6, including voluntary undercharging amount foregone.	$92	Supporting calculation provided in section 3.5.
plus pass-through balance annual recovery	For the third assessment period, the amount calculated in accordance with Schedule 1.7 (1) (b).	($3,574)	Supporting calculation provided in section 3.6.
Actual allowable revenue		**$145,980**	

3.2 Actual revenue calculation

WELL's actual revenue from prices is equal to the total of each of its prices multiplied by the actual quantities used. A detailed description of WELL's prices and how they are calculated are provided on its website: https://www.welectricity.co.nz/disclosures/pricing/.

Published prices for the third assessment period are provided in Appendix C.

A summary of actual revenue collected for each of the main pricing categories is provided in the table below.

Consumer Group	Actual revenue from prices $000
Residential (includes low user, standard user and EVB)	$99,143
General Low Voltage	$27,856
General Transformer	$15,547
Unmetered	$3,507
Non-standard consumers (individual contracts) & prior year wash-ups	$2,124
Actual revenue from prices	**$148,177**

As per clause 11.6, WELL has provided detailed revenue calculations for each price category in Appendix D.

3.3 Actual net allowable revenue calculation

For the third assessment period, actual net allowable revenue is calculated as the actual net allowable revenue of the previous assessment period inflated by the derived change in CPI for the third assessment period. The table below provides the calculation prescribed in schedule 1.5 (3).

Actual net allowable revenue calculation	Definition	Amount $000[2]	Reference to supporting calculation/ information
Actual net allowable revenue of the previous assessment period	For the third assessment period, the amount calculated in accordance with Schedule 1.5 (7).	$90,374	Supporting calculation provided in section 3.3.1
multiplied by (1 + derived change in the CPI)	For the third assessment period, the derived change in the CPI is 0.0146. This is calculated in accordance with the below formula: ΔCPI is the derived change in the **CPI** to be applied for the **assessment period**, calculated in accordance with the formula: $\Delta CPI = \frac{CPI_{Jun,t-1} + CPI_{Sep,t-1} + CPI_{Dec,t-1} + CPI_{Mar,t}}{CPI_{Jun,t-2} + CPI_{Sep,t-2} + CPI_{Dec,t-2} + CPI_{Mar,t-1}} - 1$ where: $CPI_{q,t-n}$ is the **CPI** for the quarter year ending q in the 12 month period n years prior to year t; t is the year in which the **assessment period** ends; $\Delta CPI = \left(\frac{1047+1054+1059+1068}{1032+1039+1044+1052} \right) - 1$ = 0.0146 $1 + \Delta CPI_{2021}$ = (1 + 0.0146) = 1.0146	1.0146	Calculation method as specified in Schedule 1.5 (3) of the CPP Determination. CPI quarterly information sourced from Statistics NZ 'All Groups Index SE9A' as specified in clause 1.1.4 (2) of the IMs.
multiplied by (1 - the annual rate of change)	For the third assessment period, the annual rate of change is 0%. (1 - 0%) = 1	1	As specified in clause 8.2 of the 2018 CPP Determination.
Actual net allowable revenue		**$91,697**	

[2] Only applies to the "Actual net allowable revenue of the previous assessment period" and the total "Actual net allowable revenue". The other numbers in this table are whole numbers.

3.3.1 Actual net allowable revenue of the previous assessment period calculation

For the third assessment period, actual net allowable revenue of the previous assessment period is calculated as the actual net allowable revenue of the first assessment period inflated by the derived change in CPI for the second assessment period. The table below provides the calculation prescribed in Schedule 1.5 (7).

Actual net allowable revenue of the previous assessment period calculation	Definition	Amount $000[3]	Reference to supporting calculation/ information
Actual net allowable revenue for the first assessment period	For the third assessment period, the amount calculated in accordance with Schedule 1.5 (8).	$88,706	Supporting calculation provided in section 3.3.2
multiplied by (1 + derived change in the CPI for the second assessment period)	For the third assessment period, the derived change in the CPI that applied in respect of the second assessment period is 0.0188. $1 + \Delta CPI_{2020}$ = (1 + 0.0188) = 1.0188	1.0188	As calculated in section 3.3 of the 2020 Wellington Electricity Annual Compliance Statement.
multiplied by (1 - the annual rate of change)	For the third assessment period, the annual rate of change is 0%. (1 - 0%) = 1	1	As specified in clause 8.2 of the 2018 CPP Determination.
Actual net allowable revenue of the previous assessment period		**$90,374**	

[3] Only applies to the "Actual net allowable revenue for the first assessment period" and the total "Actual net allowable revenue of the previous assessment period". The other numbers in this table are whole numbers.

3.3.2 Actual net allowable revenue for the first assessment period calculation

As per Schedule 1.5 (8), for the third assessment period, actual net allowable revenue for the first assessment period means the forecast net allowable revenue for the first assessment period. The table below provides the calculation prescribed in schedule 1.5 (9).

Forecast net allowable revenue for the first assessment period calculation	Definition	Amount $000[4]	Reference to supporting calculation/ information
$91.697 million	For the third assessment period, the amount prescribed in Schedule 1.5 (9).	$91,697	As prescribed in Schedule 1.5 (9) of the 2018 CPP Determination.
divided by (1 + derived change in the CPI for the second assessment period)	For the third assessment period, the derived change in the CPI that applied in respect of the second assessment period is 0.0188. $1 + \Delta CPI_{2020}$ = (1 + 0.0188) = 1.0188	1.0188	As calculated in section 3.3 of the 2020 Wellington Electricity Annual Compliance Statement.
divided by (1 + derived change in the CPI for the third assessment period)	For the third assessment period, the derived change in the CPI that applied in respect of the third assessment period is 0.0146. $1 + \Delta CPI_{2021}$ = (1 + 0.0146) = 1.0146	1.0146	Supporting calculation provided in section 3.3.
divided by (1 - the annual rate of change)^2	For the third assessment period, the annual rate of change is 0%. $(1 - 0\%)^2$ = 1	1	As specified in clause 8.2 of the 2018 CPP Determination.
Forecast net allowable revenue for the first assessment period		**$88,706**	

[4] Only applies to the "91,697" and the total "Forecast net allowable revenue for the first assessment period". The other numbers in this table are whole numbers.

3.4 Actual pass-through costs and recoverable costs calculation

For the third assessment period, actual pass-through costs and recoverable costs are calculated as the sum of all pass-through costs and recoverable costs that were incurred in the assessment period, excluding any recoverable cost that is a revenue wash-up draw down amount. Pass-through and recoverable costs are defined in the *Electricity Distribution Services Input Methodologies Determination 2012* consolidated 3 April 2018 and the amendments to the IMs provided in the 2018 CPP Determination.

Description	IM reference[5]	Amount $000	Reference to supporting calculation/information
Pass-through costs			
Council rates	3.1.2 (2) (a)	$2,732	As invoiced during the assessment year.
Commerce Act levies	3.1.2 (2) (b) (i)	$210	As invoiced during the assessment year.
Industry levies	3.1.2 (2) (b) (ii)	$487	As invoiced during the assessment year.
Utilities Dispute Limited levies	3.1.2 (2) (b) (iii)	$98	As invoiced during the assessment year.
Pass-through costs		**$3,526**	
Recoverable costs			
Electricity lines service charge payable to Transpower	3.1.3 (1) (b)	$52,698	As invoiced during the assessment year.
Transpower new investment contract charges	3.1.3 (1) (c)	$1,072	As invoiced during the assessment year.
Distributed generation allowance	3.1.3 (1) (f)	$1,633	As invoiced during the assessment year.
Quality incentive adjustment	3.1.3 (1) (o)	$1,171	Supporting calculation provided in section 3.4.1.
Capex wash-up adjustment	3.1.3 (1) (p)	$350	As specified in paragraph (9) of Schedule 2.1 of the 2018 CPP Determination.
IRIS incentive adjustment	3.1.3 (1) (a) (i)	($2,685)	Supporting calculation provided in section 3.4.2.
Recoverable costs		**$54,239**	
Pass-through and recoverable costs		**$57,765**	

[5] Reference to Electricity distribution services input methodologies determination 2012 consolidated 3 April 2018

3.4.1 Quality incentive adjustment calculation

As per Schedule 4 (1) of the 2018 CPP determination, the quality incentive for this Compliance Statement is based on the quality performance from the regulatory year finishing 31 March 2019 – a two-year lag after the assessment period. WELL has calculated the quality incentive adjustment using the methodology provided in schedule 4 (1) and 4 (5) of the 2018 CPP Determination for the third assessment period**.** Specifically, the quality incentive adjustment is calculated as:

Quality incentive adjustment calculation	Definition	Amount $000	Reference to supporting calculation/information
S_{SAIDI}	SAIDI quality incentive in the first assessment period.	$508	Appendix E
plus S_{SAIFI}	SAIFI quality incentive in the first assessment period.	$526	Appendix E
plus $S_{RESILIENCE}$	For the first assessment period the resilience incentive was nil.	$0	Schedule 4 (10) (a) (i) of the 2018 CPP Determination.
S_{TOTAL}		**$1,034**	
S_{TOTAL} (adjusted for the time value of money)	Adjusted for the time value of money, as per Schedule 4 (1) of the 2018 CPP Determination. S_{TOTAL} x (1+67th percentile estimate of post-tax WACC)^2 Post tax WACC for the 67th percentile is 6.44%.	**$1,171**	Inputs from the first or second assessment period which form part of this Compliance Statement were determined by the DPP2 price reset assumptions. Components of the WACC calculation for the DPP2 Price-Quality Path are provided by *Cost of capital determination for electricity distribution businesses' default price-quality paths and Transpower's individual price-quality path [2014] NZCC 28 (Cost of Capital Determination 2014).* The 67th percentile estimate of post-tax WACC applying until 31 March 2020 was calculated as 6.44%.

3.4.2 IRIS incentive adjustment calculation

As per clause 3.3.1 of the IMs, a non-exempt EDB must calculate the IRIS incentive adjustment for each disclosure year of each regulatory period. The IRIS incentive adjustment is made up of the opex incentive amount and the capex incentive amount. The IRIS incentive adjustment has been calculated as:

IRIS incentive adjustment calculation	Definition	Amount $000	Reference to supporting calculation/information
Opex incentive amount	Annual opex IRIS adjustment.	($2,685)	Supporting calculation provided in Appendix F.
plus Capex incentive amount	Annual capex IRIS adjustment is nil.	$0	Clause 3.3.10 of the IMs and the IM variations provide in the 2018 CPP Determination.
Total IRIS incentive adjustment		**($2,685)**	

3.5 Revenue wash-up draw down amount calculation

From Schedule 1.6 (1) (a) of the 2018 CPP Determination, the opening wash-up account balance means for the third assessment period, the closing wash-up account balance of the previous assessment period. The calculation of the closing wash-up account balance as prescribed in Schedule 1.6 (2) (b) in presented in the table below.

