Wellington Electricity Annual Compliance Statement

\* wellington electricity\*

ELECTRICH

Year ended 31 March 2023



# **Table of contents**

1	Introduction	3
2	Compliance statements	5
3	Wash-up amount calculation and supporting information	7
4	Quality standard calculations and supporting information	. 15
5	Appendix A: Audit assurance report	.21
6	Appendix B: Director's certification	.24
7	Appendix C: Published prices for the third assessment period	. 25
8	Appendix D: Detailed revenue calculation	. 27
9	Appendix E: Quality incentive calculation 2021	.28
10	Appendix F: Quality incentive adjustment 2023	.32
11	Appendix G: Opex incentive amount calculation	.35
12	Appendix H: Capex incentive amount calculation	.40
13	Appendix I: Planned SAIDI and SAIFI assessed value calculation	.43
14	Appendix J: Unplanned SAIDI and SAIFI assessed value calculation	.45
15	Appendix K: Average customer number calculation	.50

## **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 <u>www.welectricity.co.nz/disclosures</u>

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@welectricty.co.nz

1000016



# 1 Introduction

Wellington Electricity Lines Limited (**WELL**) owns and operates the electricity distribution network in the Wellington region. We manage the poles, wires and equipment that provide electricity to approximately 400,000 consumers in the Wellington, Porirua, Lower Hutt and Upper Hutt areas. We will be investing \$162m between April 2021 to March 2025 (the current regulatory period) on the network to maintain a modern network and to build new capacity to meet Wellingtons growing electricity use.



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 distributors are exposed to incentives and pressures that are like those in a workably competitive market.

The price-quality path set by the Commission includes the allowances WELL has to operate the network, how much revenue WELL can collect from its customers and the quality levels that WELL must perform to. To demonstrate that WELL has 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 12month period ended 31 March 2023 were set at a level to collect the allowances determined by the price-quality path set by the Commission. The Annual Price-Setting Compliance Statement for the year ended 31 March 2023 was submitted to the Commission and provided on WELL's website in March 2023<sup>1</sup>.

This document is the Annual Compliance Statement (Compliance Statement). The Compliance Statement confirms that WELL has met its revenue and quality expectations determined by the pricequality path set by the Commission. The price-quality path compliance targets and the requirements of the Annual Compliance Statement are provided in *Electricity Distribution Services Default Price-Quality Path (Wellington Electricity transition) Amendments Determination 2020* (2020 DPP Determination or DPP).

This statement is WELL's Annual Compliance Statement for the third DPP assessment period ended 31 March 2023 (third assessment period).



<sup>&</sup>lt;sup>1</sup> <u>https://www.welectricity.co.nz/disclosures/price-quality-path-annual-compliance-statements/</u>



## 1.1 2020 DPP Determination requirements

This Compliance Statement is made in accordance with the requirements of clause 11.5 of the 2020 DPP Determination. The statement includes WELL's compliance with the requirement to calculate the wash-up amount in clause 8.6, 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 8.6, 9,10.1-10.18 and Schedule 4. The supporting information meets the minimal specifications detailed in clause 11.6 of the 2020 DPP 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 2020 DPP 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 2020 DPP 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 5 months after the end of the assessment period	To be emailed to the Commission
Clause 11.4 (b) make public available on its website at the same time it provides it 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 2020 DPP Determination, WELL confirms that it has complied with the requirement to calculate the wash-up amount in clause 8.6 for the third assessment period.

The wash-up amount, as provided by clause 8.6, has been calculated as:

Wash-up amount calculation	Amount		
	\$000		
Actual allowable revenue	\$160,557		
less actual revenue	\$158,407		
less revenue foregone	\$0		
Wash-up amount	\$2,149		

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

## 2.3 Quality standard statement

BARAAA

As per clause 11.5 (a)(ii) of the 2020 DPP 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 9.7 and 9.9 for the third assessment period.

Compliance with clause 9.1 will be assessed at the end of the fifth assessment period in line with the requirements of clause 9.2. WELL's accumulated assessed value at the end of the third assessment period is less than the adjusted planned accumulated limit provided below.

Quality standard	Quality standard Accumulated assessed Adjusted planned accumulated limit <sup>2</sup>		Variance
Planned SAIDI	17.03	55.76	(38.73)
Planned SAIFI	0.1324	0.4429	(0.3105)

For the third assessment period, the unplanned SAIDI and SAIFI assessed values did not exceed the limits specified in Schedule 3.2 of 2020 DPP Determination:

Quality standard	Assessed value	Limit	Variance
Unplanned SAIDI	34.92	39.81	(4.89)
Unplanned SAIFI	0.5024	0.6135	(0.1111)

For the assessment period, the WELL did not have an extreme event and therefore complied with the extreme event standard.

The detailed calculation and supporting information are provided in section 4, 'Quality standard calculations and supporting information'.

## 2.4 Statement preparation date

As per clause 11.5 (b) of the 2020 DPP Determination, WELL states that this Compliance Statement was prepared and approved on 26 July 2023.

## 2.5 Transaction statement

As per clause 11.5 (c) of the 2020 DPP Determination, WELL states that it has not entered into any agreement with another EDB or Transpower for an amalgamation, merger, major transaction or transfer for the third assessment period.

## 2.6 Assurance report

As per clause 11.5 (e) of the 2020 DPP 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).

<sup>&</sup>lt;sup>2</sup> The adjusted accumulated limits for WELL's four-year DPP regulatory period have been calculated in line with clause 9.6 of the 2020 DPP Determination.



## 2.7 Director's certification

As per clause 11.5 (d) of the 2020 DPP 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 2020 DPP Determination.

# **3** Wash-up amount calculation and supporting information

As per clause 11.5 (a)(i) of the 2020 DPP Determination, WELL has calculated the wash-up amount using the methodology provided in clause 8.6 (which refers to schedule 1.6) for the third assessment period. The calculations include the supporting information reasonably necessary to demonstrate whether WELL has complied with clause 8.6. 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 <i>plus</i> actual pass- through costs and recoverable costs <i>plus</i> revenue wash-up draw down amount	\$160,557	Supporting calculation provided in section 3.1
<i>less</i> actual revenue	Means the sum of actual revenue from prices plus other regulated income for the assessment period 1 April 2022 to 31 March 2023	\$158,407	Supporting calculation provided in section 3.2
<i>less</i> revenue foregone	Where the <i>revenue reduction percentage</i> is greater than 20%, the 'revenue foregone' must be calculated in accordance with the formula: <b>actual net allowable revenue</b> X (revenue reduction percentage – 20%); where the revenue reduction percentage is not greater than 20%, the 'revenue foregone' is nil. Revenue reduction percentage is -0.7% which is less than 20%. Therefore revenue foregone is nil. <b>Revenue reduction percentage</b> is 1 minus (actual revenue from prices ÷ forecast revenue from prices); $1 - (\$157,515 \div \$156,426)$ = -0.7%	\$0	Calculation method provided in clause 4.2 of the 2020 DPP Determination. Actual revenue from prices provided in section 3.2. Forecast revenue from prices is provided in section 2.1 of WELL's 2022-23 Annual Price Setting Compliance Statement <sup>3</sup> .
Wash-up amount		\$2,149	

<sup>&</sup>lt;sup>3</sup> This can be found at: <u>https://www.welectricity.co.nz/disclosures/price-quality-path-annual-compliance-statements/</u>



## 3.1 Actual allowable revenue calculation

Actual allowable revenue has been calculated using the methodology provided in schedule 1.6 (4).

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 1.6 (5).	\$97,576	Supporting calculation provided in section 3.3.
<i>plus</i> 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.	\$65,367	Supporting calculation provided in section 3.4.
<i>plus</i> 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.	(\$2,386)	Supporting calculation provided in section 3.5.
Actual allowable revenue		\$160,557	

## 3.2 Actual revenue calculation

WELL's actual revenue is equal to the actual revenue from prices plus other regulated income. 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: <a href="https://www.welectricity.co.nz/disclosures/pricing/">https://www.welectricity.co.nz/disclosures/pricing/</a>.

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

100616/6

Other regulated income comprises of income associated with the supply of electricity distribution services, including gains and losses on disposed assets, but excluding income through prices, investment-related income, capital contributions or vested assets.



## A summary of actual revenue is provided in the table below.

Actual revenue calculation	Amount
	\$000
Actual revenue from prices	
Residential (includes low user, standard user and EVB)	\$105,916
General Low Voltage	\$28,774
General Transformer	\$17,333
Unmetered	\$3,151
Non-standard consumers (individual contracts) & prior year wash-ups	\$2,339
Total actual revenue from prices	\$157,515
Other regulated income	
Total other regulated income - as defined in the Electricity Distribution Services Input	\$892
Methodologies Determination 2012 consolidated 20 May 2020 (IMs)	
Total actual revenue	\$158,407

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. The table below provides the calculation prescribed in schedule 1.6 (5).

Actual net allowable revenue calculation	Definition	Amount \$000⁴	Reference to supporting calculation/information
Actual net allowable revenue of the previous assessment period multiplied by (1 + derived change in the	For the third assessment period, the actual net allowable revenue for the previous assessment period. For the third assessment period, the derived change in the CPI is 0.0710. This is calculated in	\$91,109 \$1.0710	The actual net allowable revenue from Wellington Electricity's Annual Compliance Statement (Year-ending March 2022) for the Second Assessment period <sup>5</sup> , as per Schedule 1.6 (5) of the 2020 DPP Determination. Calculation method as specified in Schedule 1.6 (5)
CPI)	change in the CPI is 0.0710. This is calculated in accordance with the below formula: $\frac{\Delta CPI}{EPI} = \frac{CPI_{jun,t-1} + CPI_{sep,t-1} + CPI_{bec,t-1} + CPI_{Mar,t}}{CPI_{jun,t-2} + CPI_{sep,t-2} + CPI_{bec,t-2} + CPI_{Mar,t-1}} - 1$ where= $\frac{CPI_{a,t:d}}{t} = \frac{is \text{ the CPI for the quarter year ending q in the 12-month period n years prior to year t; and}{t}$ $\Delta CPI = \left( \frac{1161+1186+1203+1218}{1082+1106+1122+1142} \right) -1$ $= 0.0710$		of the 2020 DPP Determination. CPI quarterly information sourced from Statistics NZ 'All Groups Index SE9A' as specified in clause 1.1.4 (2) of the IMs.
<i>multiplied by</i> (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 2020 DPP Determination.
Actual net allowable revenue		\$97,576	

<sup>&</sup>lt;sup>4</sup> 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.

 $<sup>^{5}\</sup> https://www.welectricity.co.nz/disclosures/price-quality-path-annual-compliance-statements/document/290$ 



## 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 or, in the case of drawn down amounts from the innovation project allowance, approved by the Commission 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 IMs.

Description	IM reference <sup>6</sup>	Amount	Reference to supporting				
		\$000	calculation/information				
Pass-through costs							
Council rates	3.1.2 (2) (a)	\$3,155	As invoiced/incurred during the assessment year.				
Commerce Act levies	3.1.2 (2) (b) (i)	\$333	As invoiced/incurred during the assessment year.				
Industry levies	3.1.2 (2) (b) (ii)	\$391	As invoiced/incurred during the assessment year.				
Utilities Dispute Limited levies	3.1.2 (2) (b) (iii)	\$106	As invoiced/incurred during the assessment year.				
Pass-through costs		\$3,985					
Recoverable costs							
Electricity lines service charge payable to Transpower	3.1.3 (1) (b)	\$54,665	As invoiced/incurred during the assessment year.				
Transpower new investment contract charges	3.1.3 (1) (c)	\$882	As invoiced/incurred during the assessment year.				
Distributed generation allowance	3.1.3 (1) (f)	\$2,052	As invoiced/incurred during the assessment year.				
Fire and Emergency New Zealand levies	3.1.3 (1) (w)	\$53	As invoiced/incurred during the assessment year.				
Quality incentive adjustment	3.1.3 (1) (o)	\$880	Supporting calculation provided in section 3.4.1.				
Capex wash-up adjustment	3.1.3 (1) (p)	(\$246)	Supporting calculation provided in section 3.4.2.				
IRIS incentive adjustment	3.1.3 (1) (a) (i)	\$3,096	Supporting calculation provided in section 3.4.3.				
Recoverable costs		\$61,382					
Pass-through and recoverable costs		\$65,367					

https://www.welectricity.co.nz/disclosures/price-quality-path-annual-compliance-statements/document/290 ril 2018



#### 3.4.1 Quality incentive adjustment calculation

As per Schedule 4 (1) of the 2020 DPP Determination, and WELL's past 2018 CPP Determination, the quality incentive adjustment is calculated following the expiration of the assessment period and is a recoverable cost in the assessment period following the year in which it was calculated. Therefore, for this Compliance Statement, the quality incentive adjustment is based on the quality performance from the regulatory year finishing 31 March 2021 – a two-year lag after the assessment period. WELL calculated the quality incentive adjustment following the end of the 31 March 2021 assessment period (which was the third Assessment Period of the 2018 CPP Determination) using the methodology provided in Schedule 4 of the 2018 CPP Determination. Details of that quality incentive adjustment are presented below:

Quality incentive	Definition	Amount	Reference to supporting
adjustment		\$000	calculation/information
calculation			
S <sub>SAIDI</sub>	SAIDI quality incentive in the third assessment period	\$284	Appendix E
	of the CPP.		
<i>plus</i> S <sub>SAIFI</sub>	SAIFI quality incentive in the third assessment period	\$526	Appendix E
	of the CPP.		
plus S <sub>RESILIENCE</sub>	RESILIENCE quality incentive in the third assessment	\$0	Appendix E
	period of the CPP.		
S <sub>TOTAL</sub>		\$810	
S <sub>TOTAL</sub> (adjusted for	Adjusted for the time value of money, as per Schedule	\$880	Refer to Section 3.5.1 for
the time value of	4 (1) of the 2018 CPP Determination.		the post tax WACC
money)	$S_{TOTAL} x$ (1+67 <sup>th</sup> percentile estimate of post-tax WACC) <sup>2</sup>		
	Post tax WACC for the 67 <sup>th</sup> percentile is 4.23%, the		
	WACC that applied to the third assessment period of		
	the 2018 CPP Determination.		

#### 3.4.2 Capex washup calculation

As per clause 3.1.3 (8) of the IMs, a non-exempt EDB must calculate a capex washup adjustment which is the difference between the revenues for a DPP regulatory period using the actual values of commissioned assets for a prior regulatory period, and the revenues using forecast commissioned assets applied by the Commission when setting prices. As per clause 3.1.3 (p) of the IMs, the non-exempt EDB must include the capex washup adjustment as a recoverable cost by spreading it over the DPP3 regulatory period.



Capex Washup Calculation	Definition	Amount (\$000)	Reference to supporting calculation/information
Capex washup adjustment	Calculated as the difference between (using the Commerce Commissions DPP3 Financial model): (1) PV of BBAR before tax over the DPP3 regulatory period assuming actual 20/21 (\$38,068) commissioned assets, <i>less</i> (2) PV of BBAR before tax over the DPP3 regulatory period assuming a forecast of 20/21 (\$41,823) commissioned assets =\$341,366-\$342,073 = -\$707 Note: All figures within this cell are reported in \$000's	(\$707)	IM 3.1.3 (8)
2023 Capex Washup Adjustment	<pre>(capex wash-up adjustment l = 1) × (1+r)<sup>y+0.5</sup> where- / is the number of disclosure years in the DPP regulatory period or CPP regulatory period; r is the cost of debt applying to the DPP regulatory period or CPP regulatory period; and y is the number of disclosure years preceding the disclosure year in question in the DPP regulatory period or CPP regulatory period;   = 4 r = 2.92% (from the 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) y = 1</pre>	(\$246)	IM 3.1.3 (p)
Capex washup adjustment		(\$246)	

## 3.4.3 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.	\$2,987	Supporting calculation is provided in Appendix G.