Closing wash-up account balance of the previous assessment period calculation	Definition	Amount $000[6]	Reference to supporting calculation/information
Wash-up amount for the previous assessment period	For the third assessment period, this is the wash-up amount calculated for the 2019 regulatory year.	$82	As calculated in section 2.2 of the 2019 Wellington Electricity Annual Compliance Statement.
multiplied by (1 + 67th percentile estimate of post-tax WACC)^2	67th percentile estimate of post-tax WACC is 6.44%.	1.1329	Inputs from the first or second assessment period which form part of this Compliance Statement were determined by the DPP2 price reset assumptions. Components of the WACC calculation for the DPP2 Price-Quality Path are provided by *Cost of capital determination for electricity distribution businesses' default price-quality paths and Transpower's individual price-quality path [2014] NZCC 28 (Cost of Capital Determination 2014).* The 67th percentile estimate of post-tax WACC applying until 31 March 2020 was calculated as 6.44%.
Closing wash-up account balance of the previous assessment period		**$92**	

[6] Does not apply to the WACC component of this calculation, which is a whole number.

3.6 Pass-through balance annual recovery calculation

From Schedule 1.7 of the 2018 CPP Determination, the pass-through balance annual recovery for the third assessment period is calculated as:

Pass-through balance annual recovery calculation	Definition	Amount $000[7]	Reference to supporting calculation/information
(-1 x pass-through balance) / 3	Pass-through balance is $9,470,000.	($3,157)	Where, the pass-through balance is provided in section '2.3 Pass-through Balance' of 'WELL's 2018 Price Quality Path Annual Compliance Statement' for the regulatory year ended 31 March 2018[8].
multiplied by (1 + WACC)^3	67th percentile estimate of post-tax WACC is 4.23%.	1.1323	Supporting information provided in Section 3.6.1.
Pass-through balance annual recovery		**($3,574)**	

3.6.1 67th percentile estimate of post-tax WACC

The WACC calculation for Price-Quality Determinations is provided in clause 4.4.1 of the IMs. As per clause 5.3.22 of the IMs, the WACC used for calculations completed in the third assessment period of 2018 CPP Determination is determined by the DPP3 price reset.

Components of the WACC calculation for the DPP3 Price-Quality Path are provided by *Cost of capital determination for electricity distribution businesses' 2020-2025 default price-quality paths and Transpower New Zealand Limited's individual price-quality path [2019] NZCC 12* (Cost of Capital Determination 2019).

The 67th percentile estimate of post-tax WACC applying from 1 April 2020 is 4.23%.

[7] Does not apply to the WACC component of this calculation, which is a whole number.

[8] The pass-through balance has been calculated in accordance with clause 8.6 of the 2015 DPP Determination (as provided by schedule 11 of the 2018 CPP Determination - Input Methodology variation Clause 3.1.1 (12)). The pass-through balance calculation in WELL's 2018 Price-Quality Path Annual Compliance Statement has been audited and submitted to the Commission as part of its 2015 DPP Determination compliance requirements.

4 Reliability calculation and supporting information

This section of the Compliance Statement provides supporting information and calculations on WELL's compliance with the reliability quality standards under clause 9.3 of the 2018 CPP Determination for the third assessment period. At a minimum the supporting information includes the information requested in clause 11.6 (b) and (d) to (g).

WELL outperformed the quality targets for the third assessment period of the CPP. The performance was a result of the continued refinements to WELL's quality improvement programme. At a high level, the quality improvement programme for the third assessment period included:

- Continued work on improving feeder performance by undertaking refurbishment projects on 11 kV feeders.
- Conductor samples are being analysed for fatigue and corrosion to assist with building a predictive model of conductor condition, and to provide a better understanding of future conductor replacement requirements.
- Trialling cable testing technology by testing poor performing cables with a variety of diagnostic tools.
- Reduce the response times to car vs pole incidents. New measures include using interrupter cable and temporary pole stands will reduce the time taken to restore power.

WELL will continue to investigate ways to improve the reliability of the network. WELL's AMP provides an analysis of critical trends and an annual update to the reliability performance improvement programme (the AMP can be found at: https://www.welectricity.co.nz/disclosures/asset-management-plan).

The 2018 CPP Determination specifies two reliability measures:

1. SAIDI (system average interruption duration index) which measures the average duration of outages on WELL's network during the assessment period
2. SAIFI (system average interruption frequency index) which measures the average number of outages on WELL's network during the assessment period

Outages are classified as a Class B outage which is a planned outage, or a Class C outage which is an unplanned outage.

4.1 Capturing reliability information

Clause 11.6 (f) requires WELL to provide a description of the policies and procedures used to capture and record Class B and C interruptions, and to calculate SAIDI and SAIFI assessed values.

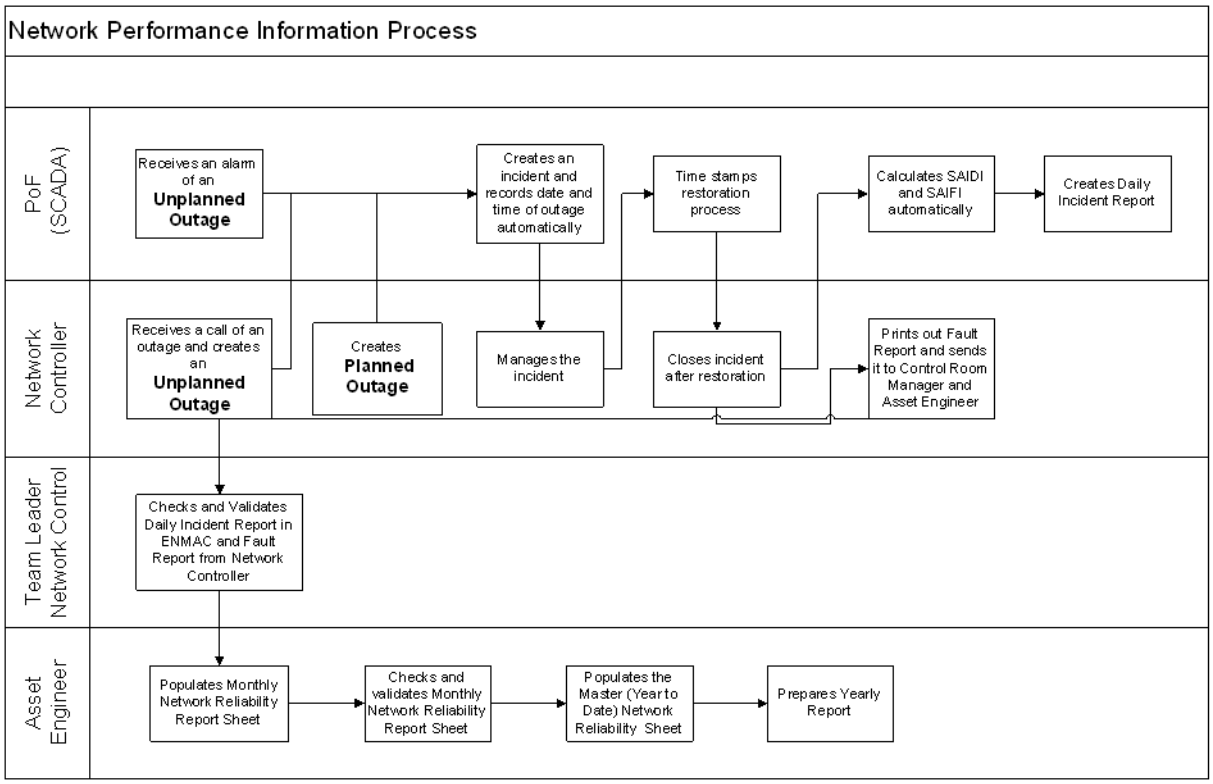
4.1.1 Recording outages

The control system WELL uses to record SAIDI and SAIFI information is the Power On Fusion (PoF) SCADA network management system (the system). The system is used for the real-time management and monitoring of the high voltage network. Specifically, the system provides information about the status of the network, including customer connection points and devices like circuit breakers and fuses. The system automatically records outage information (including SAIDI and SAIFI details) in a database, including:

- All planned and unplanned outages on the high voltage network (11kV and higher), including details about the length of the outage and how many customers were impacted; and
- All unplanned outages less than one minute in duration, including successful auto-reclose events. Faults less than a minute outage are not included in the SAIDI and SAIFI counts.

All the outage information is then error checked and validated daily by the Control Room Manager and the Asset Engineer to ensure it is correct. The reviewed data is recorded in the Reliability Report Sheet. The procedure to capture and validate network performance information for planned and unplanned outages is shown in Figure 1 below.

Figure 1: Summary of the procedure for capturing and validating network outage information.



For unplanned outages, the system identifies there has been a fault, automatically logs the incident and time stamps when it occurred. Any subsequent switching operations are also recorded and time stamped.

For faults on devices that are not directly monitored by the system and there is no definitive customer report, the outage is recorded from the time the on-site fault-man confirms there has been a high voltage fault. Subsequent switching operations are manually recorded, and time stamped within the system. If a fault has been reported by a customer and it is confirmed that there is a fault on the high voltage network, the start time for the fault is taken from the time of the first phone call.

Successive interruptions have been consistently treated across regulatory periods - where an interruption to the supply of electricity distribution services is followed by restoration, and then by a successive interruption within the same event, WELL records this as a single interruption.

4.1.2 Data validation and review

After an outage is resolved, an outage report is generated which includes notes from the Network Controllers on duty. The information is then validated for the following:

- Date outage started and ended;
- Time outage started and ended;
- Duration of outage;
- Number of customers impacted;
- Total customers minutes lost (based on switching operations);
- Total customer number (on network);
- SAIDI for outage;
- SAIFI for outage;
- Fault type; and
- Fault cause.

The data is reviewed for accuracy. Particularly attention is given to non-system faults where the information is manually entered by the Network Controller. Systems faults are automatically generated and rarely have errors. The Control Room Team Leader reviews all faults and approves the daily fault reports as accurate.

The Asset Engineer then compiles the reviewed individual event reports into a Monthly Network Reliability Report which is used for monthly reporting of SAIDI and SAIFI indices. The monthly reports are then aggregated into the master database from which WELL's regulatory quality reporting is based on.

For planned outages, the proposed switching operations are entered into the system by the Network Controller prior to the event. During the event, the system creates an incident and the Network Controller enters the time the operation occurred. Planned events are validated by the Network Controllers and the Network Control Team Leader by referring to the specific job documents. The validation process considers whether LV back feeds or portable generation has been used to ensure there was no loss of supply.

4.1.3 Calculating the assessed values

WELL calculates SAIDI and SAIFI by summing the duration and frequency of outages recorded in the master database. WELL also analyses the database for trends and common types of outages. This information is used to inform the quality improvement programme. WELL's AMP provides a detailed overview of its reliability programme, including a detailed analysis of the reliability performance. WELL's AMP can be found at: https://www.welectricity.co.nz/disclosures/asset-management-plan.

4.1.4 Keeping customers informed

WELL provides up-to-date customer information on outage events and their restoration times through its website and outage mobile device application. The website and application provide live updates on restoration times when power outages occur. WELL also surveys those customers who have recently had an outage to understand whether the price-quality service they receive is appropriately balanced. The results suggest that customers are broadly satisfied with their current level of reliability and the price for delivering that service.

4.2 Assessed values and reliability limit calculations

For the third assessment period, WELL outperformed the company's reliability limits:

Reliability measure	Assessed value	Limit[9]	Variance
SAIDI	32.6278	40.6300	(8.0022)
SAIFI	0.4015	0.6250	(0.2235)

Due to WELL complying with the annual reliability assessment provided in clause 9.1 (a), the information outlined in clause 11.6 (b) and (d) of the 2018 CPP Determination, is not required to be provided.

As per clause 11.6 (e) of the 2018 CPP Determination, WELL has provided the components of the annual reliability assessment:

Reliability component	Component value	Reference to supporting calculation/information
SAIDI		
Assessed value	32.6278	Supporting calculation provided in Appendix G.
Limit	40.6300	As specified in Schedule 3 (1) of the 2018 CPP Determination.
Unplanned boundary value	2.1030	As specified in Schedule 3 (1) of the 2018 CPP Determination.
Cap	40.6302	As specified in Schedule 4 (2) of the 2018 CPP Determination.
Collar	30.2414	As specified in Schedule 4 (2) of the 2018 CPP Determination.
Target	35.4358	As specified in Schedule 4 (2) of the 2018 CPP Determination.

[9] As specified in schedule 3 (1) of the 2018 CPP Determination

Reliability component	Component value	Reference to supporting calculation/information
SAIFI		
Assessed value	0.4015	Supporting calculation provided in Appendix G.
Limit	0.6250	As specified in Schedule 3 (1) of the 2018 CPP Determination.
Unplanned boundary value	0.0310	As specified in Schedule 3 (1) of the 2018 CPP Determination.
Cap	0.6248	As specified in Schedule 4 (3) of the 2018 CPP Determination.
Collar	0.4682	As specified in Schedule 4 (3) of the 2018 CPP Determination.
Target	0.5465	As specified in Schedule 4 (3) of the 2018 CPP Determination.

4.3 Annual reliability assessments for the two previous assessment periods

As per clause 11.6 (e) of the 2018 CPP Determination, WELL has provided the annual reliability assessment of the previous two assessment periods:

CPP assessment period ended 31 March 2019 (from WELL's Compliance Statement for that period)

Requirement	Assessed value	Limit	Variance
SAIDI	30.4217	40.6302	(10.2085)
SAIFI	0.4557	0.6248	(0.1691)

CPP assessment period ended 31 March 2020 (from WELL's Compliance Statement for that period)

Requirement	Assessed value	Limit	Variance
SAIDI	30.3486	40.630	(10.2814)
SAIFI	0.4528	0.625	(0.1722)

5 Resilience calculation and supporting information

WELL's CPP Price-Quality Path included an earthquake resilience programme to improve WELL's ability to respond after a major earthquake. The 2018 CPP Determination provided a resilience quality measure which measured and assessed progress against the programme deliverables. This section of the Compliance Statement provides supporting information and calculations on WELL's compliance with the resilience quality standards under clause 9.4 of the 2018 CPP Determination for the third assessment period. At a minimum the supporting information includes the information requested in clause 11.6 (c), (d) and (h) to (j).

5.1 WELL earthquake resilience programme

In March 2018, the Commission approved a CPP to improve WELL's ability to respond following a major earthquake in the Wellington region. In an earthquake, major roads are likely to be disrupted, breaking the region into five isolated areas or 'islands'[10]. It is expected to take between 10 days and four months for roads to be repaired and access to each area to be restored. The earthquake resilience programme was designed to allow electricity in each of the five areas to be restored independently without road access. This will significantly improve restoration times. To allow independent restoration within each of the areas, the programme included five work streams:

1. Spares located in each area or island.
2. Data centres providing multiple backups to essential network information.
3. Mobile substations to allow fast restoration if a permanent substation is damaged.
4. Radio and phones to allow communication to be maintained across the network.
5. Seismic reinforcement to key assets across the network.

WELL's AMP provides a detailed description of each work programme and can be found at: www.welectricity.co.nz/disclosures/asset-management-plan.

5.2 How WELL has assessed resilience quality

The earthquake resilience programme had two assessment methodologies, a methodology for programme items that were procured and methodology for the seismic strengthening building works. The diagram below illustrates the two methodologies.

[10] "Restoring Wellington's transport links after a major earthquake" Wellington Lifelines Group, March 2013.

1. Methodology for assessing the procurement and installation of mobile substations, data centres, spares and radio and telephones

Step	1	2	3	4
Description	Purchase	Inspection	Transfer of ownership	Independent verification
Purpose	Procurement of the assets	Confirm the equipment is to standard and is installed correctly	WELL's acceptance of the asset	Independent confirmation that the CPP requirements have been meet
Who	WELL	WELL	WELL	Deloitte
Evidence	Paid invoice	Approved inspection report	Transfer of ownership form	Assurance report

2. Methodology for assessing seismic strengthening building works

Step	1	2	3	4
Description	Initial inspection	Design	Closeout inspection	Independent verification
Purpose	An initial survey of the current asset before any works	Earthquake strengthen design	Inspection against design to confirm works have been completed as per the design	Independent confirmation that the CPP requirements have been meet
Who	Independent engineering company	Independent engineering company	Independent engineering company	Deloitte
Evidence	Initial inspection report	Building designs	Closeout inspection report	Assurance report

For the third assessment period, WELL outperformed the company's resilience index minimum:

Reliability measure	Resilience index assessed value	Resilience index minimum	Variance
Resilience Index	100.0	60.0	40.0

Due to WELL complying with the annual resilience assessment provided in clause 9.2, the information outlined in clause 11.6 (c) and (d) of the 2018 CPP Determination, is not required to be provided.

As per clause 11.6 (h) of the 2018 CPP Determination, WELL has provided the components of the annual resilience assessment for the third assessment period:

Resilience component	Component value	Reference to supporting calculation/information
Resilience index assessed value	100.0	Supporting calculation provided in section 5.2.1.
Resilience index minimum	60.0	Provided in schedule 3 (1) of the 2018 CPP Determination.
Resilience index cap	100.0	Provided in schedule 4 (4) of the 2018 CPP Determination.
Resilience index collar	0.0	Provided in schedule 4 (4) of the 2018 CPP Determination.
Resilience index target	100.0	Provided in schedule 4 (4) of the 2018 CPP Determination.

5.2.1 Resilience index assessed value calculation

The resilience index assessed value calculation methodology is provided in Schedule 3 (4), (5) and (8) of the 2018 CPP Determination. WELL's resilience index assessed value ($RESIL_{assess}$) in the sum of 'attained resilience performance values.

5.2.1.1 Responsiveness improvement resilience index assessed values

The table below summarises the assessed values for the works provided in Schedule 9 (the works to improve WELL's earthquake responsiveness) of the 2018 CPP Determination.

Work programme	Resilience performance value	Resilience index assessed value	Remaining
Mobile substations	15.72	15.72	0.0
Emergency hardware	15.76	15.76	0.0
Ability to respond to 11kV cable and equipment faults	16.44	16.44	0.0
Communication systems	17.48	17.48	0.0
Total	**65.4**	**65.4**	**0.0**

The full assessment calculations are provided in Appendix I: Responsiveness improvement resilience index assessed values. The calculations are in accordance with Schedule 3 (4) of the 2018 CPP determination. Each assessment also provides an explanation of how WELL demonstrated the measure was met for the assessment period, as per clause 11.6 (i) of the 2018 CPP Determination.

5.2.1.2 Seismic strengthening resilience index assessed values

The table below summarises the assessed values for the works provided in Schedule 10 (the building seismic strengthening works) of the 2018 CPP Determination.

Work programme	Resilience performance value	Resilience index assessed value	Remaining
Seismic strengthening of substation buildings	34.6	34.6	0.0

The full assessment calculations are provided in Appendix J: Building seismic strengthening resilience index assessed values. The calculations are in accordance with Schedule 3 (5) of the 2018 CPP determination. The detailed information provided in the appendix includes the information required by clause 11.6 (j).

5.2.1.3 Total resilience index assessed value

The total resilience index assessed value is provided below.

Work programme	Resilience performance value	Resilience index assessed value	Remaining
Responsiveness improvement	65.4	65.4	0.0
Seismic strengthening	34.6	34.6	0.0
Total	**100.0**	**100.0**	**0.0**

6 Appendix A: Audit assurance report

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INDEPENDENT ASSURANCE REPORT
TO THE DIRECTORS OF WELLINGTON ELECTRICITY LINES LIMITED AND
THE COMMERCE COMMISSION

Report on Wellington Electricity Lines Limited Electricity Distribution Customised Price-Quality Path Compliance Statement 2021

We have conducted a reasonable assurance engagement on whether the information disclosed by Wellington Electricity Lines Limited ('the Company') on pages 4 to 27 and related Appendices B to J of the Company's Electricity Distribution Customised Price-Quality Path Compliance Statement ('the Annual Compliance Statement') for the period 1 April 2020 to 31 March 2021 has been prepared, in all material respects, with the Wellington Electricity Lines Limited Electricity Distribution Customised Price-Quality Path Determination 2018 (consolidated 20 May 2020) ('the Determination').

In our opinion, for the period 1 April 2020 to 31 March 2021:

- the Company has complied, in all material aspects, with the Determination in preparing the Annual Compliance Statement; and
- as far as appears from an examination of the records, the information used in the preparation of the Disclosure Information has been properly extracted from the Company's accounting and other records and has been sourced, where appropriate, from the Company's financial and non-financial systems.

Basis for Opinion

We conducted our engagement in accordance with International Standard on Assurance Engagements (New Zealand) 3000 (Revised): *Assurance Engagements Other than Audits or Reviews of Historical Financial Information* ('ISAE (NZ) 3000 (Revised)') and the Standard on Assurance Engagements (SAE) 3100 (Revised): *Compliance Engagements* ('SAE 3100 (Revised)') issued by the External Reporting Board.

We have obtained sufficient recorded evidence and all the explanations we required to provide a basis for our opinion.

Board of Directors' Responsibilities

The Board of Directors is responsible on behalf of the Company for the preparation of the Annual Compliance Statement in accordance with the Determination. This responsibility includes the design, implementation and maintenance of internal control relevant to the Company's compliance with the Determination.

Our Independence and Quality Control

We have complied with the independence and other ethical requirements of the Professional and Ethical Standard 1: *Code of Ethics for Assurance Practitioners* issued by the New Zealand Auditing and Assurance Standards Board, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Other than in our capacity as auditor, the provision of other assurance services and taxation services, we have no relationship with or interests in the Company. These services have not impaired our independence as auditor.