<i>plus</i> Capex incentive amount	Annual capex IRIS adjustment.	\$109	Supporting calculation is provided in Appendix H.
Total IRIS incentive adjustment		\$3,096	

## 3.5 Revenue wash-up draw down amount calculation

From Schedule 1.7 (2)(a) of the 2020 DPP 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 1.7 (3) and is presented in the table below.

Closing wash-up account balance of the previous assessment period calculation	Definition	Amount \$000 <sup>7</sup>	Reference to supporting calculation/information
Wash-up amount for the previous assessment period	For the third assessment period, the wash-up amount calculated for the 2021 regulatory year.	(\$2,197)	As calculated in section 2.2 of the 2021 Wellington Electricity Annual Compliance Statement.
<i>less</i> voluntary undercharging amount foregone for the previous assessment period	For the third assessment period, this is the voluntary undercharging amount foregone calculated for the 2021 regulatory year.	\$0	As calculated in section 3.1 of the 2021 Wellington Electricity Annual Compliance Statement.
<i>multiplied by</i> (1 + 67 <sup>th</sup> percentile estimate of post- tax WACC) <sup>2</sup>	67 <sup>th</sup> percentile estimate of post-tax WACC is 4.23%.	1.0864	Refer to section 3.5.1 of the Compliance Statement.
Closing wash-up account balance of the previous assessment period		(\$2,386)	

## 3.5.1 67<sup>th</sup> 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, WACC is set as part of the DPP price setting process and aligns with the DPP timeframes. The 2018 CPP Determination spans the DPP2 and DPP3 Determinations and have different WACCs. Specifically:

 Post tax WACC for the first and second 2018 CPP Determination assessment periods are provided by the *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%.

<sup>&</sup>lt;sup>7</sup> Does not apply to the WACC component of this calculation, which is a whole number.



Post tax WACC for the Third 2018 CPP Determination assessment period is 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 67<sup>th</sup> percentile estimate of post-tax WACC applying from 1 April 2020 is **4.23%**.

# 4 Quality standard calculations and supporting information

This section of the Compliance Statement provides supporting information and calculations on WELL's compliance with the quality standards under clause 9 of the 2020 DPP Determination for the third assessment period. At a minimum the supporting information includes the information requested in clause 11.6 (b) to (h).

To comply with the quality standards, WELL must comply with:

- The planned interruption quality standards;
- The unplanned interruptions quality standards; and
- The extreme event standard.

WELL outperformed the quality targets for the third assessment period of the DPP. 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.
- Reviewed and added new outage trend analysis.
- Continue to automate the notified outage process.

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: <u>https://www.welectricity.co.nz/disclosures/asset-management-plan</u>).

The 2020 DPP Determination specifies two reliability measures:

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

## 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 planned and unplanned SAIDI and SAIFI assessed values for the assessment period.



#### 4.1.1 Recording interruptions

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 interruption information (including SAIDI and SAIFI details) in a database, including:

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

All the interruption 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 interruptions is shown in Figure 1 below.



20 4 16 16 16 Cm

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



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

For interruptions on devices that are not directly monitored by the system and there is no definitive customer report, the interruption is recorded from the time the on-site faultman confirms there has been a high voltage interruption. Subsequent switching operations are manually recorded, and time stamped within the system. If an interruption has been reported by a customer and it is confirmed that there is an interruption on the high voltage network, the start time for the interruption 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 interruption is resolved, an interruption report is generated which includes notes from the Network Controllers on duty. The information is then validated for the following:

- 1 Date interruption started and ended;
- 2 Time interruption started and ended;
- 3 Duration of interruption;
- 4 Number of customers impacted;
- 6 Total customer number (on network);
- 7 SAIDI for interruption;
- 8 SAIFI for interruption;
- 9 Interruption type; and
- 10 Interruption cause.
- 5 Total customers minutes lost (based on switching operations);

The data is reviewed for accuracy. Particular attention is given to non-system interruptions where the information is manually entered by the Network Controller. System interruptions are automatically generated and rarely have errors. The Control Room Team Leader reviews all interruptions and approves the daily interruption 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 interruptions, 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 interruptions recorded in the master database. WELL also analyses the database for trends and common types of interruptions. 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: <u>https://www.welectricity.co.nz/disclosures/asset-management-plan</u>.

#### 4.1.4 Keeping customers informed

WELL provides up-to-date customer information on interruption events and their restoration times through its website and interruption mobile device application. The website and application provide live updates on restoration times when power interruptions occur. WELL also surveys those customers who have recently had an interruption 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.

#### 4.1.5 Notified planned interruptions

For the third assessment period WELL has utilised the notified planned interruptions mechanism to reduce the SAIDI value on specific interruptions. To achieve this, these interruptions follow a notification process where retailers, via email, are notified this is a notified planned interruptions and the details of the interruption are uploaded onto WELL's website for consumers to review. Notifications are provided with at least 10 working days' notice. Planned interruptions follow our planned interruptions policies and procedures.



## 4.2 Planned interruptions quality standard

As per clause 9.2 of the 2020 DPP Determination, the reliability standard for planned interruptions is assessed at the end of the fifth assessment period based on accumulated SAIDI and SAIFI results.

As WELL was on a CPP for the first assessment period of the DPP regulatory period, WELL's planned accumulated SAIDI and SAIFI limits for the DPP have been adjusted in accordance with clause 9.6 of the 2020 DPP Determination.

To provide a progress update on WELL's planned interruptions, the table below compares the accumulated planned SAIDI and SAIFI assessed values to the adjusted planned accumulated SAIDI and SAIFI limits for the DPP regulatory period.

The accumulated assessed values at the end of the third assessment period, is less than the adjusted planned accumulated limit.

Quality standard	Assessment period 2 (from previous Annual Compliance Statement)	Assessment period 3 (from this Annual Compliance Statement)	Accumulated assessed value	Adjusted planned accumulated limit <sup>8</sup>	Variance
Planned SAIDI	8.6	8.43	17.03	55.76	(38.73)
Planned SAIFI	0.0635	0.0689	0.1324	0.4429	(0.3105)

Further information supporting the calculation of the planned SAIDI and SAFI assessed values is provided in Appendix I.

The information outlined in clause 12.1 and 12.2 of the 2020 DPP Determination be provided if it's required as part of the fifth assessment period when the planned interruption reliability standard is assessed.

## 4.3 Unplanned interruptions quality standard

As per clause 9.7 of the 2020 DPP Determination, WELL must comply with the annual unplanned interruption's reliability assessment in respect of each assessment period.

To comply with the annual unplanned interruption's reliability assessment, WELL's unplanned SAIDI and SAIFI assessed values must not exceed the unplanned SAIDI and SAIFI limits as specified in Schedule 3.2 (1) of the 2020 DPP Determination.

For the third assessment period, WELL has complied with the annual unplanned interruption's reliability assessment.

Quality standard	Assessed value	Limit	Variance
Unplanned SAIDI	34.92	39.81	(4.89)
Unplanned SAIFI	0.5024	0.6135	(0.1111)

<sup>8</sup> The adjusted accumulated limits for WELL's four-year DPP regulatory period have been calculated in line with clause 9.6 of the 2020 DPP Determination.



Further information supporting the calculation of the unplanned SAIDI and SAFI assessed values is provided in Appendix J.

The information outlined in clause 12.3 and 12.4 of the 2020 DPP Determination is not required to be provided as WELL has complied with the unplanned interruption quality standards.

## 4.4 Extreme event standard

As per clause 9.9 of the 2020 DPP Determination, WELL must comply with the extreme event standard in respect of each assessment period.

To comply with the extreme event standard is the assessment period, WELL must not have an extreme event where the unplanned interruptions exceed the extreme event standard limits.

As per Schedule 3.3 the extreme event standard limits for unplanned interruptions are:

- 1. unplanned SAIDI value greater than 120 minutes during any 24-hour period, excluding unplanned interruptions from major external factors; or
- 2. customer interruption minutes greater than six million during any 24-hour period, excluding unplanned interruptions from major external factors.

For the third assessment period, WELL has complied with the extreme event standard as there were no interruptions that exceeded the extreme event standard limits.

The information outlined in clause 12.5 and 12.6 of the 2020 DPP Determination is not required to be provided as WELL has complied with the extreme event quality standards.

CARAA.

# Deloitte.

#### INDEPENDENT ASSURANCE REPORT TO THE DIRECTORS OF WELLINGTON ELECTRICITY LINES LIMITED

Report on Wellington Electricity Lines Limited Electricity Distribution Default Price-Quality Path Compliance Statement 2023

We have conducted a reasonable assurance engagement on whether the information disclosed by Wellington Electricity Lines Limited ('the Company') on pages 3 to 20 and related Appendices B to K of the Company's Electricity Distribution Default Price-Quality Path Compliance Statement ('the Annual Compliance Statement') for the period 1 April 2022 to 31 March 2023 has been prepared, in all material respects, with the Electricity Distribution Services Default Price-Quality Path Determination 2020 as amended by the Electricity Distribution Services Default Price-Quality Path (Wellington Electricity transition) Amendments issued 26 November 2020 and 1 March 2023 ('the Determination').

In our opinion, for the period 1 April 2022 to 31 March 2023:

- 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 (Revised): *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 the provision of 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.

# Deloitte.

## 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 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;
- ensuring that the calculations are mathematically correct;
- in relation to the price path set out in clause 8 of the Determination, we have, on a sample basis, examined evidence relating to the relevant amounts and disclosures; and
- in relation to the annual quality assessment formula set out in clause 9 of the Determination, we have, on a sample basis, examine evidenced relating to the relevant amounts and disclosures.

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 2022 to 31 March 2023.

#### Inherent Limitations

Because of the inherent limitations of evidence gathering procedures, it is possible that fraud, error or noncompliance may occur and not be detected. As the procedures performed for this engagement are not performed continuously throughout the period 1 April 2022 to 31 March 2023 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 24 July 2023

This reasonable assurance report relates to the Annual Compliance Statement of Wellington Electricity Lines Limited ('the Company') for the year ended 31 March 2023 included on Wellington Electricity Lines Limited's website. The Board of Directors are responsible for the maintenance and integrity of the Company's website. We have not been engaged to report on the integrity of the Company's website. We accept no responsibility for any changes that may have occurred to the Annual Compliance Statement since they were initially presented on the website. The reasonable assurance report refers only to the Annual Compliance Statement named above. It does not provide an opinion on any other information which may have been hyperlinked to/from this Annual Compliance statement. If readers of this report are concerned with the inherent risks arising from electronic data communication, they should refer to the published hard copy of the Annual Compliance Statement and related reasonable assurance report dated 24 July 2023 to confirm the information included in the Annual Compliance Statement presented on this website.



Page | 24

# 6 Appendix B: Director's certification

#### **Directors' Certification**

We, Richard Pearson and Charles Tsai being directors 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 *Electricity Distribution Services Default Price-Quality Path Determination 2020* has been prepared in accordance with all the relevant requirements.

9.

Richard Pearson, director

24 July 2023

24 July 2023

Charles Tsai, director

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.