The firm applies Professional and Ethical Standard 3 (Amended): Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance Engagements issued by the New Zealand Auditing and Assurance Standards Board, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

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Our Responsibilities

Our responsibility is to express an opinion on whether the Company has complied, in all material respects, with the Determination in preparing its Annual Compliance Statement. ISAE (NZ) 3000 (Revised) and SAE 3100 (Revised) requires that we plan and perform our procedures to obtain reasonable assurance that the Company has complied, in all material respects, with the Determination in preparing its Annual Compliance Statement.

An assurance engagement to report on the Company's compliance with the Determination involves performing procedures to obtain evidence about the compliance activity and controls implemented to meet the requirements of the Determination. The procedures selected depend on our judgement, including the identification and assessment of risk of material non-compliance with the Determination.

In making those risk assessments, we consider internal control relevant to the Company's preparation of the Annual Compliance Statement in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. A reasonable assurance engagement also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates, as well as evaluating the overall presentation of the Annual Compliance Statement.

Our procedures included:

- evaluating the methodologies used in preparing the Annual Compliance Statement and confirming that they are in accordance with the requirements set out in the Determination;
- identifying key inputs to the information;
- ensuring that the information used in preparing the Annual Compliance Statement has been properly extracted from the Company's accounting and other records, sourced from its financial and non-financial systems;
- assessing significant estimates and judgements, if any, made by the Company in the preparation of the Annual Compliance Statement; and
- ensuring that the calculations are mathematically correct.

These procedures have been undertaken to form an opinion as to whether the Company has complied, in all material respects, with the Determination in preparing its Annual Compliance Statement for the period 1 April 2020 to 31 March 2021.

Inherent Limitations

Because of the inherent limitations of evidence gathering procedures, it is possible that fraud, error or non-compliance may occur and not be detected. As the procedures performed for this engagement are not performed continuously throughout the period 1 April 2020 to 31 March 2021 and the procedures performed in respect of the Company's compliance with Determination are undertaken on a test basis, our assurance engagement cannot be relied on to detect all instances where the Company may not have complied with the Determination. We did not examine every transaction, adjustment or event underlying the Compliance Statement nor do we guarantee complete accuracy of the Annual Compliance Statement. The opinion expressed in this report has been formed on the above basis.

Use of Report

This report is provided solely for your exclusive use and solely for the purpose of Clause 11.5(e) of the Determination. However we understand that a copy of this report has been requested by the Commerce Commission solely for the purpose above. We agree that a copy of our report may be provided to the Commerce Commission. This report is not to be used for any other purpose, recited or referred to in any document, copied or made available (in whole or in part) to any other person without our prior written consent. We accept or assume no duty, responsibility or liability to any party, other than you, in connection with the report or this engagement including without limitation, liability for negligence in relation to the opinion expressed in our report.

Deloitte Limited

Wellington, New Zealand
10 June 2021

7 Appendix B: Director's certification

Directors' Certification

I, Richard Pearson, being a Director of Wellington Electricity Lines Limited certify that, having made all reasonable enquiry, to the best of my knowledge and belief, the attached Annual Compliance Statement of Wellington Electricity Lines Limited, and related information, prepared for the purposes of the *Wellington Electricity Lines Limited Electricity Distribution Customised Price-Quality Path Determination 2018* has been prepared in accordance with all the relevant requirements.

Director

10 June 2021

Note: Section 103(2) of the Commerce Act 1986 provides that no person shall attempt to deceive or knowingly mislead the Commission in relation to any matter before it. It is an offence to contravene section 103(2) and any person who does so is liable on summary conviction to a fine not exceeding $100,000 in the case of an individual or $300,000 in the case of a body corporate.

8 Appendix C: Published prices for the third assessment period

			1 April 2020 to 31 March 2021		
Code	**Units**	**Description**	**Distribution price**	**Transmission & pass-through price**	**Delivery price**
Residential					
RLU-FIXD	$/con/day	Residential Low user daily	0.0900	0.0600	0.1500
RLU-24UC	$/kWh	Residential Low user uncontrolled	0.0613	0.0353	0.0966
RLU-AICO	$/kWh	Residential Low user all inclusive	0.0492	0.0283	0.0775
RLU-CTRL	$/kWh	Residential Low user controlled	0.0296	0.0171	0.0467
RLU-NITE	$/kWh	Residential Low user night boost	0.0100	0.0058	0.0158
RSU-FIXD	$/con/day	Residential Standard user daily	0.5545	0.3848	0.9393
RSU-24UC	$/kWh	Residential Standard user uncontrolled	0.0384	0.0222	0.0606
RSU-AICO	$/kWh	Residential Standard user all inclusive	0.0265	0.0152	0.0417
RSU-CTRL	$/kWh	Residential Standard user controlled	0.0118	0.0067	0.0185
RSU-NITE	$/kWh	Residential Standard user night boost	0.0092	0.0052	0.0144
Residential electric vehicle and battery storage[1]					
RLUEVB-FIXD	$/con/day	Residential EV & battery storage low user daily	0.0900	0.0600	0.1500
RLUEVB-PEAK	$/kWh	Residential EV & battery storage low user peak[2]	0.0846	0.0656	0.1502
RLUEVB-OFFPEAK	$/kWh	Residential EV & battery storage low user off-peak[3]	0.0376	0.0292	0.0668
RLUEVB-CTRL	$/kWh	Residential EV & battery storage low user controlled	0.0296	0.0171	0.0467
RSUEVB-FIXD	$/con/day	Residential EV & battery storage standard user daily	0.6600	0.4400	1.1000
RSUEVB-PEAK	$/kWh	Residential EV & battery storage standard user peak[2]	0.0608	0.0471	0.1079
RSUEVB-OFFPEAK	$/kWh	Residential EV & battery storage standard user off-peak[3]	0.0138	0.0106	0.0244
RSUEVB-CTRL	$/kWh	Residential EV & battery storage standard user controlled	0.0118	0.0067	0.0185
Residential Time of Use					
RLUTOU-FIXD	$/con/day	Residential Time of Use low user daily	0.0900	0.0600	0.1500
RLUTOU-P-UC	$/kWh	Residential Time of Use low user peak[2]	0.0711	0.0574	0.1285
RLUTOU-OP-UC	$/kWh	Residential Time of Use low user off-peak[3]	0.0569	0.0255	0.0824
RLUTOU-P-AI	$/kWh	Residential Time of Use low user all inclusive peak[2]	0.0641	0.0480	0.1121
RLUTOU-OP-AI	$/kWh	Residential Time of Use low user all inclusive off-peak[3]	0.0425	0.0194	0.0619
RLUTOU-CTRL	$/kWh	Residential Time of Use low user controlled	0.0296	0.0171	0.0467
RLUTOU-NITE	$/kWh	Residential Time of Use low user night boost	0.0100	0.0058	0.0158
RSUTOU-FIXD	$/con/day	Residential Time of Use standard user daily	0.5545	0.3848	0.9393
RSUTOU-P-UC	$/kWh	Residential Time of Use standard user peak[2]	0.0511	0.0412	0.0923
RSUTOU-OP-UC	$/kWh	Residential Time of Use standard user off-peak[3]	0.0329	0.0140	0.0469
RSUTOU-P-AI	$/kWh	Residential Time of Use standard user all inclusive peak[2]	0.0420	0.0315	0.0735
RSUTOU-OP-AI	$/kWh	Residential Time of Use standard user all inclusive off-peak[3]	0.0195	0.0078	0.0273
RSUTOU-CTRL	$/kWh	Residential Time of Use standard user controlled	0.0118	0.0067	0.0185
RSUTOU-NITE	$/kWh	Residential Time of Use standard user night boost	0.0092	0.0052	0.0144
General low voltage connection					
GLV15-FIXD	$/con/day	General low voltage <=15kVA daily	0.3317	0.1916	0.5233
GLV15-24UC	$/kWh	General low voltage <=15kVA uncontrolled	0.0300	0.0173	0.0473
GLV69-FIXD	$/con/day	General low voltage >15kVA and <=69kVA daily	0.8205	0.4739	1.2944
GLV69-24UC	$/kWh	General low voltage >15kVA and <=69kVA uncontrolled	0.0208	0.0120	0.0328
GLV138-FIXD	$/con/day	General low voltage >69kVA and <=138kVA daily	4.6495	2.6856	7.3351
GLV138-24UC	$/kWh	General low voltage >69kVA and <=138kVA uncontrolled	0.0246	0.0143	0.0389
GLV300-FIXD	$/con/day	General low voltage >138kVA and <=300kVA daily	6.6231	3.8257	10.4488
GLV300-24UC	$/kWh	General low voltage >138kVA and <=300kVA uncontrolled	0.0102	0.0059	0.0161
GLV1500-FIXD	$/con/day	General low voltage >300kVA and <=1500kVA daily	16.7009	9.6468	26.3477
GLV1500-24UC	$/kWh	General low voltage >300kVA and <=1500kVA uncontrolled	0.0045	0.0026	0.0071
GLV1500-DAMD	$/kVA/month	General low voltage >300kVA and <=1500kVA demand	4.0509	2.3399	6.3908

			1 April 2020 to 31 March 2021		
Code	**Units**	**Description**	**Distribution price**	**Transmission & pass-through price**	**Delivery price**
General transformer connection					
GTX15-FIXD	$/con/day	General transformer <=15kVA daily	0.3011	0.1740	0.4751
GTX15-24UC	$/kWh	General transformer <=15kVA uncontrolled	0.0279	0.0162	0.0441
GTX69-FIXD	$/con/day	General transformer >15kVA and <=69kVA daily	0.7447	0.4300	1.1747
GTX69-24UC	$/kWh	General transformer >15kVA and <=69kVA uncontrolled	0.0196	0.0113	0.0309
GTX138-FIXD	$/con/day	General transformer >69kVA and <=138kVA daily	4.2189	2.4369	6.6558
GTX138-24UC	$/kWh	General transformer >69kVA and <=138kVA uncontrolled	0.0230	0.0133	0.0363
GTX300-FIXD	$/con/day	General transformer >138kVA and <=300kVA daily	6.0098	3.4714	9.4812
GTX300-24UC	$/kWh	General transformer >138kVA and <=300kVA uncontrolled	0.0095	0.0055	0.0150
GTX1500-FIXD	$/con/day	General transformer >300kVA and <=1500kVA daily	12.9670	7.4900	20.4570
GTX1500-24UC	$/kWh	General transformer >300kVA and <=1500kVA uncontrolled	0.0037	0.0021	0.0058
GTX1500-CAPY	$/kVA/day	General transformer >300kVA and <=1500kVA capacity	0.0088	0.0052	0.0140
GTX1500-DAMD	$/kVA/month	General transformer >300kVA and <=1500kVA demand	3.4050	1.9668	5.3718
GTX1501-FIXD	$/con/day	General transformer >1500kVA connection daily	0.0288	0.0167	0.0455
GTX1501-24UC	$/kWh	General transformer >1500kVA connection uncontrolled	0.0008	0.0005	0.0013
GTX1501-CAPY	$/kVA/day	General transformer >1500kVA connection capacity	0.0156	0.0091	0.0247
GTX1501-DOPC	$/kW/month	General transformer >1500kVA connection on-peak demand[4]	6.4154	3.7057	10.1211
GTX1501-PWRF	$/kVAr/month	General transformer >1500kVA connection power factor[5]	4.6324	2.6758	7.3082
Unmetered					
G001-FIXD	$/fitting/day	Non-street lighting daily	0.0229	0.0132	0.0361
G001-24UC	$/kWh	Non-street lighting uncontrolled	0.0742	0.0429	0.1171
G002-FIXD	$/fitting/day	Street lighting daily[6]	0.1224	0.0709	0.1933
G002-24UC	$/kWh	Street lighting uncontrolled	0.0000	0.0000	0.0000
Distributed generation					
DGEN	$/kWh	Small scale distributed generation[7]	0.0000	0.0000	0.0000