# 7 Appendix C: Published prices for the third assessment period

Code         Description         Description         Tand pass twoogh price         Delivery price           Residential         Residential         Scondary         0.1800         0.200         0.3000           RLJARD         Residential low user daily         Scondary         0.1800         0.0028         0.0028         0.0028         0.0028         0.0028         0.0028         0.0028         0.0028         0.0073         RLJARD         Residential wuser and contailed         \$MWh         0.0028         0.0028         0.0028         0.0073         RLJOTR         Residential wuser and scale distributed generation         \$MWh         0.0027         0.0028<				1 Apr	il 2022 to Mar	ch 2023
Residential           RLLFARD         Residential low user daily         \$coniday         0.1900         0.1200         0.3000           RLLFARD         Residential ow user daily         \$kWhh         0.0585         0.0686         0.0629           RLLFARD         Residential ow user all inclusive         \$kWhh         0.0287         0.0189         0.0473           RLLORD         Residential ow user all inclusive         \$kWhh         0.0297         0.0189         0.0485           RLLARD         Residential ow user all inclusive         \$kWhh         0.0097         0.0056         0.0189           RLDFORN         Residential standard user daily         \$coniday         0.5488         0.4489         0.9976           RSUARD         Residential standard user daily         \$konh         0.0262         0.0164         0.0441           RSUARTE         Residential standard user ingint booot         \$kWhh         0.0007         0.0000         0.0000           RSUARTE         Residential standard user ingint booot         \$kWhh         0.0007         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.	Code	Description	Units	Distribution price	Transmission and pass- through price	Delivery price
RLU-FIXD         Residential bw user daily         Sconvday         0.1000         0.2000         0.0000           RLU-ARLC         Residential bw user an inclusive         SWM         0.0455         0.0365         0.0365           RLU-ARLC         Residential bw user anight boost         SWM         0.0476         0.0189         0.0476           RLU-ARL         Residential bw user anight boost         SWM         0.0000         0.0000         0.0000           RLU-ARL         Residential standard user anight boost         SWM         0.0489         0.0478           RSU-RUC         Residential standard user anight boost         SWM         0.0250         0.0241         0.0663           RSU-ARC         Residential standard user anight boost         SWM         0.0122         0.0144           RSU-ARC         Residential standard user grint boost         SWM         0.0122         0.0164           RSU-ARC         Residential standard user grint boost         SWM         0.0000         0.0000         0.0000           RSU-ARC         Residential standard user grint boost         SWM         0.0180         0.1200         0.3000           RSU-ARC         Residential SW         Sconvday         0.1800         0.1200         0.3000         Ruceeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee	Residential					
RLU-ARCD         Residential ow user al incurve         \$MVh         0.0455         0.0365         0.0369           RLU-ARCD         Residential ow user antholic ow         \$MVh         0.0287         0.0198         0.0473           RLU-TRL         Residential ow user antholic ow         \$MVh         0.0287         0.0198         0.0473           RLU-TRL         Residential ow user antholic of defationating on the standar due or controlled         \$MVh         0.0000         0.0000           RSU-TRLD         Residential standard user day         \$Conviday         0.5486         0.4488         0.9975           RSU-ARCD         Residential standard user report toold         \$MVh         0.0282         0.0144         0.0444           RSU-TRL         Residential standard user or right boost         \$MVh         0.0007         0.0000         0.0000           RSU-TRL         Residential standard user or right boost         \$MVh         0.0007         0.0000	RLU-FIXD	Residential low user daily	\$/con/day	0.1800	0.1200	0.3000
RLLACO         Residential ow user all nclusive         \$NVh         0.0241         0.0289         0.0733           RLLOTTIL         Residential ow user night boost         \$NVh         0.0007         0.0065         0.0168           RLUDTER         Residential ow user night boost         \$NVh         0.0007         0.0005         0.0000           RLUDERN         Residential standard user all scale distributed gueration         \$NVh         0.0282         0.0241         0.0663           RSU-RD         Residential standard user all nclusive         \$NVh         0.0282         0.0241         0.0663           RSU-ARD         Residential standard user angin boost         \$NVh         0.0122         0.0164           RSU-DEN         Residential standard user small scale distributed gueration         \$NVh         0.0000         0.0000           RUEVD-FPK         Residential standard user small scale distributed gueration         \$NVh         0.0000         0.0000         0.0000           RUEVD-FPK         Residential standard user angin box user drangar         \$NVh         0.0287         0.1464           RUEVD-FPK         Residential standard user angin box user drangar         \$NVh         0.0277         0.0683           RUEVD-FPK         Residential standard user controlided         \$NVh         0.0260 <td>RLU-24UC</td> <td>Residential low user uncontrolled</td> <td>\$/kWh</td> <td>0.0555</td> <td>0.0365</td> <td>0.0920</td>	RLU-24UC	Residential low user uncontrolled	\$/kWh	0.0555	0.0365	0.0920
RLUCTIR         Residential bw user controlled         \$KVM         0.047         0.0468         0.0475           RLUMTE         Residential bw user smill scale distributed generation         \$KVM         0.0000         0.0000         0.0000           RSUFRID         Residential standard user and toosal         \$KVM         0.0526         0.0424         0.0663           RSU-ALC         Residential standard user ancontrolled         \$KVM         0.0250         0.0144         0.0448           RSU-ARC         Residential standard user ancontrolled         \$KVM         0.0067         0.0072         0.0144           RSU-TRE         Residential standard user ancontrolled         \$KVM         0.0087         0.0000 <td>RLU-AICO</td> <td>Residential low user all inclusive</td> <td>\$/kWh</td> <td>0.0441</td> <td>0.0289</td> <td>0.0730</td>	RLU-AICO	Residential low user all inclusive	\$/kWh	0.0441	0.0289	0.0730
RLU-NITE         Residential low user night boot         SNVh         0.0097         0.0065         0.0162           RLU-DGEN         Residential standard user daly         \$con/day         0.5486         0.4499         0.9975           RSU-Z4U.C         Residential standard user daly         \$con/day         0.5486         0.4499         0.9975           RSU-Z4U.C         Residential standard user gal inclusive         SN/h         0.0122         0.0164         0.0414           RSU-ARD         Residential standard user grint inclusive         SN/h         0.0122         0.0164           RSU-NTE         Residential standard user grint boott         SN/h         0.0007         0.0000         0.0000         0.0000           RSU-DEN         Residential Standard user grint boott         SN/h         0.0007         0.0507         0.1446           RSU-DEN         Residential Standard user grint boott         SN/h         0.0300         0.0000	RLU-CTRL	Residential low user controlled	\$/kWh	0.0287	0.0189	0.0476
RLU-DCRN         Residential low user small scale distributed generation         \$kWh         0.0000         0.0000         0.0000           RSU-FND         Residential standard user of up on the standard user of up	RLU-NITE	Residential low user night boost	\$/kWh	0.0097	0.0065	0.0162
RSU-FRD         Residential standard user daily         Siconidary         0.5466         0.4489         0.9975           RSU-ARLO         Residential standard user al inclusive         \$MWh         0.0250         0.0164         0.0414           RSU-ARLO         Residential standard user al inclusive         \$MWh         0.0250         0.0164         0.0414           RSU-ARCO         Residential standard user angle scale distributed generation         \$MWh         0.0007         0.0144           RSU-DEEN         Residential standard user angle scale distributed generation         \$MWh         0.0000         0.0000         0.0000           RUEVS-FRAX         Residential Excit         Seconiday         0.1800         0.1200         0.3000           RUEVS-FFFEAK         Residential EV & battery storage low user or peak <sup>2</sup> \$MWh         0.0327         0.0687         0.1446           RUEVS-FFEAK         Residential EV & battery storage low user or acide distributed generation \$MWh         0.0287         0.0198         0.04760           RUEVS-FEAK         Residential EV & battery storage standard user only         \$KWh         0.0300         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0116         0.5133	RLU-DGEN	Residential low user small scale distributed generation	\$/kWh	0.0000	0.0000	0.0000
RSU-24UC         Residential standard user uncontrolled         SNWh         0.0382         0.0241         0.0653           RSU-ACD         Residential standard user ontrolled         SNWh         0.0112         0.0072         0.0164           RSU-ACD         Residential standard user ontrolled         SNWh         0.0007         0.0000         0.0000           RSU-DEIN         Residential standard user analit Scale distributed generation         SNWh         0.0000         0.0000         0.0000           RSU-DEIN         Residential EV & battery storage low user daly         Siconiday         0.1800         0.1200         0.3000           RLUEVB-FPAL         Residential EV & battery storage low user daly         Siconiday         0.1800         0.1200         0.3000           RLUEVB-FFEAK         Residential EV & battery storage low user ontolled         SiWh         0.0777         0.0687         0.1464           RLUEVB-CTR         Residential EV & battery storage low user ontolled         SiWh         0.0270         0.0190         0.0476           RLUEVB-CTR         Residential EV & battery storage standard user daly         Siconiday         0.6530         0.5133         1.1663           RSUEVB-TRA         Residential EV & battery storage standard user daly         Siconiday         0.1600         0.0700         0.	RSU-FIXD	Residential standard user daily	\$/con/day	0.5486	0.4489	0.9975
RSU-RADO         Residential standard user ontrolled         SNWh         0.0120         0.0164         0.0414           RSU-TRIE         Residential standard user ontrolled         SNWh         0.0007         0.0057         0.0144           RSU-DCRN         Residential standard user ontrolled         SNWh         0.0000         0.0000         0.0000           Residential Electric Vehicle and Battery Storage iv         Siconiday         0.1800         0.1200         0.3000           RLUEVB-FRAK         Residential EV & battery storage low user daly         Siconiday         0.1800         0.1200         0.3000           RLUEVB-FFRAK         Residential EV & battery storage low user daly         Siconiday         0.1800         0.0687         0.1444           RLUEVB-FFRAK         Residential EV & battery storage low user controlled         SiWh         0.0360         0.0000         0.0000           RUEVB-FRAK         Residential EV & battery storage standard user daly         Siconiday         0.6630         0.5133         1.1683           RSUEVB-FRAK         Residential EV & battery storage standard user ontrolled         SiWh         0.0112         0.0000         0.0000           RSUEVB-FRAK         Residential EV & battery storage standard user ontrolled         SiWh         0.0130         0.1170         0.255	RSU-24UC	Residential standard user uncontrolled	\$/kWh	0.0362	0.0241	0.0603
RSU-TRL         Residential standard user controlled         SNWh         0.0112         0.0072         0.0144           RSU-DGEN         Residential standard user small scale distributed generation         SI/Wh         0.0000         0.0000         0.0000           Residential Electric Vehicle and Battery Storage ov         Si/Con/day         0.1800         0.1200         0.3000           RuLEVB-FRAD         Residential EV & battery storage low user daly         Si/Con/day         0.1800         0.1200         0.3000           RULEVB-FRAR         Residential EV & battery storage low user off-peak <sup>4</sup> Si/Wh         0.0777         0.0687         0.1464           RUEVB-FRAR         Residential EV & battery storage low user off-peak <sup>4</sup> Si/Wh         0.0277         0.0687         0.1464           RUEVB-FRAR         Residential EV & battery storage low user ornoled         Si/Wh         0.0270         0.0500         0.0000	RSU-AICO	Residential standard user all inclusive	\$/kWh	0.0250	0.0164	0.0414
RSL-NTE         Residential standard user sight boost         \$kWh         0.0087         0.0167         0.0167           RSU-DGEN         Residential standard user small scale distributed generation         \$kWh         0.0000         0.0000           Residential Electric Vehicle and Battery Storage <sup>1</sup> 0.1800         0.1200         0.0000           RLUEVE-FRXD         Residential EV & battery storage low user off:peak <sup>4</sup> \$kWhh         0.0336         0.0298         0.0687           RLUEVE-FRXD         Residential EV & battery storage low user off:peak <sup>4</sup> \$kWhh         0.0336         0.0298         0.0687           RLUEVE-CTRL         Residential EV & battery storage low user ontrolled         \$kWhh         0.0287         0.0189         0.0476           RLUEVE-DETR         Residential EV & battery storage to user orall scale distributed generation \$kWh         0.0000         0.0000         0.0000           RSUEVE-OFFREAK         Residential EV & battery storage standard user off:peak <sup>4</sup> \$kWh         0.0173         0.0171         0.0256           RSUEVE-OFFREAK         Residential EV & battery storage standard user off:peak <sup>4</sup> \$kWh         0.0112         0.0000         0.0000           RSUEVE-OFFREAK         Residential Ime of use low user anall scale distributed gener \$kWh	RSU-CTRL	Residential standard user controlled	\$/kWh	0.0112	0.0072	0.0184
RSU-DGEN         Residential standard user small scale distributed generation         \$kWh         0.0000         0.0000         0.0000           Residential Electric Vehicle and Battery Storage 2         Image: Comparison of the standard user small scale distributed generation         \$kWh         0.0000         0.0000         0.0000           RLUEVD-FRAK         Residential EV & battery storage low user peak <sup>2</sup> \$kWh         0.0336         0.0298         0.0687           RLUEVD-FRAK         Residential EV & battery storage low user ontrolled         \$kWh         0.0336         0.0298         0.0658           RUEVD-GEN         Residential EV & battery storage tow user ontrolled         \$kWh         0.0207         0.0189         0.0476           SUEVD-FRAK         Residential EV & battery storage standard user off-peak <sup>4</sup> \$kWh         0.0570         0.0566         0.1176           SUEVD-FRAK         Residential EV & battery storage standard user ontrolled         \$kWh         0.0112         0.0072         0.1000           RSUEVD-FRAK         Residential EV & battery storage standard user orbit off \$kWh         0.01012         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.0000         0.00	RSU-NITE	Residential standard user night boost	\$/kWh	0.0087	0.0057	0.0144
Residential EV Listery Storage iow user daily         \$/con/day         0.1800         0.1200         0.3000           RLUEVB-FRX         Residential EV & battery storage low user peak <sup>2</sup> \$/MVh         0.0777         0.0687         0.1464           RLUEVB-CFRL         Residential EV & battery storage low user of r-peak <sup>4</sup> \$/MVh         0.0236         0.0654           RLUEVB-CFRL         Residential EV & battery storage low user controlled         \$/MVh         0.0287         0.0199         0.0476           RLUEVB-CFRL         Residential EV & battery storage standard user dally         \$/con/day         0.6530         0.5133         1.1663           RSUEVB-FRAK         Residential EV & battery storage standard user of preak <sup>2</sup> \$/kWh         0.0176         0.0000         0.0000           RSUEVB-CFREAK         Residential EV & battery storage standard user orntrolled         \$/kWh         0.0112         0.0072         0.0184           RSUEVB-CFREAK         Residential EV & battery storage standard user orntrolled         \$/kWh         0.0000         0.0000           RSUEVB-CFREAK         Residential EV & battery storage standard user orntrolled         \$/kWh         0.0112         0.0072         0.0184           RSUEVB-CFREAK         Residential EV & battery storage standard user orntrolled         \$/kWh         0.0855	RSU-DGEN	Residential standard user small scale distributed generation	\$/kWh	0.0000	0.0000	0.0000
RLUEVB-PRAK         Residential EV & battery storage low user daily         \$Con/day         0.1800         0.1200         0.0300           RLUEVB-CFREAK         Residential EV & battery storage low user off-peak <sup>4</sup> \$IkWh         0.0336         0.0298         0.0687           RLUEVB-CTRL         Residential EV & battery storage low user ontrolled         \$IkWh         0.0207         0.0189         0.0476           RLUEVB-CTRL         Residential EV & battery storage low user small scale distributed generation         \$IkWh         0.0200         0.0000         0.0000           RSUEVB-FXD         Residential EV & battery storage standard user generation         \$IkWh         0.0570         0.0566         0.1076           RSUEVB-FXD         Residential EV & battery storage standard user off-peak <sup>4</sup> \$IkWh         0.0133         0.0117         0.0250           RSUEVB-FRL         Residential EV & battery storage standard user off-peak <sup>4</sup> \$IkWh         0.0112         0.0072         0.0148           RSUEVB-FRL         Residential EV & battery storage standard user ontrolled         \$IkWh         0.0112         0.0072         0.0148           RSUEVB-FRL         Residential EV & battery storage standard user ontrolled         \$IkWh         0.0120         0.0200         0.0000         0.0000         0.0000         0.0000         0.0000 <td>Residential Electric</td> <td>Vehicle and Battery Storage<sup>2</sup></td> <td></td> <td></td> <td></td> <td></td>	Residential Electric	Vehicle and Battery Storage <sup>2</sup>				
RLUEVB-PEAK         Residential EV & battery storage low user peak <sup>3</sup> \$MVh         0.0777         0.0687         0.1484           RLUEVB-OFFFEAK         Residential EV & battery storage low user controlled         \$MVh         0.0238         0.0238         0.0634           RUEVB-CTRL         Residential EV & battery storage low user controlled         \$MVh         0.0287         0.0189         0.0476           RUEVB-CTRL         Residential EV & battery storage standard user daip         \$KWh         0.06570         0.0600         0.0000           RUEVB-FEAK         Residential EV & battery storage standard user off-peak <sup>4</sup> \$KWh         0.0133         0.0117         0.0257           RSUEVB-FEAK         Residential EV & battery storage standard user ontrolled         \$MWh         0.0112         0.0072         0.0180           RSUEVB-DEEN         Residential EV & battery storage standard user small scale distributed gener \$MWh         0.0112         0.0072         0.0140           RSUEVB-DEEN         Residential time of use low user daily         \$/con/day         0.1800         0.0000         0.0000           RUTOU-FIXD         Residential time of use low user daily         \$/con/day         0.1800         0.1200         0.3000           RUTOU-FIXD         Residential time of use low user allinclusive         \$/kWh         0.0455	RLUEV B-FIXD	Residential EV & battery storage low user daily	\$/con/day	0.1800	0.1200	0.3000
RLUEVB-CFFPEAK         Residential EV & battery storage low user off-peak <sup>4</sup> \$NWh         0.036         0.0298         0.0628           RLUEVB-CTRL         Residential EV & battery storage low user ontrolled         \$NWh         0.0000         0.0000           RUEVB-DEN         Residential EV & battery storage tow user small scale distributed generation         \$NWh         0.0000         0.0000           RSUEVB-FEAK         Residential EV & battery storage standard user daily         \$/con/day         0.6530         0.5133         1.1653           RSUEVB-FEAK         Residential EV & battery storage standard user dripeak <sup>4</sup> \$NWh         0.0132         0.0117         0.0250           RSUEVB-CTRL         Residential EV & battery storage standard user dripeak <sup>4</sup> \$NWh         0.0112         0.0072         0.0118           RSUEVB-DCEN         Residential EV & battery storage standard user dripeak <sup>4</sup> \$NWh         0.0000         0.0025         0.0365 <td>RLUEVB-PEAK</td> <td>Residential EV &amp; battery storage low user peak<sup>3</sup></td> <td>\$/kWh</td> <td>0.0777</td> <td>0.0687</td> <td>0.1464</td>	RLUEVB-PEAK	Residential EV & battery storage low user peak <sup>3</sup>	\$/kWh	0.0777	0.0687	0.1464
RLUEVB-CTRL         Residential EV & battery storage low user controlled         \$\text{NVh}         0.0287         0.0189         0.0476           RLUEVB-DGEN         Residential EV & battery storage low user small scale distributed generation \$\text{VVh}         0.0600         0.0000           RSUEVB-FND         Residential EV & battery storage standard user daily         \$\text{convlay}         0.6530         0.5133         1.1663           RSUEVB-FEAK         Residential EV & battery storage standard user off-peak <sup>4</sup> \$\text{NVh}         0.0112         0.0072         0.0148           RSUEVB-CTRL         Residential EV & battery storage standard user controlled         \$\text{NVh}         0.0112         0.0000         0.0000           RSUEVB-CTRL         Residential EV & battery storage standard user controlled         \$\text{NVh}         0.0180         0.1200         0.3000           RUTOU-KDCN         Residential time of use low user daily         \$\text{convlad}         0.1800         0.1200         0.3000           RUTOU-KDC         Residential time of use low user daily         \$\text{convlad}         0.0441         0.0289         0.0733           RUTOU-FUC         Residential time of use low user all inclusive peak <sup>3</sup> \$\text{NVh}         0.0441         0.0289         0.0755           RUTOU-OP-UC         Residential time of use low user all inclusi	RLUEV B-OFFPEAK	Residential EV & battery storage low user off-peak <sup>4</sup>	\$/kWh	0.0336	0.0298	0.0634
RLUEVB-DCEN         Residential EV & battery storage standard user daily         \$/con/day         0.0000         0.0000           RSUEVB-FKD         Residential EV & battery storage standard user daily         \$/con/day         0.6530         0.5133         1.1663           RSUEVB-FKAK         Residential EV & battery storage standard user peak <sup>3</sup> \$/kWh         0.0570         0.0506         0.0076           RSUEVB-CTRL         Residential EV & battery storage standard user controlled         \$/kWh         0.0112         0.0072         0.0184           RSUEVB-DCEN         Residential EV & battery storage standard user controlled         \$/kWh         0.0112         0.0000         0.0000           RSUEVB-DCEN         Residential time of use low user daily         \$/con/day         0.1800         0.1200         0.3000           RUTOU-FXD         Residential time of use low user daily         \$/con/day         0.1800         0.1200         0.3000           RUTOU-FXD         Residential time of use low user all inclusive         \$/kWh         0.0652         0.0661         0.1233           RUTOU-FXD         Residential time of use low user all inclusive eff-peak <sup>4</sup> \$/kWh         0.0452         0.0730           RUTOU-FAC         Residential time of use low user all inclusive eff-peak <sup>4</sup> \$/kWh         0.0455         0.0175	RLUEV B-CTRL	Residential EV & battery storage low user controlled	\$/kWh	0.0287	0.0189	0.0476
RSUEVB-FIXD         Residential EV & battery storage standard user daily         \$/con/day         0.6530         0.5133         1.1633           RSUEVB-FEAK         Residential EV & battery storage standard user daily         \$/kWh         0.0137         0.0250           RSUEVB-OFFPEAK         Residential EV & battery storage standard user of ropeak <sup>3</sup> \$/kWh         0.0112         0.0072         0.0184           RSUEVB-DCEN         Residential EV & battery storage standard user ontrolled         \$/kWh         0.0000         0.0000         0.0000           RSUEVB-DCEN         Residential time of use low user daily         \$/con/day         0.1800         0.1200         0.0000           RUTOU-FXD         Residential time of use low user daily         \$/con/day         0.1800         0.1200         0.3000           RUTOU-FXD         Residential time of use low user all inclusive         \$/kWh         0.0555         0.0365         0.0920           RUTOU-FXD         Residential time of use low user pak <sup>3</sup> \$/kWh         0.0441         0.0289         0.0730           RUTOU-P-LC         Residential time of use low user off-peak <sup>4</sup> \$/kWh         0.0495         0.1075           RUTOU-P-LC         Residential time of use low user all inclusive peak <sup>3</sup> \$/kWh         0.0495         0.0175	RLUEV B-DGEN	Residential EV & battery storage low user small scale distributed generation	\$/kWh	0.0000	0.0000	0.0000
RSUEVB-PEAK       Residential EV & battery storage standard user peak <sup>3</sup> \$kWh       0.0570       0.0506       0.1076         RSUEVB-OFFPEAK       Residential EV & battery storage standard user off-peak <sup>4</sup> \$kWh       0.0112       0.0072       0.0184         RSUEVB-DGEN       Residential EV & battery storage standard user onrolled       \$kWh       0.0100       0.0000       0.0000         Residential Time of Use       Storage standard user onrolled       \$kWh       0.1800       0.1200       0.3000         RLUTOU-FXD       Residential time of use low user daily       \$con/day       0.1800       0.1200       0.3000         RLUTOU-FXD       Residential time of use low user daily       \$con/day       0.1800       0.1200       0.3000         RLUTOU-FXD       Residential time of use low user all inclusive       \$kWh       0.0455       0.0365       0.0920         RLUTOU-PLC       Residential time of use low user off-peak <sup>4</sup> \$kWh       0.0452       0.0601       0.1253         RLUTOU-PALC       Residential time of use low user all inclusive off-peak <sup>4</sup> \$kWh       0.0499       0.0254       0.0753         RLUTOU-PAL       Residential time of use low user all inclusive off-peak <sup>4</sup> \$kWh       0.0378       0.0197       0.0555         RUTOU-DEAN       Residential	RSUEVB-FIXD	Residential EV & battery storage standard user daily	\$/con/day	0.6530	0.5133	1.1663
RSUEVB-OFFPEAK       Residential EV & battery storage standard user ofri-peak <sup>4</sup> \$/kWh       0.0133       0.0117       0.0252         RSUEVB-CTRL       Residential EV & battery storage standard user controlled       \$/kWh       0.0112       0.0072       0.0184         RSUEVB-DGEN       Residential EV & battery storage standard user small scale distributed gener \$/kWh       0.0000       0.0000       0.0000         Residential Time of Use       S/kWh       0.1500       0.1200       0.3000         RLUTOU-FIXD       Residential time of use low user daily       \$/con/day       0.1800       0.1200       0.3000         RLUTOU-FIXD       Residential time of use low user daily       \$/con/day       0.1800       0.1200       0.3000         RLUTOU-FIXD       Residential time of use low user daily       \$/con/day       0.1441       0.0289       0.0733         RLUTOU-P-UC       Residential time of use low user off-peak <sup>4</sup> \$/kWh       0.0441       0.0254       0.0753         RLUTOU-P-LU       Residential time of use low user off-peak <sup>4</sup> \$/kWh       0.0495       0.1175         RLUTOU-P-A1       Residential time of use low user all inclusive peak <sup>3</sup> \$/kWh       0.0287       0.0189       0.0476         RLUTOU-DENA1       Residential time of use low user ontrolled       \$/kWh	RSUEVB-PEAK	Residential EV & battery storage standard user peak <sup>3</sup>	\$/kWh	0.0570	0.0506	0.1076
RSUEVB-CTRL       Residential EV & battery storage standard user controlled       \$/kWh       0.0112       0.0072       0.0184         RSUEVB-DGEN       Residential EV & battery storage standard user small scale distributed gener \$/kWh       0.0000       0.0000       0.0000         Residential Time of Use       S/con/day       0.1800       0.1200       0.3000         RLUTOU-FIXD       Residential time of use low user daily       \$/con/day       0.1800       0.1200       0.3000         RLUTOU-FIXD       Residential time of use low user all inclusive       \$/kWh       0.0555       0.0365       0.0302         RLUTOU-FIXC       Residential time of use low user all inclusive       \$/kWh       0.0441       0.0289       0.0733         RLUTOU-P-UC       Residential time of use low user off-peak <sup>4</sup> \$/kWh       0.0499       0.0254       0.0753         RLUTOU-P-LIC       Residential time of use low user off-peak <sup>4</sup> \$/kWh       0.0378       0.0197       0.0675         RLUTOU-P-LIC       Residential time of use low user off-peak <sup>4</sup> \$/kWh       0.0378       0.0197       0.0575         RLUTOU-P-A1       Residential time of use low user ontrolled       \$/kWh       0.0287       0.0189       0.0476         RLUTOU-PEN       Residential time of use standard user ontrolled       \$/kWh <td>RSUEVB-OFFPEAK</td> <td>Residential EV &amp; battery storage standard user off-peak<sup>4</sup></td> <td>\$/kWh</td> <td>0.0133</td> <td>0.0117</td> <td>0.0250</td>	RSUEVB-OFFPEAK	Residential EV & battery storage standard user off-peak <sup>4</sup>	\$/kWh	0.0133	0.0117	0.0250
RSUEVB-DGEN       Residential EV & battery storage standard user small scale distributed gener \$/kWh       0.0000       0.0000       0.0000         Residential Time of Use       Scon/day       0.1800       0.1200       0.3000         RLUTOU-FIXD       Residential time of use low user daily       \$/con/day       0.1800       0.1200       0.3000         RLUTOU-UC       Residential time of use low user all inclusive       \$/kWh       0.0455       0.0365       0.0320         RLUTOU-PUC       Residential time of use low user gal inclusive       \$/kWh       0.0441       0.0289       0.0730         RLUTOU-PUC       Residential time of use low user gal inclusive peak <sup>3</sup> \$/kWh       0.0499       0.0254       0.0753         RLUTOU-PAL       Residential time of use low user gal inclusive peak <sup>3</sup> \$/kWh       0.0499       0.0254       0.0753         RLUTOU-PAL       Residential time of use low user all inclusive peak <sup>3</sup> \$/kWh       0.0378       0.0197       0.0575         RLUTOU-TRL       Residential time of use low user small scale distributed generation       \$/kWh       0.0287       0.0189       0.0476         RLUTOU-FIL       Residential time of use standard user daily       \$/con/day       0.5486       0.4489       0.9976       0.0055       0.0162       0.0162         <	RSUEVB-CTRL	Residential EV & battery storage standard user controlled	\$/kWh	0.0112	0.0072	0.0184
Residential Time of Use           RLUTOU-FIXD         Residential time of use low user daily         \$/con/day         0.1800         0.1200         0.3000           RLUTOU-UC         Residential time of use low user uncontrolled         \$/kWh         0.0555         0.0365         0.0920           RLUTOU-PLC         Residential time of use low user all inclusive         \$/kWh         0.0441         0.0289         0.0730           RLUTOU-PLC         Residential time of use low user off-peak <sup>4</sup> \$/kWh         0.0455         0.0651         0.1753           RLUTOU-PAI         Residential time of use low user off-peak <sup>4</sup> \$/kWh         0.0580         0.0495         0.1753           RLUTOU-PAI         Residential time of use low user all inclusive off-peak <sup>4</sup> \$/kWh         0.0378         0.0197         0.0575           RLUTOU-CTRL         Residential time of use low user an inght boost         \$/kWh         0.0287         0.0189         0.0446           RUTOU-FIXD         Residential time of use standard user daily         \$/con/day         0.5486         0.4489         0.9975           RSUTOU-FIXD         Residential time of use standard user all inclusive         \$/kWh         0.0000         0.0000         0.0000           RSUTOU-FIXD         Residential time of use standard user all inclusive eff-peak <sup>4</sup>	RSUEVB-DGEN	Residential EV & battery storage standard user small scale distributed gener	\$/kWh	0.0000	0.0000	0.0000
RLUTOU-HZDResidential time of use low user daily\$/con/day0.18000.12000.3000RLUTOU-UCResidential time of use low user uncontrolled\$/kWh0.05550.03650.0920RLUTOU-PLCResidential time of use low user uncontrolled\$/kWh0.06520.06010.1253RLUTOU-P-UCResidential time of use low user opeak <sup>3</sup> \$/kWh0.04490.02540.0753RLUTOU-P-UCResidential time of use low user off-peak <sup>4</sup> \$/kWh0.04990.02540.0753RLUTOU-OP-AIResidential time of use low user all inclusive peak <sup>3</sup> \$/kWh0.03780.01970.0575RLUTOU-OP-AIResidential time of use low user ontrolled\$/kWh0.02870.01890.0476RLUTOU-OP-ILResidential time of use low user ontrolled\$/kWh0.00970.00650.0162RLUTOU-DRENResidential time of use low user small scale distributed generation\$/kWh0.03620.02410.0603RUTOU-DRENResidential time of use standard user daily\$/con/day0.54860.44890.9975RSUTOU-DCResidential time of use standard user all inclusive\$/kWh0.02500.01640.0414RSUTOU-ACOResidential time of use standard user all inclusive\$/kWh0.02500.01640.0436RSUTOU-ACOResidential time of use standard user all inclusive peak <sup>3</sup> \$/kWh0.02500.01640.0436RSUTOU-DR-UCResidential time of use standard user all inclusive peak <sup>3</sup> \$/kWh0.04870.04490.0936<	Residential Time of	f Use	<u></u>			
REDIGUO       Residential time of use low user uncontrolled       \$/kWh       0.0555       0.0385       0.0385         RLUTOU-ACO       Residential time of use low user all inclusive       \$/kWh       0.0441       0.0289       0.0730         RLUTOU-P-UC       Residential time of use low user all inclusive peak <sup>3</sup> \$/kWh       0.0652       0.0611       0.1253         RLUTOU-OP-UC       Residential time of use low user all inclusive peak <sup>3</sup> \$/kWh       0.0499       0.0254       0.0753         RLUTOU-OP-AI       Residential time of use low user all inclusive peak <sup>3</sup> \$/kWh       0.0378       0.0197       0.0575         RLUTOU-OP-AI       Residential time of use low user all inclusive off-peak <sup>4</sup> \$/kWh       0.0287       0.0189       0.0476         RLUTOU-OFL       Residential time of use low user ontrolled       \$/kWh       0.0097       0.0065       0.0162         RLUTOU-DEEN       Residential time of use low user small scale distributed generation       \$/kWh       0.0000       0.0000       0.0000         RSUTOU-DEC       Residential time of use standard user daily       \$/con/day       0.5486       0.4489       0.9975         RSUTOU-ACC       Residential time of use standard user all inclusive       \$/kWh       0.0250       0.0164       0.0441       0.0603		Residential time of use low user daily	\$/con/day	0.1800	0.1200	0.3000