Pricing notes for 01/04/2020 to 31/03/2021

1. The EVB plan is available to consumers with electric vehicles of 12kWh capacity and above and consumers with household battery storage systems of 4kWh capacity and above.
2. The EVB and residential ToU plan peak hours are: Monday to Friday (including public holidays) 7:00am – 11:00am, 5:00pm – 9:00pm.
3. The EVB and residential ToU plan off-peak hours are: Monday to Friday (including public holidays) 9:00pm – 7:00am, 11:00am – 5:00pm and all weekend.
4. Charge is applicable to demand measured from 7:30am – 9:30am, 5:30pm – 7:30pm on weekdays (including public holidays).
5. Charge is applicable for power factor <0.95 from 7:00am - 8:00pm on weekdays where the kVAr charge amount represents twice the largest difference between the recorded kVArh and one third of the recorded kWh in any one half-hour period.
6. Streetlight charges are provided to retailers who in turn bill the councils and other parties for providing streetlight services.
7. WE* has a number of codes for small scale distributed generation volumes, being RLU-DGEN, RSU-DGEN, RLUEVB-DGEN, RSUEVBDGEN, GLV15-DGEN, GLV69-DGEN, GLV138-DGEN, GLV300-DGEN, GLV1500-DGEN, GTX15-DGEN, GTX69-DGEN, GTX138-DGEN, GTX300, DGEN, GTX1500-DGEN and GTX1501-DGEN.

9 Appendix D: Detailed revenue calculation

			1 April 2020 to 31 March 2021			
Code	Units	Description	Quantity	Distribution price	Transmission & pass-through price	Revenue
Residential						
RLU-FIXD	$/con/day	Residential Low user daily	30,555,820	0.0900	0.0600	4,583,373
RLU-24UC	$/kWh	Residential Low user uncontrolled	244,126,218	0.0613	0.0353	23,582,593
RLU-AICO	$/kWh	Residential Low user all inclusive	201,583,898	0.0492	0.0283	15,622,752
RLU-CTRL	$/kWh	Residential Low user controlled	16,967,045	0.0296	0.0171	792,361
RLU-NITE	$/kWh	Residential Low user night boost	2,147,674	0.0100	0.0058	33,933
RSU-FIXD	$/con/day	Residential Standard user daily	19,299,487	0.5545	0.3848	18,128,009
RSU-24UC	$/kWh	Residential Standard user uncontrolled	271,285,098	0.0384	0.0222	16,439,877
RSU-AICO	$/kWh	Residential Standard user all inclusive	251,380,971	0.0265	0.0152	10,482,587
RSU-CTRL	$/kWh	Residential Standard user controlled	22,508,727	0.0118	0.0067	416,411
RSU-NITE	$/kWh	Residential Standard user night boost	3,771,227	0.0092	0.0052	54,306
					SUBTOTAL	**90,136,201**
Residential electric vehicle and battery storage						
RLUEVB-FIXD	$/con/day	Residential EV & battery storage low user daily	54,536	0.0900	0.0600	8,180
RLUEVB-PEAK	$/kWh	Residential EV & battery storage low user peak	258,183	0.0846	0.0656	38,779
RLUEVB-OFFPEAK	$/kWh	Residential EV & battery storage low user off-peak	743,935	0.0376	0.0292	49,695
RLUEVB-CTRL	$/kWh	Residential EV & battery storage low user controlled	7,046	0.0296	0.0171	329
RSUEVB-FIXD	$/con/day	Residential EV & battery storage standard user daily	42,733	0.6600	0.4400	47,006
RSUEVB-PEAK	$/kWh	Residential EV & battery storage standard user peak	423,459	0.0608	0.0471	45,691
RSUEVB-OFFPEAK	$/kWh	Residential EV & battery storage standard user off-peak	994,851	0.0138	0.0106	24,274
RSUEVB-CTRL	$/kWh	Residential EV & battery storage standard user controlled	37,875	0.0118	0.0067	701
					SUBTOTAL	**214,656**
Residential Time of Use						
RLUTOU-FIXD	$/con/day	Residential Time of Use low user daily	3,147,980	0.0900	0.0600	472,197
RLUTOU-P-UC	$/kWh	Residential Time of Use low user peak	5,998,872	0.0711	0.0574	770,855
RLUTOU-OP-UC	$/kWh	Residential Time of Use low user off-peak	13,424,137	0.0569	0.0255	1,106,149
RLUTOU-P-AI	$/kWh	Residential Time of Use low user all inclusive peak	4,703,215	0.0641	0.0480	527,230
RLUTOU-OP-AI	$/kWh	Residential Time of Use low user all inclusive off-peak	10,000,915	0.0425	0.0194	619,057
RLUTOU-CTRL	$/kWh	Residential Time of Use low user controlled	1,422,502	0.0296	0.0171	66,431
RLUTOU-NITE	$/kWh	Residential Time of Use low user night boost	202,070	0.0100	0.0058	3,193
RSUTOU-FIXD	$/con/day	Residential Time of Use standard user daily	2,755,656	0.5545	0.3848	2,588,388
RSUTOU-P-UC	$/kWh	Residential Time of Use standard user peak	7,899,735	0.0511	0.0412	729,145
RSUTOU-OP-UC	$/kWh	Residential Time of Use standard user off-peak	17,699,225	0.0329	0.0140	830,094
RSUTOU-P-AI	$/kWh	Residential Time of Use standard user all inclusive peak	7,922,662	0.0420	0.0315	582,316
RSUTOU-OP-AI	$/kWh	Residential Time of Use standard user all inclusive off-peak	16,468,350	0.0195	0.0078	449,586
RSUTOU-CTRL	$/kWh	Residential Time of Use standard user controlled	2,373,872	0.0118	0.0067	43,917
RSUTOU-NITE	$/kWh	Residential Time of Use standard user night boost	236,923	0.0092	0.0052	3,412
					SUBTOTAL	**8,791,968**
General low voltage connection						
GLV15-FIXD	$/con/day	General low voltage <=15kVA daily	1,918,838	0.3317	0.1916	1,004,128
GLV15-24UC	$/kWh	General low voltage <=15kVA uncontrolled	40,654,933	0.0300	0.0173	1,922,978
GLV69-FIXD	$/con/day	General low voltage >15kVA and <=69kVA daily	3,600,703	0.8205	0.4739	4,660,751
GLV69-24UC	$/kWh	General low voltage >15kVA and <=69kVA uncontrolled	273,812,868	0.0208	0.0120	8,981,062
GLV138-FIXD	$/con/day	General low voltage >69kVA and <=138kVA daily	152,805	4.6495	2.6856	1,120,840
GLV138-24UC	$/kWh	General low voltage >69kVA and <=138kVA uncontrolled	49,244,374	0.0246	0.0143	1,915,606
GLV300-FIXD	$/con/day	General low voltage >138kVA and <=300kVA daily	131,684	6.6231	3.8257	1,375,942
GLV300-24UC	$/kWh	General low voltage >138kVA and <=300kVA uncontrolled	97,821,772	0.0102	0.0059	1,574,931
GLV1500-FIXD	$/con/day	General low voltage >300kVA and <=1500kVA daily	75,641	16.7009	9.6468	1,992,978
GLV1500-24UC	$/kWh	General low voltage >300kVA and <=1500kVA uncontrolled	127,012,529	0.0045	0.0026	901,789
GLV1500-DAMD	$/kVA/month	General low voltage >300kVA and <=1500kVA demand	376,379	4.0509	2.3399	2,405,364
					SUBTOTAL	**27,856,369**
General transformer connection						
GTX15-FIXD	$/con/day	General transformer <=15kVA daily	699	0.3011	0.1740	332
GTX15-24UC	$/kWh	General transformer <=15kVA uncontrolled	44,696	0.0279	0.0162	1,971
GTX69-FIXD	$/con/day	General transformer >15kVA and <=69kVA daily	7,285	0.7447	0.4300	8,557
GTX69-24UC	$/kWh	General transformer >15kVA and <=69kVA uncontrolled	488,083	0.0196	0.0113	15,082
GTX138-FIXD	$/con/day	General transformer >69kVA and <=138kVA daily	6,443	4.2189	2.4369	42,882
GTX138-24UC	$/kWh	General transformer >69kVA and <=138kVA uncontrolled	1,914,575	0.0230	0.0133	69,499
GTX300-FIXD	$/con/day	General transformer >138kVA and <=300kVA daily	40,030	6.0098	3.4714	379,529
GTX300-24UC	$/kWh	General transformer >138kVA and <=300kVA uncontrolled	46,144,782	0.0095	0.0055	692,172
GTX1500-FIXD	$/con/day	General transformer >300kVA and <=1500kVA daily	96,821	12.9670	7.4900	1,980,669
GTX1500-24UC	$/kWh	General transformer >300kVA and <=1500kVA uncontrolled	332,026,481	0.0037	0.0021	1,925,754
GTX1500-CAPY	$/kVA/day	General transformer >300kVA and <=1500kVA capacity	74,178,686	0.0088	0.0052	1,038,502
GTX1500-DAMD	$/kVA/month	General transformer >300kVA and <=1500kVA demand	944,392	3.4050	1.9668	5,073,082
GTX1501-FIXD	$/con/day	General transformer >1500kVA connection daily	13,224	0.0288	0.0167	602
GTX1501-24UC	$/kWh	General transformer >1500kVA connection uncontrolled	149,757,963	0.0008	0.0005	194,685
GTX1501-CAPY	$/kVA/day	General transformer >1500kVA connection capacity	29,075,538	0.0156	0.0091	718,166
GTX1501-DOPC	$/kW/month	General transformer >1500kVA connection on-peak demand	319,524	6.4154	3.7057	3,233,939
GTX1501-PWRF	$/kVAr/month	General transformer >1500kVA connection power factor	23,523	4.6324	2.6758	171,914
					SUBTOTAL	**15,547,336**
Unmetered						
G001-FIXD	$/fitting/day	Non-street lighting daily	531,389	0.0229	0.0132	19,183
G001-24UC	$/kWh	Non-street lighting uncontrolled	2,289,465	0.0742	0.0429	268,096
G002-FIXD	$/fitting/day	Street lighting daily	16,655,049	0.1224	0.0709	3,219,421
G002-24UC	$/kWh	Street lighting uncontrolled	13,537,575	0.0000	0.0000	0
					SUBTOTAL	**3,506,700**
Non-standard charges						
Special	Unit	Non-standard charges & prior year wash-ups				2,123,907
					TOTAL	148,177,138

10 Appendix E: Quality incentive calculation

As per Schedule 4 (1) of the 2018 CPP determination, the quality incentive for this Compliance Statement is based on the quality performance from the regulatory year finishing 31 March 2019 – a two year lag after the assessment period.