RESIDENCIA       Residential time of use low user peak <sup>3</sup> \$/kWh       0.0441       0.0289       0.0730         RLUTOU-P-UC       Residential time of use low user peak <sup>3</sup> \$/kWh       0.0652       0.0601       0.1253         RLUTOU-OP-UC       Residential time of use low user peak <sup>3</sup> \$/kWh       0.0499       0.0254       0.0753         RLUTOU-OP-LC       Residential time of use low user all inclusive peak <sup>3</sup> \$/kWh       0.0378       0.0197       0.0575         RLUTOU-OP-AI       Residential time of use low user all inclusive off-peak <sup>4</sup> \$/kWh       0.0287       0.0189       0.0476         RLUTOU-OR-IR       Residential time of use low user ontrolled       \$/kWh       0.0097       0.0065       0.0162         RLUTOU-DREN       Residential time of use low user small scale distributed generation       \$/kWh       0.0000       0.0000       0.0000         RUTOU-FXD       Residential time of use standard user daily       \$/con/day       0.5486       0.4489       0.9975         RSUTOU-FXD       Residential time of use standard user all inclusive       \$/kWh       0.0250       0.0164       0.0414         RSUTOU-ACC       Residential time of use standard user all inclusive       \$/kWh       0.0250       0.0164       0.0414         RSUTOU-ACC       Residentia		Residential time of use low user uncontrolled	\$/KVVN	0.0555	0.0365	0.0920
REDIGUP-OC       Residential time of use low user off-peak <sup>4</sup> \$/kWh       0.0662       0.0601       0.1233         RLUTOU-OP-UC       Residential time of use low user off-peak <sup>4</sup> \$/kWh       0.0499       0.0254       0.0753         RLUTOU-P-AI       Residential time of use low user all inclusive peak <sup>3</sup> \$/kWh       0.0580       0.0495       0.1075         RLUTOU-PAI       Residential time of use low user all inclusive off-peak <sup>4</sup> \$/kWh       0.0378       0.0197       0.0575         RLUTOU-OR-AI       Residential time of use low user controlled       \$/kWh       0.0287       0.0189       0.0446         RLUTOU-DRINE       Residential time of use low user ontrolled       \$/kWh       0.0007       0.0065       0.0162         RLUTOU-DEEN       Residential time of use low user small scale distributed generation       \$/kWh       0.0362       0.0241       0.6003         RSUTOU-FXD       Residential time of use standard user dilip       \$/con/day       0.5486       0.4489       0.9975         RSUTOU-ACO       Residential time of use standard user all inclusive       \$/kWh       0.0250       0.0164       0.0414         RSUTOU-ACO       Residential time of use standard user peak <sup>3</sup> \$/kWh       0.0487       0.0449       0.0936         RSUTOU-P-UC       Resid		Residential time of use low user pack <sup>3</sup>	\$/KVVII	0.0441	0.0269	0.0730
RLUTOU-P-0LResidential time of use low user off-peak\$/kWh0.044990.05340.0735RLUTOU-P-AIResidential time of use low user all inclusive peak3\$/kWh0.03780.01970.0575RLUTOU-OP-AIResidential time of use low user all inclusive off-peak4\$/kWh0.02870.01890.0476RLUTOU-CTRLResidential time of use low user ontrolled\$/kWh0.02870.01890.0476RLUTOU-DERNResidential time of use low user night boost\$/kWh0.00000.00000.0000RSUTOU-DERNResidential time of use low user small scale distributed generation\$/kWh0.03620.02410.0603RSUTOU-UCResidential time of use standard user daily\$/con/day0.54860.44890.9975RSUTOU-UCResidential time of use standard user all inclusive\$/kWh0.02500.01640.0414RSUTOU-PLUCResidential time of use standard user peak3\$/kWh0.04870.04490.0936RSUTOU-P-UCResidential time of use standard user off-peak4\$/kWh0.02830.01430.0436RSUTOU-P-UCResidential time of use standard user off-peak4\$/kWh0.01770.00810.0258RSUTOU-P-AIResidential time of use standard user all inclusive peak3\$/kWh0.01770.00810.0258RSUTOU-P-AIResidential time of use standard user all inclusive off-peak4\$/kWh0.01770.00810.0258RSUTOU-P-AIResidential time of use standard user ontrolled\$/kWh0.01120.0072		Residential time of use low user peak	\$/KVVN	0.0652	0.0601	0.1253
RUTOU-PAI       Residential time of use low user all inclusive off-peak <sup>4</sup> \$/kWh       0.0300       0.0493       0.0197         RLUTOU-OP-AI       Residential time of use low user all inclusive off-peak <sup>4</sup> \$/kWh       0.0287       0.0189       0.0476         RLUTOU-CTRL       Residential time of use low user controlled       \$/kWh       0.0097       0.0065       0.0162         RLUTOU-DERN       Residential time of use low user small scale distributed generation       \$/kWh       0.0000       0.0000       0.0000         RSUTOU-FXD       Residential time of use standard user daily       \$/con/day       0.5486       0.4489       0.9975         RSUTOU-UC       Residential time of use standard user daily       \$/con/day       0.5486       0.4489       0.9975         RSUTOU-UC       Residential time of use standard user all inclusive       \$/kWh       0.0362       0.0241       0.0603         RSUTOU-ACO       Residential time of use standard user all inclusive       \$/kWh       0.0487       0.0449       0.0936         RSUTOU-P-UC       Residential time of use standard user off-peak <sup>4</sup> \$/kWh       0.0408       0.0350       0.0758         RSUTOU-P-UC       Residential time of use standard user off-peak <sup>4</sup> \$/kWh       0.0408       0.0350       0.0758       RSUTOU-P-A1       Resi		Residential time of use low user off-peak	\$/KVVII ¢/k/M/b	0.0499	0.0254	0.0755
RLUTOU-CTRL       Residential time of use low user controlled       \$/kWh       0.0007       0.0137       0.0070         RLUTOU-CTRL       Residential time of use low user controlled       \$/kWh       0.0287       0.0189       0.0476         RLUTOU-NTE       Residential time of use low user controlled       \$/kWh       0.0000       0.0000       0.0000         RLUTOU-NTE       Residential time of use low user small scale distributed generation       \$/kWh       0.0362       0.0448       0.9975         RUTOU-DEEN       Residential time of use standard user daily       \$/con/day       0.5486       0.4489       0.9975         RSUTOU-UC       Residential time of use standard user daily       \$/con/day       0.5486       0.4489       0.9975         RSUTOU-UC       Residential time of use standard user all inclusive       \$/kWh       0.0362       0.0241       0.0603         RSUTOU-PLC       Residential time of use standard user all inclusive       \$/kWh       0.0487       0.0449       0.0936         RSUTOU-P-UC       Residential time of use standard user off-peak <sup>4</sup> \$/kWh       0.0408       0.0350       0.0758         RSUTOU-P-AI       Residential time of use standard user all inclusive off-peak <sup>4</sup> \$/kWh       0.0112       0.0072       0.0184         RSUTOU-OR-AI       R		Residential time of use low user all inclusive off-neak <sup>4</sup>	\$/k\//b	0.0378	0.0495	0.1075
RLUTOU-NITE       Residential time of use low user night boost       \$/kWh       0.0007       0.00065       0.0162         RLUTOU-NITE       Residential time of use low user night boost       \$/kWh       0.0000       0.0000       0.0000         RSUTOU-DEEN       Residential time of use low user small scale distributed generation       \$/kWh       0.0362       0.0449       0.9975         RSUTOU-DEXN       Residential time of use standard user daily       \$/con/day       0.5486       0.4489       0.9975         RSUTOU-UC       Residential time of use standard user all inclusive       \$/kWh       0.0362       0.0241       0.0603         RSUTOU-PLC       Residential time of use standard user all inclusive       \$/kWh       0.0250       0.0164       0.0414         RSUTOU-PLC       Residential time of use standard user peak <sup>3</sup> \$/kWh       0.0487       0.0449       0.0336         RSUTOU-OP-UC       Residential time of use standard user off-peak <sup>4</sup> \$/kWh       0.0408       0.0350       0.0758         RSUTOU-P-AI       Residential time of use standard user all inclusive peak <sup>3</sup> \$/kWh       0.0408       0.0250       0.0184         RSUTOU-OP-AI       Residential time of use standard user ontrolled       \$/kWh       0.0177       0.0081       0.0258         RSUTOU-OR-AI		Residential time of use low user controlled	\$/k\//h	0.0287	0.0189	0.0076
RLUTOU-DGEN       Residential time of use low user small scale distributed generation       \$/kWh       0.0000       0.0000         RSUTOU-FKD       Residential time of use low user small scale distributed generation       \$/kWh       0.0362       0.0241       0.0000         RSUTOU-FKD       Residential time of use standard user daily       \$/con/day       0.5486       0.4489       0.9975         RSUTOU-FKD       Residential time of use standard user daily       \$/con/day       0.5486       0.4489       0.9975         RSUTOU-FXD       Residential time of use standard user daily       \$/con/day       0.5486       0.4489       0.9975         RSUTOU-FXD       Residential time of use standard user daily       \$/con/day       0.05486       0.4489       0.9975         RSUTOU-PLC       Residential time of use standard user all inclusive       \$/kWh       0.0250       0.0164       0.0414         RSUTOU-P-UC       Residential time of use standard user off-peak <sup>4</sup> \$/kWh       0.0487       0.0449       0.0936         RSUTOU-P-AI       Residential time of use standard user all inclusive peak <sup>3</sup> \$/kWh       0.0408       0.0350       0.0758         RSUTOU-OP-AI       Residential time of use standard user ontrolled       \$/kWh       0.0112       0.0072       0.0184       RSUTOU-OTT       0.0081		Residential time of use low user right boost	\$/k\//h	0.0097	0.0165	0.0470
RSUTOU-FXD       Residential time of use standard user daily       \$/con/day       0.5486       0.4489       0.9975         RSUTOU-FXD       Residential time of use standard user daily       \$/con/day       0.5486       0.4489       0.9975         RSUTOU-FXD       Residential time of use standard user uncontrolled       \$/kWh       0.0362       0.0241       0.0603         RSUTOU-PLUC       Residential time of use standard user all inclusive       \$/kWh       0.0487       0.0449       0.0936         RSUTOU-P-UC       Residential time of use standard user peak <sup>3</sup> \$/kWh       0.0487       0.0449       0.0936         RSUTOU-P-UC       Residential time of use standard user off-peak <sup>4</sup> \$/kWh       0.0293       0.0143       0.0436         RSUTOU-P-AI       Residential time of use standard user all inclusive peak <sup>3</sup> \$/kWh       0.0408       0.0350       0.0758         RSUTOU-P-AI       Residential time of use standard user all inclusive off-peak <sup>4</sup> \$/kWh       0.0112       0.0072       0.0184         RSUTOU-CRL       Residential time of use standard user night boost       \$/kWh       0.0087       0.0057       0.0144         RSUTOU-DGEN       Residential time of use standard user small scale distributed generation       \$/kWh       0.0000       0.0000	RI UTOU-DGEN	Residential time of use low user small scale distributed generation	\$/kWh	0.0000	0.0000	0.0000
RSUTOU-UC       Residential time of use standard user uncontrolled       \$/kWh       0.0362       0.0241       0.0603         RSUTOU-UC       Residential time of use standard user uncontrolled       \$/kWh       0.0362       0.0241       0.0603         RSUTOU-ACO       Residential time of use standard user uncontrolled       \$/kWh       0.0250       0.0164       0.0414         RSUTOU-P-UC       Residential time of use standard user peak <sup>3</sup> \$/kWh       0.0487       0.0449       0.0936         RSUTOU-P-UC       Residential time of use standard user off-peak <sup>4</sup> \$/kWh       0.0293       0.0143       0.0436         RSUTOU-P-AI       Residential time of use standard user all inclusive peak <sup>3</sup> \$/kWh       0.0408       0.0350       0.0758         RSUTOU-P-AI       Residential time of use standard user all inclusive off-peak <sup>4</sup> \$/kWh       0.0117       0.0081       0.0258         RSUTOU-CRL       Residential time of use standard user nothrolled       \$/kWh       0.0112       0.0072       0.0184         RSUTOU-NITE       Residential time of use standard user night boost       \$/kWh       0.0087       0.0057       0.0144         RSUTOU-DGEN       Residential time of use standard user small scale distributed generation       \$/kWh       0.0000       0.0000	RSUTOLEEXD	Residential time of use standard user daily	\$/con/day	0.5486	0 4489	0.9975
RSUTOU-AICO       Residential time of use standard user all inclusive       \$/kWh       0.0250       0.0164       0.0414         RSUTOU-AICO       Residential time of use standard user all inclusive       \$/kWh       0.0250       0.0164       0.0414         RSUTOU-AICO       Residential time of use standard user all inclusive       \$/kWh       0.0487       0.0449       0.0936         RSUTOU-OP-UC       Residential time of use standard user all inclusive peak <sup>3</sup> \$/kWh       0.0408       0.0350       0.0758         RSUTOU-OP-AI       Residential time of use standard user all inclusive peak <sup>3</sup> \$/kWh       0.0408       0.0350       0.0758         RSUTOU-OP-AI       Residential time of use standard user all inclusive off-peak <sup>4</sup> \$/kWh       0.0117       0.0081       0.0253         RSUTOU-CRL       Residential time of use standard user ontrolled       \$/kWh       0.0112       0.0072       0.0184         RSUTOU-NITE       Residential time of use standard user sight boost       \$/kWh       0.0087       0.0057       0.0144         RSUTOU-DGEN       Residential time of use standard user small scale distributed generation       \$/kWh       0.0000       0.0000	RSUTOLLUC	Residential time of use standard user uncontrolled	\$/kWh	0.0362	0.0241	0.0603
RSUTOU-P-UC       Residential time of use standard user peak <sup>3</sup> \$/kWh       0.0487       0.0449       0.0936         RSUTOU-P-UC       Residential time of use standard user off-peak <sup>4</sup> \$/kWh       0.0293       0.0143       0.0436         RSUTOU-P-AI       Residential time of use standard user all inclusive peak <sup>3</sup> \$/kWh       0.0408       0.0350       0.0758         RSUTOU-D-AI       Residential time of use standard user all inclusive off-peak <sup>4</sup> \$/kWh       0.0177       0.0081       0.0258         RSUTOU-DCTRL       Residential time of use standard user ontrolled       \$/kWh       0.0112       0.0072       0.0184         RSUTOU-TRL       Residential time of use standard user night boost       \$/kWh       0.0087       0.0057       0.0144         RSUTOU-DERN       Residential time of use standard user small scale distributed generation       \$/kWh       0.0000       0.0000	RSUTOLEAICO	Residential time of use standard user all inclusive	\$/kWh	0.0250	0.0164	0.0414
RSUTOU-OP-UC         Residential time of use standard user off-peak <sup>4</sup> \$/kWh         0.0293         0.0143         0.0436           RSUTOU-OP-UC         Residential time of use standard user off-peak <sup>4</sup> \$/kWh         0.0293         0.0143         0.0436           RSUTOU-P-AI         Residential time of use standard user all inclusive peak <sup>3</sup> \$/kWh         0.0177         0.0081         0.0258           RSUTOU-OP-AI         Residential time of use standard user all inclusive off-peak <sup>4</sup> \$/kWh         0.0177         0.0081         0.0258           RSUTOU-OP-IX         Residential time of use standard user controlled         \$/kWh         0.0112         0.0072         0.0184           RSUTOU-NITE         Residential time of use standard user night boost         \$/kWh         0.0087         0.0057         0.0144           RSUTOU-DGEN         Residential time of use standard user small scale distributed generation         \$/kWh         0.0000         0.0000	RSUTOU-P-UC	Residential time of use standard user peak <sup>3</sup>	\$/kWh	0.0487	0.0449	0.0936
RSUTOU-P-AI         Residential time of use standard user all inclusive peak <sup>3</sup> \$/kWh         0.0408         0.0350         0.0758           RSUTOU-P-AI         Residential time of use standard user all inclusive peak <sup>3</sup> \$/kWh         0.0177         0.0081         0.0258           RSUTOU-OP-AI         Residential time of use standard user all inclusive off-peak <sup>4</sup> \$/kWh         0.0177         0.0081         0.0258           RSUTOU-OP-AI         Residential time of use standard user controlled         \$/kWh         0.0112         0.0072         0.0184           RSUTOU-NITE         Residential time of use standard user night boost         \$/kWh         0.0087         0.0057         0.0144           RSUTOU-DGEN         Residential time of use standard user small scale distributed generation         \$/kWh         0.0000         0.0000	RSUTOLEOP-UC	Residential time of use standard user off-peak <sup>4</sup>	\$/kWh	0.0293	0.0143	0.0436
RSUTOU-OP-AI         Residential time of use standard user all inclusive off-peak <sup>4</sup> \$/kWh         0.0177         0.0081         0.0258           RSUTOU-CTRL         Residential time of use standard user controlled         \$/kWh         0.0112         0.0072         0.0184           RSUTOU-NTE         Residential time of use standard user night boost         \$/kWh         0.0087         0.0057         0.0144           RSUTOU-DGEN         Residential time of use standard user small scale distributed generation         \$/kWh         0.0000         0.0000	RSUTOU-P-AI	Residential time of use standard user all inclusive peak <sup>3</sup>	\$/kWh	0.0408	0.0350	0.0758
RSUTOU-CTRL         Residential time of use standard user controlled         \$/kWh         0.0112         0.0072         0.0184           RSUTOU-NITE         Residential time of use standard user night boost         \$/kWh         0.0087         0.0057         0.0144           RSUTOU-DEEN         Residential time of use standard user small scale distributed generation         \$/kWh         0.0000         0.0000	RSUTOU-OP-AI	Residential time of use standard user all inclusive off-peak <sup>4</sup>	\$/kWh	0.0177	0.0081	0.0258
RSUTOU-NITE         Residential time of use standard user night boost         \$/kWh         0.0087         0.0057         0.0144           RSUTOU-DGEN         Residential time of use standard user small scale distributed generation         \$/kWh         0.0000         0.0000         0.0000	RSUTOU-CTRL	Residential time of use standard user controlled	\$/kWh	0.0112	0.0072	0.0184
RSUTOU-DGEN Residential time of use standard user small scale distributed generation \$/kWh 0.0000 0.0000 0.0000	RSUTOU-NITE	Residential time of use standard user night boost	\$/kWh	0.0087	0.0057	0.0144
	RSUTOU-DGEN	Residential time of use standard user small scale distributed generation	\$/kWh	0.0000	0.0000	0.0000

#### Notes to prices

1 Estimated numbers of consumers are based on the number of connections on our network.

BARAA E

- 2 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.
- 3 The EVB and residential ToU plan peak hours are: Monday to Friday (including public holidays) 7:00am 11:00am, 5:00pm 9:00pm.
- 4 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.





			1 April 2022 to March		ch 2023
Code	Description	Units	Distribution price	Transmission and pass- through price	Delivery price
General Low Volta	age Connection				
GLV15-FIXD	General low voltage <=15kVA daily	\$/con/day	0.3267	0.2164	0.5431
GLV15-24UC	General low voltage <=15kVA uncontrolled	\$/kWh	0.0296	0.0196	0.0492
GLV15-DGEN	Small scale distributed generation <=15kVA low voltage	\$/kWh	0.0000	0.0000	0.0000
GLV69-FIXD	General low voltage >15kVA and <=69kVA daily	\$/con/day	0.8080	0.5352	1.3432
GLV69-24UC	General low voltage >15kVA and <=69kVA uncontrolled	\$/kWh	0.0205	0.0136	0.0341
GLV69-DGEN	Small scale distributed generation >15kVA and <=69kVA low voltage	\$/kWh	0.0000	0.0000	0.0000
GLV138-FIXD	General low voltage >69kVA and <=138kVA daily	\$/con/day	4.5785	3.0332	7.6117
GLV138-24UC	General low voltage >69kVA and <=138kVA uncontrolled	\$/kWh	0.0242	0.0162	0.0404
GLV138-DGEN	Small scale distributed generation >69kVA and <=138kVA low voltage	\$/kWh	0.0000	0.0000	0.0000
GLV300-FIXD	General low voltage >138kVA and <=300kVA daily	\$/con/day	6.5220	4.3208	10.8428
GLV300-24UC	General low voltage >138kVA and <=300kVA uncontrolled	\$/kWh	0.0101	0.0067	0.0168
GLV300-DGEN	Small scale distributed generation >138kVA and <=300kVA low voltage	\$/kWh	0.0000	0.0000	0.0000
GLV1500-FIXD	General low voltage >300kVA and <=1500kVA daily	\$/con/day	16.4461	10.8953	27.3414
GLV1500-24UC	General low voltage >300kVA and <=1500kVA uncontrolled	\$/kWh	0.0045	0.0029	0.0074
GLV1500-DAMD	General low voltage >300kVA and <=1500kVA demand	\$/kVA/month	3.9891	2.6427	6.6318
GLV1500-DGEN	Small scale distributed generation >300kVA and <=1500kVA low voltage	\$/kWh	0.0000	0.0000	0.0000
General Transform	mer Connection				
GTX15-FIXD	General transformer <=15kVA daily	\$/con/day	0.2965	0.1965	0.4930
GTX15-24UC	General transformer <=15kVA uncontrolled	\$/KVVN	0.0275	0.0183	0.0458
GTX15-DGEN	Small scale distributed generation <=15kV A transformer	\$/KVVN	0.0000	0.0000	0.0000
GTX69-FIXD	General transformer >15kVA and <=69kVA daily	\$/con/day	0.7334	0.4857	1.2191
GTX69-24UC	General transformer > 15kV A and <=69kV A uncontrolled	\$/KVVI1	0.0193	0.0128	0.0321
GTX09-DGEN	Constall scale distributed generation >15kVA and <=09kVA transformer	\$/RVVII	0.0000	0.0000	0.0000
GTX130-FIAD	Constal transformer > 60k/A and <=130k/A daily	\$/COT/Uay	4.1343	2.7522	0.9007
GTX138-240C	General transformer >69kVA and <=138kVA uncontrolled	\$/KVVI1	0.0227	0.0150	0.0377
GTX130-DGEN	Constal scale distributed generation >69kVA and <= 136kVA transformer	\$/RVVII	0.0000 E 0182	0.0000	0.0000
GTX300-FIXD	General transformer > 139kVA and <=300kVA daily	\$/con/day	5.9182	3.9207	9.8389
GTX300-240C	Sector and transformer > 130kVA and <=300kVA uncontrolled	Ф/КVVII Ф/К/МЬ	0.0094	0.0062	0.0156
GTX300-DGEN	Constal transformer > 200k/(A and = 1500k/(A doily	\$/RVVII	12,7602	0.0000	0.0000
GTX1500-FIXD	General transformer > 300kVA and <=1500kVA daily	\$/COT/Uay	0.0037	0.4595	21.2203
GTX1500-2400	General transformer >300k\/A and <=1500k\/A capacity	\$/k\/A/dov	0.0037	0.0023	0.0000
GTX1500-DAMD	General transformer >300kVA and <=1500kVA capacity	\$/k\/ A/wonth	3 3531	2 2213	5 5744
GTX1500-DGEN	Small scale distributed generation >300k//A and <-1500k//A transformer	\$/k\\/b	0.0000	0.0000	0.0000
GTX1501 EIVD	Concrete transformer >1500kV/A connection daily	\$/con/dov	0.0000	0.0000	0.0000
GTX1501-24LIC	General transformer >1500kVA connection uncontrolled	\$/c01/uay \$/k\//b	0.0284	0.0189	0.0473
GTX1501-CAPY	General transformer >1500kVA connection canacity	\$/k\/A/day	0.0000	0.0000	0.0014
GTX1501-DOPC		\$1107 (July	0.0100	0.0100	0.0200
GTX1501-PWRF	General transformer >1500kV/A connection on-peak demand <sup>5</sup>	\$/k\//month	6 3176	4 1853	10 5029
OTXTOOT T MTG	General transformer >1500kVA connection on-peak demand <sup>5</sup>	\$/kW/month \$/k\/Ar/month	6.3176	4.1853	10.5029
GTX1501-DGEN	General transformer >1500kVA connection on peak demand <sup>5</sup> General transformer >1500kVA connection pow er factor <sup>6</sup> Small scale distributed generation >1500kVA transformer	\$/kW/month \$/kVAr/month \$/kWh	6.3176 4.5617 0.0000	4.1853 3.0221 0.0000	10.5029 7.5838 0.0000
GTX1501-DGEN Unmetered	General transformer >1500kVA connection on-peak demand <sup>5</sup> General transformer >1500kVA connection pow er factor <sup>6</sup> Small scale distributed generation >1500kVA transformer	\$/kW/month \$/kVAr/month \$/kWh	6.3176 4.5617 0.0000	4.1853 3.0221 0.0000	10.5029 7.5838 0.0000
GTX1501-DGEN Unmetered G001-FIXD	General transformer >1500kVA connection on-peak demand <sup>6</sup> General transformer >1500kVA connection pow er factor <sup>6</sup> Small scale distributed generation >1500kVA transformer	\$/kW/month \$/kVAr/month \$/kWh \$/fitting/day	6.3176 4.5617 0.0000	4.1853 3.0221 0.0000 0.0149	10.5029 7.5838 0.0000
GTX1501-DGEN Unmetered G001-FIXD G001-24UC	General transformer >1500kVA connection on-peak demand <sup>6</sup> General transformer >1500kVA connection pow er factor <sup>6</sup> Small scale distributed generation >1500kVA transformer         Non-street lighting daily         Non-street lighting uncontrolled	\$/kW/month \$/kVAr/month \$/kWh \$/kWh \$/fitting/day	6.3176 4.5617 0.0000 0.0226 0.0731	4.1853 3.0221 0.0000 0.0149 0.0484	10.5029 7.5838 0.0000 0.0375 0.1215
GTX1501-DGEN Unmetered G001-FIXD G001-24UC G002-FIXD	General transformer >1500kVA connection on-peak demand <sup>5</sup> General transformer >1500kVA connection pow er factor <sup>6</sup> Small scale distributed generation >1500kVA transformer         Non-street lighting daily         Non-street lighting uncontrolled         Street lighting daily <sup>7</sup>	\$/kW/month \$/kVAr/month \$/kWh \$/fitting/day \$/kWh \$/fitting/day	6.3176 4.5617 0.0000 0.0226 0.0731 0.1286	4.1853 3.0221 0.0000 0.0149 0.0484 0.0854	10.5029 7.5838 0.0000 0.0375 0.1215 0.2140

#### Notes to prices

- 1 On-peak demand charge is applicable to demand measured from 7:30am 9:30am, 5:30pm 7:30pm on weekdays (including public holidays).
- 2 Power factor 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.
- 3 Streetlight charges are provided to retailers who in turn bill the councils and other parties for providing streetlight services.
- 4 Streetlights are charged per fitting rather than on energy usage to better reflect the costs of maintaining the streetlight network.

6.666.6



# 8 Appendix D: Detailed revenue calculation

				1 April 2022	to 31 March 2023	
Code	Units	Description	Quantity	Distribution price	Transmission & pass-through price	Revenue
Residential	\$/con/day	Recidential I ow user daily	1 633 923	0 1800	0.1200	490 177
RLU-24UC	\$/kWh	Residential Low user uncontrolled	(40,485,861)	0.0555	0.0365	-3,724,699
RLU-AICO	\$/kWh	Residential Low user all inclusive	(32,524,457)	0.0441	0.0289	-2,374,285
RLU-CTRL	\$/kWh	Residential Low user controlled	(3,288,060)	0.0287	0.0189	-156,512
RLU-NITE	\$/kWh	Residential Low user night boost	(208,257)	0.0097	0.0065	-3,374
RLU-EVNITE RSU-FIXD	\$/con/day	Residential Low user EV hight boost Residential Standard user daily	1.786.421	0.5486	0.0000	1 781 955
RSU-24UC	\$/kWh	Residential Standard user uncontrolled	(25,073,256)	0.0362	0.0241	-1.511.917
RSU-AICO	\$/kWh	Residential Standard user all inclusive	(37,821,601)	0.0250	0.0164	-1,565,814
RSU-CTRL	\$/kWh	Residential Standard user controlled	(3,521,734)	0.0112	0.0072	-64,800
RSU-NITE	\$/kWh	Residential Standard user night boost	(105,343)	0.0087	0.0057	-1,517
RSU-EVNITE		Residential Standard user EV night boost	0	0.0000	0.0000 SUBTOTAI	-7 130 787
Residential electric v	ehicle and batter	y storage			OUDICIAL	-1,130,101
RLUEVB-FIXD	\$/con/day	Residential EV & battery storage low user daily	87,829	0.1800	0.1200	26,349
RLUEVB-PEAK	\$/kWh	Residential EV & battery storage low user peak	475,090	0.0777	0.0687	69,553
RLUEVB-OFFPEAK	\$/kWh	Residential EV & battery storage low user off-peak	1,353,820	0.0336	0.0298	85,832
RLUEVB-CTRL	\$/kWh	Residential EV & battery storage low user controlled	6,257	0.0287	0.0189	298
RSUEVB-FIXD	\$/con/day	Residential EV & battery storage standard user daily	73,709	0.6530	0.5133	85,967
RSUEVB-PEAK	\$/KVVh	Residential EV& battery storage standard user peak	665,862	0.0570	0.0506	71,647
RSUEVB-OFFPEAK	\$/KWh	Residential EV & battery storage standard user controlled	1,843,103	0.0133	0.0117	46,078
KOUL ND-CITE	\$/KVVII	Residential EV & ballery storage standard user controlled	22,005	0.0112	SUBTOTAL	386,140
Residential Time of U	lse					
RLUTOU-FIXD	\$/con/day	Residential Time of Use low user daily	18,850,584	0.0287	0.0189	897,288
RLUTOU-UC	\$/kWh	Residential Time of Use low user uncontrolled	31,433,908	0.1800	0.1200	9,430,172
RLUTOU-AICO	\$/kWh	Residential Time of Use low user all inclusive	188,726,536	0.0555	0.0365	17,362,841
RLUTOU-P-UC	\$/kWh	Residential Time of Use low user peak	119,591,576	0.0441	0.0289	8,730,185
	\$/KVVN ¢/k/M/b	Residential Time of Use low user off-peak Residential Time of Use low user all inclusive peak	69 147 673	0.0097	0.0065	43,128
	\$/KW/h	Residential Time of Use low user all inclusive peak	77 076 820	0.0378	0.0197	5 803 885
RI UTOU-CTRI	\$/kWh	Residential Time of Use low user controlled	29.922.566	0.0499	0.0234	3 216 676
RLUTOU-NITE	\$/kWh	Residential Time of Use low user right boost	52,059,760	0.0652	0.0601	6.523.088
RSUTOU-FIXD	\$/con/day	Residential Time of Use standard user daily	25,968,562	0.0112	0.0072	477,822
RSUTOU-UC	\$/kWh	Residential Time of Use standard user uncontrolled	21,736,408	0.5486	0.4489	21,682,067
RSUTOU-AICO	\$/kWh	Residential Time of Use standard user all inclusive	208,863,188	0.0362	0.0241	12,594,450
RSUTOU-P-UC	\$/kWh	Residential Time of Use standard user peak	186,637,621	0.0250	0.0164	7,726,798
RSUTOU-OP-UC	\$/kWh	Residential Time of Use standard user off-peak	5,379,637	0.0087	0.0057	77,467
RSUTOU-P-AI	\$/kWh	Residential Time of Use standard user all inclusive peak	82,570,725	0.0177	0.0081	2,130,325
RSUTOU-OP-AI	\$/kWh	Residential Time of Use standard user all inclusive off-peak	84,955,057	0.0293	0.0143	3,704,041
RSUIOU-CIRL	\$/KVVh	Residential Time of Use standard user controlled	35,130,105	0.0408	0.0350	2,662,862
RS0100-NITE	\$/KVVII	Residential time of Use standard user hight boost	60,063,943	0.0467	SUBTOTAL	112,661,069
General low voltage of	connection					
GLV15-FIXD	\$/con/day	General low voltage <=15kVA daily	1,947,219	0.3267	0.2164	1,057,535
GLV15-24UC	\$/kWh	General low voltage <=15kVA uncontrolled	40,759,774	0.0296	0.0196	2,005,381
GLV69-FIXD	\$/COTI/day	General low voltage >15kVA and <=69kVA daily	272 952 172	0.0000	0.0126	4,020,092
GL V138-FIXD	\$/con/day	General low voltage >69kVA and <=03kVA dially	156,967	4 5785	3.0332	1 194 784
GLV138-24UC	\$/kWh	General low voltage >69kVA and <=138kVA uncontrolled	45,347,022	0.0242	0.0162	1,832,020
GLV300-FIXD	\$/con/day	General low voltage >138kVA and <=300kVA daily	138,092	6.5220	4.3208	1,497,308
GLV300-24UC	\$/kWh	General low voltage >138kVA and <=300kVA uncontrolled	95,630,584	0.0101	0.0067	1,606,594
GLV1500-FIXD	\$/con/day	General low voltage >300kVA and <=1500kVA daily	76,807	16.4461	10.8953	2,100,000
GLV1500-24UC	\$/kWh	General low voltage >300kVA and <=1500kVA uncontrolled	124,022,339	0.0045	0.0029	917,765
GLV1500-DAMD	\$/kVA/month	General low voltage >300kVA and <=1500kVA demand	366,227	3.9891	2.6427	2,428,745
General transformer	connection				SUBIOTAL	28,774,393
GTX15-FIXD	\$/con/day	General transformer <=15kVA daily	698	0.2965	0.1965	344
GTX15-24UC	\$/kWh	General transformer <=15kVA uncontrolled	57,649	0.0275	0.0183	2,640
GTX69-FIXD	\$/con/day	General transformer >15kVA and <=69kVA daily	6,279	0.7334	0.4857	7,655
GTX69-24UC	\$/kWh	General transformer >15kVA and <=69kVA uncontrolled	553,191	0.0193	0.0128	17,757
GTX138-FIXD	\$/con/day	General transformer >69kVA and <=138kVA daily	6,230	4.1545	2.7522	43,026
GTX138-24UC	\$/kWh	General transformer >69kVA and <=138kVA uncontrolled	2,076,875	0.0227	0.0150	78,298
GTX300-FIXD	\$/con/day	General transformer >138kVA and <=300kVA daily	42,913	5.9182	3.9207	422,219
G1X300-24UC	\$/kWh	General transformer >138kVA and <=300kVA uncontrolled	48,933,586	0.0094	0.0062	763,364
GTX1500-FIXD	\$/con/day	General transformer >300kVA and <=1500kVA daily	105,237	12.7692	8.4593	2,234,029
GTX1500-240C	\$/KVVN \$/k\/A/dov	General transformer > 300kVA and <=1500kVA uncontrolled	80.052.045	0.0037	0.0023	1,919,409
GTX1500-DAMD	\$/k\/A/month	General transformer >300k\/A and <=1500k\/A demand	943 562	3 3531	2 2213	5 259 792
GTX1501-FIXD	\$/con/day	General transformer >1500kVA connection daily	14,570	0.0284	0.0189	689
GTX1501-24UC	\$/kWh	General transformer >1500kVA connection uncontrolled	182,139,462	0.0008	0.0006	254,995
GTX1501-CAPY	\$/kVA/day	General transformer >1500kVA connection capacity	34,211,266	0.0153	0.0103	875,808
GTX1501-DOPC	\$/kW/month	General transformer >1500kVA connection on-peak demand	391,215	6.3176	4.1853	4,108,889
GTX1501-PWRF	\$/kVAr/month	General transformer >1500kVA connection power factor	23,161	4.5617	3.0221	175,651
Unmetered						17,000,020
G001-FIXD	\$/fitting/day	Non-street lighting daily	433,546	0.0226	0.0149	16,258
G001-24UC	\$/kWh	Non-street lighting uncontrolled	1,919,672	0.0731	0.0484	233,240
G002-FIXD	\$/fitting/day	Street lighting daily	13,559,504	0.1286	0.0854	2,901,734
G002-240C	\$/KVVN	Street lighting uncontrolled	10,912,884	0.0000		3.151.232
Non-standard charge	es					.,,
Special	Unit	Non-standard charges & prior year wash-ups				2,339,370
					TOTAL	157.514.742
						, ,

Ĩsisana



# 9 Appendix E: Quality incentive calculation 2021

As per Schedule 4 (1) of WELL's 2018 CPP Determination, the quality incentive applicable for this Compliance Statement is based on the quality performance from the regulatory year finishing 31 March 2021 – a two-year lag after the assessment period.