10.1 Calculating SAIDI incentive (S_{SAIDI})

WELL has calculated the SAIDI quality incentive adjustment using the methodology provided in Schedule 4 (6) of the 2018 CPP Determination for the third assessment period**.**

SAIDI incentive (S_{SAIDI}) calculation	Definition	Amount $000[11]	Reference to supporting calculation/information
$SAIDI_{IR}$	For the third assessment period, the SAIDI incentive rate for the 31 March 2019 regulatory year.	$101	Supporting calculation provided in section 10.3.
multiplied by ($SAIDI_{target}$ – $SAIDI_{assess}$)	$SAIDI_{assess}$ (30.4217) is less than the $SAIDI_{cap}$ (40.6302) and greater than the $SAIDI_{collar}$ (30.2414). Therefore, $SAIDI_{assess}$ equals the SAIDI assessed value. (35.4358 – 30.4217)	5.0141	As specified in Schedule 4 (6) of the 2018 CPP Determination. Reliability components in section 10.5.
S_{SAIDI}		**$508**	

10.2 Calculating SAIFI incentive (S_{SAIFI})

WELL has calculated the SAIFI quality incentive adjustment using the methodology provided in Schedule 4 (8) of the 2018 CPP Determination for the third assessment period**.**

SAIFI incentive (S_{SAIFI}) calculation	Definition	Amount $000[12]	Reference to supporting calculation/information
$SAIFI_{IR}$	For the third assessment period, the SAIFI incentive rate for the 31 March 2019 regulatory year.	$6,718	Supporting calculation provided in section 10.4.
multiplied by ($SAIFI_{target}$ – $SAIFI_{assess}$)	$SAIFI_{assess}$ (0.4557) is less than the $SAIFI_{collar}$ (0.4682). Therefore, $SAIFI_{assess}$ equals the $SAIFI_{collar}$. (0.5465 – 0.4682)	0.0783	As specified in Schedule 4 (8) of the 2018 CPP Determination. Reliability components in section 10.5.
S_{SAIFI}		**$526**	

[11] Does not apply to the $SAIDI_{target}$ - $SAIDI_{assess}$ component of this calculation, which is a whole number.
[12] Does not apply to the $SAIFI_{target}$ - $SAIFI_{assess}$ component of this calculation, which is a whole number.

10.3 Calculating $SAIDI_{IR}$

$SAIDI_{IR}$ is calculated as per Schedule 4 (7) of the 2018 CPP Determination.

SAIDI incentive rate ($SAIDI_{IR}$) calculation	Definition	Amount $000[13]	Reference to supporting calculation/information
0.5 x REV_{RISK}	Where REV_{RISK} is 1% of the actual net allowable revenue for the first assessment period specified in Schedule 1.1 of the 2018 CPP Determination. 0.5 x 1% x $105,206,000	$526	As specified in Schedule 1.1 of the 2018 CPP Determination.
divided by ($SAIDI_{cap}$ – $SAIDI_{target}$)	(40.6302 – 35.4358)	5.1944	Section 10.5.
$SAIDI_{IR}$		**$101**	

10.4 Calculating $SAIFI_{IR}$

$SAIFI_{IR}$ is calculated as per Schedule 4 (9) of the 2018 CPP Determination.

SAIFI incentive rate ($SAIFI_{IR}$) calculation	Definition	Amount $000[14]	Reference to supporting calculation/information
0.5 x REV_{RISK}	Where REV_{RISK} is 1% of the actual net allowable revenue for the first assessment period specified in Schedule 1.1 of the 2018 CPP Determination. 0.5 x 1% x $105,206,000	$526	As specified in Schedule 1.1 of the 2018 CPP Determination.
divided by ($SAIFI_{cap}$ – $SAIFI_{target}$)	(0.6248 - 0.5465)	0.0783	Section 10.5.
$SAIFI_{IR}$		**$6,718**	

[13] Does not apply to the $SAIDI_{cap}$ - $SAIDI_{target}$ component of this calculation, which is a whole number.
[14] Does not apply to the $SAIFI_{cap}$ - $SAIFI_{target}$ component of this calculation, which is a whole number.

10.5 Reliability components for year ended 31 March 2019

Reliability component	Component value	Reference to supporting calculation/information
SAIDI		
Assessed value	30.4217	From section 4.3.
Cap	40.6302	From WELL's Compliance Statement for period ended 31 March 2019.
Collar	30.2414	From WELL's Compliance Statement for period ended 31 March 2019.
Target	35.4358	From WELL's Compliance Statement for period ended 31 March 2019.
Assessment period	ended 31/03/2019	As specified in Schedule 4 (1) of the 2018 CPP Determination.
SAIFI		
Assessed value	0.4557	From section 4.3.
Cap	0.6248	From WELL's Compliance Statement for period ended 31 March 2019.
Collar	0.4682	From WELL's Compliance Statement for period ended 31 March 2019.
Target	0.5465	From WELL's Compliance Statement for period ended 31 March 2019.
Assessment period	ended 31/03/2019	As specified in Schedule 4 (1) of the 2018 CPP Determination.

11 Appendix F: Opex incentive amount calculation

11.1 Opex incentive amount

WELL has calculated the opex incentive amount using the methodology provided in clause 3.3.2 of the IMs. The opex incentive amount is made up of amounts carried forward into that disclosure year from a disclosure year in a preceding regulatory period and, where applicable, an adjustment to the opex incentive for that disclosure year.

Opex incentive amount calculation	Definition	Amount $000	Reference to supporting calculation/information
Amount carried forward	All amounts carried forward into that disclosure year from a disclosure year in a preceding regulatory period.	$1,875	Supporting calculation provided in section 11.2.
plus an adjustment to the opex incentive, where applicable	Calculated in accordance with the formula specified in the IM variation provided in paragraph 12 of Schedule 11 of the CPP Determination.	($4,560)	Supporting calculation provided in section 11.3.
Opex incentive amount		**($2,685)**	

11.2 Amount carried forward

The amount carried forward is calculated as per clause 3.3.3 of the IMs.

Amount carried forward calculation	Definition	Amount $000	Reference to supporting calculation/information
Amount carried forward for the year ended 31 March 2016	For the first disclosure year of a regulatory period, the 'amount carried forward' is calculated as: forecast $opex_t$ - actual $opex_t$ Where, t means the disclosure year in question (30,899 - 29,622)	$1,277	Calculation method provided in clause 3.3.3 (2) of the IMs. Forecast and actual opex provided in section 11.4.
Amount carried forward for the year ended 31 March 2017	For a disclosure year which is not the first or last disclosure year of a regulatory period, 'amount carried forward' is calculated as: (forecast $opex_t$ - actual $opex_t$) - (forecast $opex_{t-1}$ - actual $opex_{t-1}$) Where: t means the disclosure year in question, and t-1 means the disclosure preceding the disclosure year in question (31,950 - 30,075) - (30,899 - 29,622)	$598	Calculation method provided in clause 3.3.3 (3) of the IMs. Forecast and actual opex provided in section 11.4.
Amount carried forward for the year ended 31 March 2018	The 'amount carried forward' for the last disclosure year of a regulatory period is nil.	$0	Calculation method provided in clause 3.3.3 (4) of the IMs.
Amount carried forward for the year ended 31 March 2019	This year is within the current regulatory period (CPP period), therefore no amount is carried forward for the CPP regulatory period, and instead this will be carried forward to the next regulatory period (DPP3).	$0	As described in clause 3.3.2 (2) (a) of the IMs.
Amount carried forward for the year ended 31 March 2020	This year is within the current regulatory period (CPP period), therefore no amount is carried forward for the CPP regulatory period, and instead this will be carried forward to the next regulatory period (DPP3).	$0	As described in clause 3.3.2 (2) (a) of the IMs.
Amount carried forward		**$1,875**	

11.3 Adjustment to the opex incentive

As per clause 3.3.4 of the IMs, the adjustment to the opex incentive is calculated in the disclosure year immediately following a starting price year (unless the disclosure year in question is also a starting price year) and is recovered over the remaining years of the regulatory period. This has been calculated based on the methodology in paragraph 12 of Schedule 11 of the CPP Determination.

Adjustment to the opex incentive calculation	Definition	Amount $000[15]	Reference to supporting calculation/information
Adjustment to the opex incentive	An adjustment to the opex incentive must be calculated in the disclosure year immediately following a starting price year unless the disclosure year in question is also a starting price year.	($8,487)	As calculated in section 11.5 of the 2020 Wellington Electricity Annual Compliance Statement.
divided by l-1	Where: l is the number of disclosure years in the regulatory period = 3 - 1	2	Calculation method as specified in IM variation provided in paragraph 12 of Schedule 11 of the CPP Determination.
multiplied by $(1 + r)^{y+0.5}$	Where: r is the cost of debt applying to the DPP or CPP in question y is the number of disclosure years preceding the disclosure year in question in the regulatory period $= (1 + 0.0292)^{2+0.5}$	1.0746	Calculation method as specified in paragraph 12 of Schedule 11 of the CPP Determination. The cost of debt used in this calculation is 2.92% as per the Cost of Capital Determination 2019.
Total adjustment to the opex incentive		**($4,560)**	

11.4 Forecast and actual opex

	31 March 2016 $000	31 March 2017 $000	Reference to supporting calculation/information
DDP2 allowance (forecast opex)	$30,899	$31,950	As per 2015 DPP Determination.
Actual opex	$29,622	$30,075	As per Wellington Electricity's Information Disclosures.

[15] Only applies to the "Adjustment to the opex incentive" and the total "Adjustment to the opex incentive". The other numbers in this table are whole numbers.

12 Appendix G: SAIDI and SAIFI assessed value calculation

WELL has calculated the SAIDI and SAIFI assessed values using the methodology provided in Schedule 3 of the 2018 CPP Determination for the third assessment period. In this section, WELL has also provided information necessary to demonstrate whether WELL has complied with clause 9.