## 9.1 Calculating SAIDI incentive (S<sub>SAIDI</sub>)

Following the end of the 2021 assessment period, WELL calculated the SAIDI quality incentive adjustment using the methodology provided in Schedule 4 (6) of the 2018 CPP Determination.

SAIDI incentive (S <sub>SAIDI</sub> ) calculation	Definition	Amount \$000 <sup>9</sup>	Reference to supporting calculation/information
SAIDI <sub>IR</sub>	The SAIDI incentive rate for the 31 March 2021 regulatory year.	\$101	Supporting calculation provided in section 9.3
multiplied by (SAIDI <sub>target</sub> – SAIDI <sub>assess</sub> )	SAIDI <sub>assess</sub> (32.6278) is less than the SAIDI <sub>cap</sub> (40.6302) and greater than the SAIDI <sub>collar</sub> (30.2414). Therefore, SAIDI <sub>assess</sub> equals the SAIDI assessed value. (35.4358 – 32.6278)	2.8080	As specified in Schedule 4 (6) of the 2018 CPP Determination. Reliability components in section 9.7.
S <sub>SAIDI</sub>		\$284	

## 9.2 Calculating SAIFI incentive (S<sub>SAIFI</sub>)

Following the end of the 2021 assessment period, WELL calculated the SAIFI quality incentive adjustment using the methodology provided in Schedule 4 (8) of the 2018 CPP.

SAIFI incentive (S <sub>SAIFI</sub> ) calculation	Definition	Amount \$000 <sup>10</sup>	Reference to supporting calculation/information
SAIFI <sub>IR</sub>	The SAIFI incentive rate for the 31 March 2021 regulatory year.	\$6,718	Supporting calculation provided in section 9.5.
multiplied by (SAIFI <sub>target</sub> – SAIFI <sub>assess</sub> )	SAIFI <sub>assess</sub> (0.4015) is lower than the SAIFI <sub>collar</sub> (0.4682). Therefore, SAIFI <sub>assess</sub> equals the SAIFI <sub>collar</sub> . (0.5465 – 0.4682)	0.0783	As specified in Schedule 4 (8) of the 2018 CPP Determination. Reliability components in section 9.7.
S <sub>SAIFI</sub>		\$526	

 $<sup>^{9}</sup>$  Does not apply to the SAIDI\_{target} - SAIDI\_{assess} component of this calculation, which is a whole number.

 $<sup>^{10}</sup>$  Does not apply to the SAIFI  $_{\mbox{target}}$  - SAIFI  $_{\mbox{assess}}$  component of this calculation, which is a whole number.



## 9.3 Calculating RESILIENCE incentive (SRESILIENCE)

Following the end of the 2021 assessment period, WELL calculated the Resilience quality incentive adjustment using the methodology provided in Schedule 4 (10) of the 2018 CPP Determination.

RESILIENCE incentive (S <sub>RESILIENCE</sub> ) calculation	Definition	Amount \$00011	Reference to supporting calculation/information
RESIL <sub>IR</sub>	The Resilience incentive rate for the 31 March 2021 regulatory year.	(\$52)	Section 9.6
<i>multiplied by</i> (RESIL <sub>target</sub> – RESIL <sub>assess</sub> )	RESIL <sub>target</sub> is (100) less RESIL <sub>assess</sub> (100) = 0	0	Schedule 4 (10), section 9.7
S <sub>RESILIENCE</sub>		\$0	

## 9.4 Calculating SAIDI<sub>IR</sub>

SAIDI incentive rate (SAIDI <sub>IR</sub> ) calculation	Definition	Amount \$000 <sup>12</sup>	Reference to supporting calculation/information
0.5 x REV <sub>RISK</sub>	Where REV <sub>RISK</sub> 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 <sub>cap</sub> – SAIDI <sub>target</sub> ) SAIDI <sub>IR</sub>	(40.6302 – 35.4358)	5.1944 <b>\$101</b>	Section 9.7.

#### SAIDI<sub>IR</sub> is calculated as per Schedule 4 (7) of the 2018 CPP Determination.

 $<sup>^{11}</sup>$  Does not apply to the SAIDI\_{target} - SAIDI\_{assess} component of this calculation, which is a whole number.

 $<sup>^{12}</sup>$  Does not apply to the SAIDI\_{cap} - SAIDI\_{target} component of this calculation, which is a whole number.



## 9.5 Calculating SAIFIIR

SAIFI incentive rate (SAIFI $_{\rm IR}$ ) calculation	Definition	Amount \$000 <sup>13</sup>	Reference to supporting calculation/information
0.5 x REV <sub>RISK</sub>	Where REV <sub>RISK</sub> 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 <sub>cap</sub> – SAIFI <sub>target</sub> ) SAIFI <sub>IR</sub>	(0.6248 - 0.5465)	0.0783 <b>\$6,718</b>	Section 9.7.

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

## 9.6 Calculating RESIL<sub>IR</sub>

RESIL<sub>IR</sub> is calculated as per Schedule 4 (11) of the 2018 CPP Determination.

RESILIENCE incentive rate (RESIL <sub>IR</sub> ) calculation	Definition	Amount \$000 <sup>14</sup>	Reference to supporting calculation/information
-1 x REV <sub>RISK</sub>	Where REV <sub>RISK</sub> is \$34,567,000 × 15% specified in Schedule 4 (11) of the 2018 CPP Determination.	(\$5,185)	Schedule 4 (11)
<i>divided by</i> (RESIL <sub>cap</sub> – RESIL <sub>collart</sub> )	100 - 0	100	Schedule 4 (11)
RESILI <sub>IR</sub>		(\$52)	Schedule 4 (11)

 $<sup>^{13}</sup>$  Does not apply to the  ${\sf SAIFI}_{\sf cap}$  -  ${\sf SAIFI}_{\sf target}$  component of this calculation, which is a whole number.

 $<sup>^{14}</sup>$  Does not apply to the  $\mathsf{SAIDI}_{\mathsf{target}}$  -  $\mathsf{SAIDI}_{\mathsf{target}}$  component of this calculation, which is a whole number.



## 9.7 Reliability components for year ended 31 March 2021

Reliability component	Component value	Reference to supporting calculation/information
SAIDI		
Assessed value	32.6278	From WELL's Compliance Statement for period ended 31 March 2021.
Сар	40.6302	From WELL's Compliance Statement for period ended 31 March 2021.
Collar	30.2414	From WELL's Compliance Statement for period ended 31 March 2021.
Target	35.4358	From WELL's Compliance Statement for period ended 31 March 2021.
Assessment period	ended 31/03/2021	As specified in Schedule 4 (1) of the 2018 CPP Determination.
SAIFI		
Assessed value	0.4015	From WELL's Compliance Statement for period ended 31 March 2021.
Сар	0.6248	From WELL's Compliance Statement for period ended 31 March 2021.
Collar	0.4682	From WELL's Compliance Statement for period ended 31 March 2021.
Target	0.5465	From WELL's Compliance Statement for period ended 31 March 2021.
Assessment period	ended 31/03/2021	As specified in Schedule 4 (1) of the 2018 CPP Determination.
RESILIENCE		
Assessed value	100	From WELL's Compliance Statement for period ended 31 March 2021.
Сар	100	From WELL's Compliance Statement for period ended 31 March 2021.
Collar	0	From WELL's Compliance Statement for period ended 31 March 2021.
Target	100	From WELL's Compliance Statement for period ended 31 March 2021.
Assessment period	ended 31/03/2021	As specified in Schedule 4 (1) of the 2018 CPP Determination.



# **10** Appendix F: Quality incentive adjustment 2023

As per Schedule 4 (1) of the 2020 DPP Determination, the quality incentive adjustment for the Third Assessment period (for the year ending the 31 March 2023), will be included in the Compliance Statement for the regulatory year finishing 31 March 2025 – a two-year lag after the assessment period.

## 10.1 Quality incentive adjustment calculation

The quality incentive adjustment calculation is provided in Schedule 4 (5)(a) of the 2020 DPP Determination and is adjusted for the time value of money (provided by Schedule 4 (5)(b) of the 2020 DPP Determination).

Quality incentive adjustment calculation	Definition	Amount <sup>15</sup> \$000	Reference to supporting calculation/information
Lessor amount of revenue at risk and the SAIDI quality incentive	The lessor amount as outlined in Schedule 4 (5)(a) of the 2020 DPP Determination	(\$130)	Refer to the calculations in section 10.2 and section 10.3
multiplied by (1 + 67th percentile estimate of post-tax WACC) <sup>2</sup>	As specified in Schedule 4 (5)(b) of the 2020 DPP Determination. (1 + 67th percentile estimate of post-tax WACC) <sup>2</sup> = (1 + 4.23%) <sup>2</sup> = 1.09	1.09	The 67th percentile estimate of post-tax WACC per clause 4.2 of the 2020 DPP Determination is 4.23% (as provided in section 3.5.1.
Quality incentive adjustment		(\$142)	

## 10.2 Revenue at risk calculation

Schedule 4 (6)(h) of the 2020 DPP Determination provides the 'revenue at risk' calculation as:

Revenue at risk calculation	Definition	Amount <sup>16</sup> \$000	Reference to supporting calculation/information
0.02	0.02 as prescribed in the formula of Schedule 4 (6)(h) of the 2020 DPP Determination	0.02	As prescribed in Schedule 4 (6)(h) of the 2020 DPP Determination
multiplied by ANAR	Is the actual net allowable revenue for the third assessment period	\$97,576	As calculated in section 3.3
Revenue at risk		\$1,952	

<sup>&</sup>lt;sup>15</sup> Does not apply to the WACC component of this calculation, which is a whole number.

<sup>&</sup>lt;sup>16</sup> Does not apply to the 0.02 component of this calculation, which is a whole number.



## 10.3 SAIDI quality incentive value calculation

The SAIDI quality incentive value calculation is outlined in Schedule 4 (5)(a) of the DPP Determination.

Quality calculation	Definition	Amount \$000	Reference to supporting calculation/information
SAIDIunplanned	SAIDI unplanned quality incentive	(\$86)	As calculated in section 10.4
SAIDI <sub>planned</sub>	SAIDI planned quality incentive	(\$44)	As calculated in section 10.5
SAIDI quality incentive		(\$130)	

## **10.4** Calculating the SAIDI unplanned quality incentive value

Calculated as specified in Schedule 4 (5)(a)(i) A. of the 2020 DPP Determination.

Quality calculation	Definition	Amount <sup>17</sup> \$000	Reference to supporting calculation/information
(SAIDI <sub>unplanned,target</sub> — SAIDI <sub>unplanned,assess</sub> )	SAIDI <sub>unplanned,assess</sub> (34.92) is less than the SAIDI <sub>unplanned,cap</sub> (39.81). Therefore, SAIDI <sub>unplanned,assess</sub> equals the SAIDI assessed value. = (31.2 – 34.92)	(3.72)	As specified in Schedule 4 (6)(c)
<i>multiplied by</i> incentive rate	The incentive rate for the 31 March 2023 regulatory year	\$23	As per Schedule 4 (4) of the 2020 DPP Determination
SAIDI unplanned quality incentive		(\$86)	

<sup>&</sup>lt;sup>17</sup> Does not apply to the SAIDI unplanned quality differential component of this calculation, which is a whole number.



## 10.5 Calculating the SAIDI planned quality incentive

Quality calculation	Definition	Amount <sup>18</sup> \$000	Reference to supporting calculation/information
(SAIDI <sub>planned,target</sub> — SAIDI <sub>planned,assess</sub> )	SAIDI <sub>planned,assess</sub> (8.43) is less than the SAIDI <sub>planned,cap</sub> (13.94). Therefore, SAIDI <sub>planned,assess</sub> equals the SAIDI assessed value. = (4.65 - 8.43)	(3.78)	As specified in Schedule 4 (6)(g)
multiplied by 0.5	0.5 as prescribed in the formula of Schedule 4 (5)(a)(i) B. of the 2020 DPP Determination	0.50	As prescribed in Schedule 4 (5)(a)(i) B. of the 2020 DPP Determination
<i>multiplied by</i> incentive rate	The incentive rate for the 31 March 2023 regulatory year	\$23	As per Schedule 4 (4) of the 2020 DPP Determination
SAIDI planned quality incentive		(\$44)	

Calculated as specified in Schedule 4 (5)(a)(i) B. of the 2020 DPP Determination.

## 10.6 Reliability components for year ended 31 March 2023

Reliability components	Component value	Reference to supporting calculation/information
Unplanned SAIDI		
Assessed value	34.92	Supporting calculation provided in Appendix J
Сар	39.81	As specified in Schedule 4 (2) of the 2020 DPP Determination
Target	31.2	As specified in Schedule 4 (2) of the 2020 DPP Determination
Planned SAIDI		
Assessed value	8.43	Supporting calculation provided in Appendix I
Сар	13.94	As specified in Schedule 4 (3) of the 2020 DPP Determination
Target	4.65	As specified in Schedule 4 (3) of the 2020 DPP Determination

<sup>&</sup>lt;sup>18</sup> Does not apply to the SAIDI planned quality differential component of this calculation, which is a whole number.