12.1 Calculating the SAIDI assessed value

WELL has calculated the SAIDI assessed value using the methodology provided in Schedule 3 (2) of the 2018 CPP Determination. Specifically, the SAIDI assessed value is calculated as:

$SAIDI_{assess}$ calculation	Definition	Amount	Reference to supporting calculation/information
Unplanned minutes lost (Class C)	Total unplanned minutes lost	4,835,726	Method of data collection and validation described in section 4.1.
Planned minutes lost (Class B)	Total planned minutes lost	1,434,281	Method of data collection and validation described in section 4.1.
Average number of customers	From the Gentrack billing system. A report is run monthly, and an average is calculated for the regulatory year.	170,188	Provided by Appendix H.
Unplanned SAIDI (Class C)	(Total unplanned customer minutes lost/average number of customers)	28.4140	As specified in Schedule 3 (2) of the 2018 CPP Determination.
Planned SAIDI (Class B)	(Total planned customer minutes lost/average number of customers) x 0.5	4.2138	As specified in Schedule 3 (2) of the 2018 CPP Determination.
Total SAIDI (un-normalised)	**Unplanned SAIDI (Class C) + planned SAIDI (Class B)**	**32.6278**	
less normalization	Major event day adjustment - where any daily SAIDI value for Class C interruptions greater than the SAIDI unplanned boundary value equals the SAIDI unplanned boundary value.	0	There were no major event days in the 2020/21 year.
$SAIDI_{assess}$		**32.6278**	

12.2 Calculating the SAIFI assessed value

WELL has calculated the SAIFI assessed value using the methodology provided in schedule 3 (3) of 2018 CPP Determination. Specifically, the SAIFI assessed value is calculated as:

$SAIFI_{assess}$ Calculation	Definition	Amount	Reference to supporting calculation/information
Unplanned outages (Class C)	Total number of unplanned customers outages (Class C)	63,525	Method of data collection and validation described in section 4.1.
Planned outages (Class B)	Total number of planned customers outage (Class B)	9,601	Method of data collection and validation described in section 4.1.
Average number of customers	From the Gentrack billing system. A report is run monthly, and an average is calculated for the regulatory year.	170,188	Provided by Appendix H.
Unplanned SAIFI (Class C)	(Total number of unplanned customers outages/average number of customers)	0.3733	As specified in Schedule 3 (3) of the 2018 CPP Determination.
Planned SAIFI (Class B)	(Total number of planned customers outages/average number of customers) x 0.5	0.0282	As specified in Schedule 3 (3) of the 2018 CPP Determination.
Total SAIFI (un-normalised)	**Unplanned + planned SAIFI**	**0.4015**	
less normalization	Major event day adjustment - where any daily SAIFI value for Class C interruptions greater than the SAIFI unplanned boundary value equals the SAIFI unplanned boundary value.	0	There were no major event days in the 2020/21 year.
$SAIFI_{assess}$		**0.4015**	

13 Appendix H: Average customer number calculation

The monthly number of customers is provided by the Gentrack billing system.

Month	ICP numbers
Apr-20	168,987
May-20	169,094
Jun-20	169,094
Jul-20	169,094
Aug-20	170,363
Sep-20	170,444
Oct-20	170,541
Nov-20	170,759
Dec-20	170,985
Jan-21	170,848
Feb-21	170,991
Mar-21	171,059
Average	**170,188**

14 Appendix I: Responsiveness improvement resilience index assessed values

Where a measure has been met the resilience performance value is an 'attained resilience performance value'. For the third assessment period the cumulative 'attained resilience performance value' for responsiveness improvements is 65.4.

Mobile substations					
Resilience performance	**Measured by demonstrating**	**Resilience performance value**	**Attained resilience performance value**	**Audit date**	**Explanation of how WELL has met target**
Ability to get a key Hutt area substations downed in and earthquake up and running	Wellington Electricity has one mobile 10MVA substation +11KV portable switch board deployed in the Hutt region	9.17	9.17	31/03/2021	Components purchased and deployed in the Hutt region supported by the engineers commissioning report and supporting invoices.
Ability to get key CBD substations downed in and earthquake up and running	Wellington Electricity has one mobile 10MVA substation deployed in the Wellington Central Business District Area	6.55	6.55	31/03/2021	Components purchased and deployed in the Wellington Central Business District Area supported by the engineers commissioning report and supporting invoices.
Total		**15.72**	**15.72**		
Emergency hardware					
Resilience performance	**Measured by demonstrating**	**Resilience performance value**	**Attained resilience performance value**	**Audit date**	**Explanation of how WELL has met target**
Capability to replace 33kV fluid filled cables, damaged in and earthquake, with overhead lines.	Spare hardware required to construct at least **4km** emergency overhead power lines to replace 33kV fluid filled cable damage.	3.26	3.26	31/03/2020	Material purchased to construct 4km of overhead lines stored as per stock report and supporting invoices.
	Spare hardware required to construct at least **8km** emergency overhead power lines to replace 33kV fluid filled cable damage.	3.26	3.26	31/03/2020	Material purchased to construct 4-8km of overhead lines stored as per stock report and supporting invoices.
	Spare hardware required to construct at least **12km** emergency overhead power lines to replace 33kV fluid filled cable damage.	3.26	3.26	31/03/2020	Material purchased to construct 8-12km of overhead lines stored as per stock report and supporting invoices.
	Spare hardware required to construct at least **16km** emergency overhead power lines to replace 33kV fluid filled cable damage.	3.26	3.26	31/03/2020	Material purchased to construct 12-16km of overhead lines stored as per stock report and supporting invoices.
	Spare hardware required to construct at least **19km** emergency overhead power lines to replace 33kV fluid filled cable damage.	2.45	2.45	31/03/2020	Material purchased to construct 16-19km of overhead lines stored as per stock report and supporting invoices.
Capability to repair damaged 33KV XLPE cable damaged in an earthquake	Wellington Electricity holds stock of 12 cable joining kits and 500m 33KV cable lengths.	0.27	0.27	31/03/2019	33kV joint kits and cable purchased and stored. Supporting invoices describe equipment purchased and provide evidence of receipt.
Total		**15.76**	**15.76**		

Ability to respond to 11kV cable and equipment faults

Resilience performance	Measured by demonstrating	Resilience performance value	Attained resilience performance value	Audit date	Explanation of how WELL has met target
Capability to respond to 11KV cable and equipment faults	WELL holds 12 11kV transformers and 30 units of 11kV switchgear available for deployment in the case of an earthquake.	3.22	3.22	31/03/2020	Transformer and switchgear purchased as per stock report and supporting invoices.
	WELL holds three sets of cable fault location equipment available for deployment in the case of an earthquake.	2.01	2.01	31/03/2019	Three cable fault location test sets have been purchased received and stored. The Avo NZ invoice 24/7/18 describes the equipment purchased and provides evidence of receipt.
	WELL holds 200 11kV cable joint repair kits available for deployment in the case of an earthquake.	1.95	1.95	31/03/2019	1018 Joint kits purchased and stored. The Northpower invoice 12/12/18 describes the equipment purchased and provides evidence of receipt.
	WELL holds 400 11kV cable joint repair kits available for deployment in the case of an earthquake.	1.95	1.95	31/03/2019	
	WELL holds 600 11kV cable joint repair kits available for deployment in the case of an earthquake	1.95	1.95	31/03/2019	
	WELL holds 800 11kV cable joint repair kits available for deployment in the case of an earthquake.	1.95	1.95	31/03/2019	
	WELL holds 1018 11kV cable joint repair kits available for deployment in the case of an earthquake.	2.13	2.13	31/03/2019	
	WELL holds 4,090m of spare 11kV cable available for deployment in the case of an earthquake.	0.94	0.94	31/03/2019	11kV cable purchased and stored. Supporting invoices describe equipment purchased and provide evidence of receipt.
	WELL holds a generation connection transformer available for deployment in the case of an earthquake.	0.34	0.34	31/03/2021	Generation connection transformer purchased as per stock report and supporting invoices.
Total		**16.44**	**16.44**		

Communication systems

Resilience performance	Measured by demonstrating	Resilience performance value	Attained resilience performance value	Audit date	Explanation of how WELL has met target
Ability to maintain communications and run network systems following a major earthquake	WELL has established a containerised data centre at Haywards with back up generation of 500kVA.	2.93	2.93	31/03/2021	Datacentre designed and installed at Haywards with backup generation. User Acceptance Tests completed.
	WELL has established a containerised data centre in Newtown with back up generation of 500kVA.	5.01	5.01	31/03/2021	Datacentre designed and installed at Newtown with backup generation. User Acceptance Tests completed.
	WELL has established a containerised data centre Porirua with back up generation of 500kVA.	5.01	5.01	31/03/2021	Datacentre designed and installed at Plimmerton, Porirua with backup generation. User Acceptance Tests completed.
	WELL has a communications connection between the primary control centre at Petone head office and disaster recovery control centre at Haywards, as well as between the other two data centres.	2.85	2.85	31/03/2020	New Phone system installed. Connection agreement for HAY PET link. Connection of station phone system to new phone system creating comms links to the other two data centre sites.
	WELL has a system in place that will allow field service providers access to the Push-Wireless Digital Network in the case of a major earthquake.	1.68	1.68	31/03/2021	New radio system installed in critical zone substations and both field service providers and WELL vehicles which connects to the station phone system.
Total		**17.48**	**17.48**		
Total		**65.4**	**65.4**		

15 Appendix J: Building seismic strengthening resilience index assessed values

The 'attained resilience performance value' ($RPV_{attained}$) for each of the buildings specified in Schedule 10 is determined in accordance with the following formula:

$$RPV_{attained} = (NBS_{assess} - NBS_{start}) \times \left(\frac{RPV_{max}}{NBS_{target} - NBS_{start}}\right)$$

For the third assessment period the cumulative 'attained resilience performance value' for building seismic strengthening is 34.6.

Seismic strengthening of substation buildings						
Substation building	**NBS_{start}**	**NBS_{target}**	**NBS_{assess}**	**Maximum resilience performance value (RPV_{max})**	**Attained resilience performance value ($RPV_{attained}$)**	**Audit date**
Palm Grove Zone substation building strengthened to at least 67% of NBS	67%	67%	N/A	0.00	0.00	N/A
The Terrace Zone substation building strengthened to at least 67% of NBS	70%	67%	N/A	0.00	0.00	N/A
Plimmerton Zone substation building strengthened to at least 67% of NBS	75%	67%	N/A	0.00	0.00	N/A
209 Hutt Road Zone substation building strengthened to at least 67% of NBS	40%	67%	67%	0.20	0.20	31/03/2019
Colway Street Zone substation building strengthened to at least 67% of NBS	40%	67%	67%	0.17	0.17	31/03/2019
69 Miramar Avenue Zone substation building strengthened to at least 67% of NBS	49%	67%	67%	0.47	0.47	31/03/2019
Messines Road (TS718) 6 Zone substation building strengthened to at least 67% of NBS	41%	67%	67%	0.40	0.40	31/03/2019
Upland Road 59 Zone substation building strengthened to at least 67% of NBS	45%	67%	100%	0.33	0.33	31/03/2019
Marsden Street Zone substation building strengthened to at least 67% of NBS	30%	67%	67%	0.17	0.17	31/03/2019
Park Street B Zone substation building strengthened to at least 67% of NBS	55%	67%	100%	0.13	0.13	31/03/2019
3 Wall Place Zone substation building strengthened to at least 67% of NBS	20%	67%	100%	0.27	0.27	31/03/2019
66 Mabey Road Zone substation building strengthened to at least 67% of NBS	30%	67%	67%	0.27	0.27	31/03/2019
St Andrews Road Zone substation building strengthened to at least 67% of NBS	50%	67%	67%	0.47	0.47	31/03/2019
Frederick Street Zone substation building strengthened to at least 67% of NBS	16%	67%	67%	0.73	0.73	31/03/2020
Wallace Street Zone substation building strengthened to at least 67% of NBS	56%	67%	67%	0.67	0.67	31/03/2020
215 The Terrace Zone substation building strengthened to at least 67% of NBS	40%	67%	67%	0.33	0.33	31/03/2021
Ira Street 8 Zone substation building strengthened to at least 67% of NBS	34%	67%	100%	0.86	0.86	31/03/2019
Kenepuru Zone substation building strengthened to at least 67% of NBS	20%	67%	100%	0.80	0.80	31/03/2019
Flagstaff hill (Flagstaff Line Street) Zone substation building strengthened to at least 67% of NBS	45%	67%	67%	0.80	0.80	31/03/2020
Waikowhai Zone substation building strengthened to at least 67% of NBS	40%	67%	67%	0.71	0.71	31/03/2020
Chaytor Street Zone substation building strengthened to at least 67% of NBS	48%	67%	67%	0.40	0.40	31/03/2020
Karori Zone substation building strengthened to at least 67% of NBS	40%	67%	67%	0.53	0.53	31/03/2020
University Zone substation building strengthened to at least 67% of NBS	30%	67%	67%	0.60	0.60	31/03/2020
Customhouse Quay 40 Zone substation building strengthened to at least 67% of NBS	55%	67%	67%	0.60	0.60	31/03/2020
36 Dixon Street Zone substation building strengthened to at least 67% of NBS	38%	67%	75%	0.37	0.37	31/03/2020
Moore Street Zone substation building strengthened to at least 67% of NBS	40%	67%	67%	0.66	0.66	31/03/2021

Seismic strengthening of substation buildings

Substation building	NBS_{start}	NBS_{target}	NBS_{assess}	Maximum resilience performance value (RPV_{max})	Attained resilience performance value ($RPV_{attained}$)	Audit date
22 Donald Street Zone substation building strengthened to at least 67% of NBS	58%	67%	100%	0.23	0.23	31/03/2019
Hataitai Zone substation building strengthened to at least 67% of NBS	60%	67%	67%	0.28	0.28	31/03/2020
174 Victoria Street (TS847 & TS743) Zone substation building strengthened to at least 67% of NBS	50%	67%	67%	0.50	0.50	31/03/2021
Nairn Street Zone substation building strengthened to at least 67% of NBS	43%	67%	67%	0.53	0.53	31/03/2019
41 Bloomfield Terrace Zone substation building strengthened to at least 67% of NBS	56%	67%	100%	0.23	0.23	31/03/2020
Bowen Hospital Zone substation building strengthened to at least 67% of NBS	45%	67%	67%	0.28	0.28	31/03/2021
Ngauranga Zone substation building strengthened to at least 67% of NBS	<10%	67%	67%	0.66	0.66	31/03/2020
Waterloo Zone substation building strengthened to at least 67% of NBS	45%	67%	67%	0.63	0.63	31/03/2020
92 Washington Avenue Zone substation building strengthened to at least 67% of NBS	40%	67%	100%	0.20	0.20	31/03/2019
Wha Street (TS703) Zone substation building strengthened to at least 67% of NBS	58%	67%	67%	0.27	0.27	31/03/2020
2 Awa Road Zone substation building strengthened to at least 67% of NBS	40%	67%	67%	0.20	0.20	31/03/2021
Trentham Zone substation building strengthened to at least 67% of NBS	45%	67%	67%	0.53	0.53	31/03/2020
Wainuiomata Zone substation building strengthened to at least 67% of NBS	39%	67%	67%	0.66	0.66	31/03/2021
Porirua Zone substation building strengthened to at least 67% of NBS	60%	67%	67%	0.40	0.40	31/03/2020
Gracefield Zone substation building strengthened to at least 67% of NBS	47%	67%	67%	1.00	1.00	31/03/2021
Queen Street Zone substation building strengthened to at least 67% of NBS	55%	67%	100%	0.20	0.20	31/03/2019
139 Thorndon Quay Zone substation building strengthened to at least 67% of NBS	48%	67%	100%	0.47	0.47	31/03/2020
Wayside West Zone substation building strengthened to at least 67% of NBS	49%	67%	67%	0.20	0.20	31/03/2019
Seaview Zone substation building strengthened to at least 67% of NBS	34%	67%	67%	0.53	0.53	31/03/2020
Korokoro Zone substation building strengthened to at least 67% of NBS	45%	67%	67%	0.52	0.52	31/03/2021
Brown Owl Zone substation building strengthened to at least 67% of NBS	40%	67%	67%	0.57	0.57	31/03/2020
Maidstone Zone substation building strengthened to at least 67% of NBS	45%	67%	67%	0.53	0.53	31/03/2021
Johnsonville Zone substation building strengthened to at least 67% of NBS	55%	67%	67%	0.53	0.53	31/03/2021
Tawa Zone substation building strengthened to at least 67% of NBS	42%	67%	67%	0.50	0.50	31/03/2021
Waitangirua Zone substation building strengthened to at least 67% of NBS	60%	67%	67%	0.40	0.40	31/03/2020
Downer Street Zone substation building strengthened to at least 67% of NBS	26%	67%	100%	0.17	0.17	31/03/2020
Titahi Bay Zone substation building strengthened to at least 67% of NBS	45%	67%	100%	0.53	0.53	31/03/2020
Johnsonville Town Centre Zone substation building strengthened to at least 67% of NBS	45%	67%	67%	0.20	0.20	31/03/2021
Mana Zone substation building strengthened to at least 67% of NBS	45%	67%	67%	0.33	0.33	31/03/2020
9 Semple Street Zone substation building strengthened to at least 67% of NBS	37%	67%	100%	0.20	0.20	31/03/2020
41 Barber Grove Zone substation building strengthened to at least 67% of NBS	45%	67%	100%	0.27	0.27	31/03/2019
254 Willis Street Zone substation building strengthened to at least 67% of NBS	30%	67%	67%	0.33	0.33	31/03/2021
Makara Radio Zone substation building strengthened to at least 67% of NBS	40%	67%	100%	0.33	0.33	31/03/2020
BP Terminal Zone substation building strengthened to at least 67% of NBS	45%	67%	67%	0.43	0.43	31/03/2021
VIC Zone substation building strengthened to at least 67% of NBS	45%	67%	100%	0.30	0.30	31/03/2020
Fergusson Drive A Zone substation building strengthened to at least 67% of NBS	12%	67%	67%	0.23	0.23	31/03/2019

Seismic strengthening of substation buildings						
Substation building	**NBS_{start}**	**NBS_{target}**	**NBS_{assess}**	**Maximum resilience performance value (RPV_{max})**	**Attained resilience performance value ($RPV_{attained}$)**	**Audit date**
Bathurst Street Zone substation building strengthened to at least 67% of NBS	28%	67%	100%	0.23	0.23	31/03/2019
26 Gower Street (TS801) Zone substation building strengthened to at least 67% of NBS	20%	67%	67%	0.30	0.30	31/03/2021
Fire Station Zone substation building strengthened to at least 67% of NBS	42%	67%	75%	0.50	0.50	31/03/2020
Bill Cutting Place Zone substation building strengthened to at least 67% of NBS	13%	67%	67%	0.30	0.30	31/03/2019
MacDonald Crescent Zone substation building strengthened to at least 67% of NBS	15%	67%	100%	0.53	0.53	31/03/2021
415 Adelaide Road Zone substation building strengthened to at least 67% of NBS	21%	67%	67%	0.30	0.30	31/03/2019
25 Mein Street Zone substation building strengthened to at least 67% of NBS	20%	67%	67%	0.27	0.27	31/03/2020
Petone Zone substation building strengthened to at least 67% of NBS	37%	67%	67%	0.53	0.53	31/03/2021
130 Rintoul Street Zone substation building strengthened to at least 67% of NBS	23%	67%	67%	0.30	0.30	31/03/2019
Whitemans Road Zone substation building strengthened to at least 67% of NBS	55%	67%	67%	0.27	0.27	31/03/2019
Housing Corporation Zone substation building strengthened to at least 67% of NBS	44%	67%	67%	0.40	0.40	31/03/2020
Kings Crescent Zone substation building strengthened to at least 67% of NBS	30%	67%	100%	0.27	0.27	31/03/2020
Hutt Park Road B Zone substation building strengthened to at least 67% of NBS	33%	67%	100%	0.28	0.28	31/03/2019
Haywards Load Control Zone substation building strengthened to at least 67% of NBS	40%	67%	67%	0.50	0.50	31/03/2020
Dulux Zone substation building strengthened to at least 67% of NBS	11%	67%	67%	0.27	0.27	31/03/2019
Knights Road Zone substation building strengthened to at least 67% of NBS	20%	67%	100%	0.30	0.30	31/03/2019
Hutt Rec A Zone substation building strengthened to at least 67% of NBS	18%	67%	67%	0.23	0.23	31/03/2019
Waterloo Road A substation building strengthened to at least 67% of NBS	23%	67%	100%	0.27	0.27	31/03/2019
Awatea Street A Zone substation building strengthened to at least 67% of NBS	20%	67%	100%	0.40	0.40	31/03/2019
Broken Hill Road A Zone substation building strengthened to at least 67% of NBS	24%	67%	67%	0.27	0.27	31/03/2019
37 Mersey Street Zone substation building strengthened to at least 67% of NBS	40%	67%	100%	0.17	0.17	31/03/2020
Eastern Hutt Road A Zone substation building strengthened to at least 67% of NBS	22%	67%	100%	0.27	0.27	31/03/2019
Keys Street Zone substation building strengthened to at least 67% of NBS	25%	67%	100%	0.30	0.30	31/03/2019
Main Road 24 Zone substation building strengthened to at least 67% of NBS	45%	67%	67%	0.23	0.23	31/03/2020
32 Dragon Street Zone substation building strengthened to at least 67% of NBS	33%	67%	100%	0.43	0.43	31/03/2019
Whakatiki Street A Zone substation building strengthened to at least 67% of NBS	21%	67%	100%	0.30	0.30	31/03/2019
Lyttelton Avenue B Zone substation building strengthened to at least 67% of NBS	14%	67%	100%	0.33	0.33	31/03/2019
Whakatiki Street B Zone substation building strengthened to at least 67% of NBS	15%	67%	100%	0.27	0.27	31/03/2019
Islington Street Zone substation building strengthened to at least 67% of NBS	31%	67%	100%	0.27	0.27	31/03/2019
Total				**34.6**	**34.6**	