# **11 Appendix G: Opex incentive amount calculation**

## **11.1** Calculating the 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	Definition	Amount \$000	Reference to supporting calculation/information
calculation			
Amount carried forward	All amounts carried forward into that disclosure year from a disclosure year in a preceding regulatory	2,358	Supporting calculation provided in section 11.2
	period		
<i>plus</i> an adjustment to the opex incentive, where applicable	Where applicable under clause 3.3.4(1) of the IMs, an adjustment to the opex incentive for that disclosure year	628	An adjustment to the opex incentive is not required in the starting price year (first year of a regulatory period).
Opex incentive amount		2,987	





## **11.2** Amount carried forward

Amount carried forward calculation	Definition	Amount \$000	Reference to supporting calculation/ information
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	The 'amount carried forward' for the first disclosure year of a regulatory period, is calculated in accordance with the formula– forecast opext – actual opext Where: t means the disclosure year in question. 34,131 - 34,017	\$114	Calculation method provided in clause 3.3.3 (2) of the IMs. Forecast and actual opex provided in section 11.5.
Amount carried forward for the year ended 31 March 2020	For a disclosure year which is not the first or last disclosure year of a regulatory period, 'amount carried forward' is calculated as: (forecast opext - actual opext) - (forecast opext-1 - actual opext-1) Where: t means the disclosure year in question, and t-1 means the disclosure preceding the disclosure year in question (35,184 - 32,826) - (34,131 - 34,017)	\$2,245	Calculation method provided in clause 3.3.3 (3) of the IMs. Forecast and actual opex provided in section 11.5.
Amount carried forward for the year ended 31 March 2021	The 'amount carried forward' for the last disclosure year of a regulatory period is nil.	\$0	As specified in clause 3.3.3 (4) of the IMs.
Amount carried forward for the year ended 31 March 2022	This year is within the current regulatory period (DPP3 period), therefore no amount is carried forward for the DPP2/CPP regulatory period, and instead this will be carried forward to the next regulatory period (DPP4).	\$0	As described in clause 3.3.2 (2) (a) of the IMs.
Amount carried forward		\$2,358	

B

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



## 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. The Adjustment to the opex incentive is calculated in accordance to 3.3.2 (2) (b) of the IMs.

Adjustment to the opex incentive calculation	Definition	Amount \$000 <sup>19</sup>	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.	1,885	Section 11.4
divided by I-1	Where: I is the number of disclosure years in the regulatory period = 4 - 1	3	3.3.2 (2) (b) of the IMs.
multiplied by (1 + r) <sup>y-1</sup>	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 = $(1 + 0.0292)^{1-1}$	1	3.3.2 (2) (b) of the IMs. 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		\$628	

<sup>&</sup>lt;sup>19</sup> 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.



## **11.4** Adjustment to the opex incentive amount

Adjustment to the opex incentive amount calculation	Definition	Amount \$000	Reference to supporting calculation/information
Base year adjustment term	A 'base year adjustment term' is calculated in accordance with the formula $-\left(\frac{(forecast opex_{r-1} - actual opex_{r-1}) - (forecast opex_{r-2} - actual opex_{r-2})}{(1 + WACC)^4}\right)$ where- WACC means- (i) in the case of a DPP, the WACC as determined by the Commission and applicable to the DPP; or (ii) in the case of a CPP, the DPP WACC as determined by the Commission and applicable to the CPP at the start of the EDB's current CPP regulatory period in accordance with clause 5.3.22; t-1 means the disclosure year immediately prior to the current regulatory period; and t-2 means the disclosure year commencing two years prior to the current regulatory period. = -([34,039 - 33,934] - [35,184 - 32,826]) / (1 + 0.0457)^4	\$1,885	The calculation components are provided in clause 3.3.4 (2) and the calculation method is provided in clause 3.3.5 of the IMs. Forecast and actual opex provided in section 11.5. The WACC used in this calculation is 4.57% as per the Cost of Capital Determination 2019.
Total adjustment to the opex incentive		\$1,885	





# **11.5** Forecast and actual opex

	31 March 2018	31 March 2019	31 March 2020	31 March 2021	31 March 2022	Reference to supporting calculation/information		
	\$000	\$000	\$000	\$000	\$000			
Forecast opex								
DDP2 allowance	32,914					As per 2015 DPP Determination		
plus CPP allowance		34,131	35,184	34,039		As per 2018 CPP Determination		
DPP3 allowance					35,217	As per 2020 DPP Determination		
Forecast opex	32,914	34,131	35,184	34,039	35,217			
Actual opex								
Operating costs	33,311	34,017	32,190	33,409	35,404	As per Schedule 6b of Wellington Electricity's Information Disclosures for the relevant year		
plus lease payments			635	526	659	As per the definition under GAAP		
Actual opex	33,311	34,017	32,826	33,934	36,063			



# **12** Appendix H: Capex incentive amount calculation

WELL has calculated the capex incentive amount using the methodology provided in clause 3.3.10 of the IMs. The capex incentive amount is made up of a capex wash-up amount and a retention adjustment.

Calculation	Definition	Amount \$000	Reference to supporting calculation/information
capex wash-up amount	All amounts carried forward into that disclosure year from a disclosure year in a preceding regulatory period	(1,963)	Supporting calculation provided in section 12.1
<i>plus</i> retention adjustment	where applicable under clause 3.3.4(1) of the IMs, an adjustment to the opex incentive for that disclosure year	2,369	Supporting calculation provided in section 12.2
Total capex incentive amount	Calculated in accordance with the formula outlined in Section 3.3.10 (2) of the IMs $\left(\frac{capex \ wash-up + retention \ adjustment}{l-1}\right) \times (1+r)^{y+0.5}$ where- <i>l</i> is the number of <b>disclosure years</b> in the <b>DPP regulatory</b> <b>period</b> ; <i>r</i> is the <b>cost of debt</b> applying to the <b>DPP or CPP</b> in question; and <i>y</i> is the number of <b>disclosure years</b> preceding the <b>disclosure</b> <b>year</b> in question in the <b>DPP regulatory period</b> ; and $= \left(\frac{-1,963 + 2,369}{5-1}\right) \times (1+2.92\%)^{\Lambda(2+0.5)}$	109	

#### 12.1 Calculating the Capex wash-up

The capex wash-up calculation is outlined in clause 3.3.11 of the IMs. The WACC applying for the DDP2 regulatory period used to present value (PV) the difference is 7.19%, as per the 2015 DPP2 Determination.



Calculation	Definition	DPP2 regulatory period \$000	Reference to supporting calculation/information
1 April 2015 PV of differences in the series of building blocks allowable revenue before tax based on the forecast assets commissioned	As per 2018 CPP financial model as published in PV 1 April 2015 terms.	433,266	As prescribed in clause 3.3.11 (1)(b) and (c) of the IMs.
1 April 2015 PV of differences in the series of building blocks allowable revenue before tax based on the actual assets commissioned	As per 2018 CPP financial model updated for actual commissioned assets in PV 1 April 2015 terms.	431,879	As prescribed in clause 3.3.11 (1)(a) of the IMs.
1 April 2015 PV of differences in the series of building blocks allowable revenue before tax		(1,387)	As prescribed in clause 3.3.11 (1) of the IMs.
Capex wash-up (PV 1 April 2020)		(1,963)	The 1 April 2020 present value of the capex wash-up amount is calculated as (\$1,387) x (1+7.19%) <sup>5</sup>



## **12.2** Calculating the retention adjustment

The retention adjustment calculation is outlined in clause 3.3.12 of the IMs. The WACC applying for the DDP2 regulatory period used to present value the PV difference is 7.19% and the retention factor applied to the PV of differences in assets commissioned is 15%, as per the 2015 DPP2 Determination.

	31 March	31 March	31 March	31 March	31 March	DPP2 regulatory	Reference to supporting
	2016 \$000	2017 \$000	2018 \$000	2019 \$000	\$000	period \$000	calculation/information
Forecast value of commissioned as	sets						
DDP2 allowance	27,257	28,408	34,853				As per 2015 DPP Determination
plus CPP allowance				39,516	42,355		As per 2018 CPP Determination
Forecast value of commissioned assets	27,257	28,408	34,853	39,516	42,355		
PV of forecast value of commissioned assets	37,255	36,223	41,460	43,854	43,851		Calculated based on the DPP2 WACC of 7.19%
Value of commissioned assets							
Actual / revised forecast assets commissioned	26,282	24,695	31,469	37,191	43,322		As per Schedule 4 of Wellington Electricity's Information Disclosures for the relevant year
less right-of-use-assets					-3,978		As per the definition under GAAP
Value of commissioned assets	26,282	24,695	31,469	37,191	39,344		
PV of value of commissioned assets	35,921	31,488	37,434	41,273	40,734		Calculated based on the DPP2 WACC of 7.19%
PV of differences in assets commissioned	1,334	4,735	4,026	2,580	3,117		
Retention adjustment	200	710	604	387	468	2,369	



# 13 Appendix I: Planned SAIDI and SAIFI assessed value calculation

WELL has calculated the planned SAIDI and SAIFI assessed values using the methodology provided in Schedule 3.1 of the 2020 DPP Determination for the third assessment period. In this section, WELL has also provided information necessary to demonstrate whether WELL has complied with clause 9.2.

## 13.1 Calculating the planned SAIDI assessed value

WELL has calculated the SAIDI assessed value using the methodology provided in Schedule 3.1 (2) of the 2020 DPP Determination. Specifically, the planned SAIDI assessed value is calculated as:

SAIDI <sub>planned,assess</sub> Calculation	Amount	Reference to supporting calculation/information
SAIDI <sub>B</sub>	3.78	Refer Section 13.3
plus SAIDI <sub>N</sub> /2	4.65	Refer Section 13.3
SAIDIplanned,assess	8.43	

## **13.2** Calculating the planned SAIFI assessed value

WELL has calculated the planned SAIFI assessed value using the methodology provided in schedule 3.1 (3) of 2020 DPP Determination. Specifically, the SAIFI assessed value is calculated as:

Calculation	Definition	Amount	Reference to supporting calculation/information
Planned interruptions (Class B)	Total number of planned customers interruption (Class B)	11,963	Method of data collection and validation described in section 4.1
<i>divided by</i> Average number of customers	From the Gentrack billing system. A report is run monthly, and an average is calculated for the regulatory year.	173,512	Provided by Appendix K
SAIFI <sub>planned,assess</sub>		0.0689	





## 13.3 Calculating $SAIDI_B$ and $SAIDI_N$

Calculation Components	Definition	Amount	Reference to supporting calculation/information
SAIDI <sub>B</sub>			
Class B interruptions that are not notified interruptions	Total customer interruption minutes accrued for each interruption	611,817	Method of data collection and validation described in section 4.1
<i>and</i> Class B notified interruptions falling outside the Notified Interruption Window	Total customer interruption minutes accrued for each interruption outside the notified interruption window	43,881	Method of data collection and validation described in section 4.1
Total Class B non-notified interruption minutes		655,698	
<i>divided by</i> Average number of customers	From the Gentrack billing system. A report is run monthly, and an average is calculated for the regulatory year.	173,512	Provided in Appendix K
SAIDI <sub>B</sub>		3.78	
SAIDI <sub>N</sub>			
Class B notified interruptions falling inside the Notified Interruption Window	Total customer interruption minutes accrued for each interruption inside the notified window	1,475,527	Method of data collection and validation described in section 4.1
<i>and</i> Class B intended interruptions cancelled without notice	Total customer interruption minutes accrued for each interruption cancelled without notice	139,410	Method of data collection and validation described in section 4.2
and Class B intended interruptions cancelled with notice	Total customer interruption minutes accrued for each interruption cancelled with notice	0	Method of data collection and validation described in section 4.1
Total notified interruption minutes		1,614,937	
<i>divided by</i> Average number of customers	From the Gentrack billing system. A report is run monthly, and an average is calculated for the regulatory year.	173,512	Provided in Appendix K
SAIDIN		9.31	

Ĩsseatatati

safer together

AD



# 14 Appendix J: Unplanned SAIDI and SAIFI assessed value calculation

WELL has calculated the unplanned SAIDI and SAIFI assessed values using the methodology provided in Schedule 3.2 of the 2020 DPP Determination for the third assessment period. In this section, WELL has also provided information necessary to demonstrate whether WELL has complied with clause 9.8.

## 14.1 Calculating the unplanned SAIDI assessed value

WELL has calculated the unplanned SAIDI assessed value using the methodology provided in Schedule 3.2 (2) of the 2020 DPP Determination. Specifically, the unplanned SAIDI assessed value is calculated as:

SAIDIunplanned,assess calculation	Definition	Amount	Reference to supporting calculation/information
Unplanned customer interruption minutes (Class C)	The sum of the total duration in minutes accumulated for each ICP for each unplanned interruption.	6,971,419	Method of data collection and validation described in section 4.1
<i>divided by</i> Total number of ICPs	From the Gentrack billing system. A report is run monthly, and an average is calculated for the regulatory year.	173,512	Provided in Appendix K
Unplanned SAIDI value	(Total unplanned customer interruption minutes / Total number of ICPs).	40.18	As specified in clause 4.2 of the 2020 DPP Determination
<i>less</i> major event boundary value adjustment	Within an unplanned SAIDI major event, any 30-minute period where the unplanned interruption SAIDI value is greater than 1/48th of the SAIDI unplanned boundary value (2.16), this period equals 1/48th of the SAIDI unplanned boundary value.	5.26	There were two SAIDI major events in the 2022/23 year. Refer to Section 14.3 for details.
SAIDI <sub>unplanned,assess</sub>		34.92	

## 14.2 Calculating the unplanned SAIFI assessed value

WELL has calculated the unplanned SAIFI assessed value using the methodology provided in Schedule 3.2 (3) of the 2020 DPP Determination. Specifically, the unplanned SAIFI assessed value is calculated as:





SAIFI <sub>unplanned,assess</sub> calculation	Definition	Amount	Reference to supporting calculation/information
Unplanned customer interruption minutes (Class C)	The total number of unplanned customers interruptions for each unplanned interruption.	93,989	Method of data collection and validation described in section 4.1
<i>divided by</i> Total number of ICPs	From the Gentrack billing system. A report is run monthly, and an average is calculated for the regulatory year.	173,512	Provided in Appendix K
Unplanned SAIFI value	(Total number of unplanned customer interruptions / Total number of ICPs).	0.5417	As specified in clause 4.2 of the 2020 DPP Determination
<i>less</i> major event boundary value adjustment	Within an unplanned SAIFI major event, any 30-minute period where the unplanned interruption SAIFI value is greater than 1/48th of the SAIFI unplanned boundary value (0.0313), this period equals 1/48th of the SAIFI unplanned boundary value.	0.0392	There was one SAIFI major event in the 2022/23 year. Refer to Section 14.3 for details.
SAIFIunplanned, assess		0.5024	

## 14.3 SAIDI and SAIFI major events

A SAIDI/SAIFI major event is defined in clause 4.2 of the 2020 DDP Determination as any period of 24 hours that starts on the hour or half past the hour where the sum of SAIDI/SAIFI values over that period for unplanned interruptions exceeds the applicable SAIDI/SAIFI unplanned boundary value.

WELL had two SAIDI and one SAIFI major events during the third assessment period. In accordance with the Commission's final decision in the Determination's reasons paper<sup>20</sup>, major events can last longer than 24-hours if the 'extended major event' criteria is met.

WELL had a SAIDI and SAIFI major event from 21 July 2022 to 22 July 2022, lasting 24 hours. WELL had a SAIDI major event from 29 March 2023 to 30 March 2023, lasting 24 hours. The tables below include details relating to the major SAIDI and SAIFI events in accordance with clause 11.6 (g) and (h) of the 2020 DPP Determination.

<sup>&</sup>lt;sup>20</sup> Section K69-K72 p391 - <u>https://comcom.govt.nz/ data/assets/pdf file/0020/191810/Default-price-quality-paths-for-electricity-distribution-businesses-from-1-April-2020-Final-decision-Reasons-paper-27-November-2019.PDF</u>



SAIDI major event - storm							
Cause of the SAIDI major event	On 21st and 22nd July 2022, there was a severe storm in the Wellington region, with sustained wind gusts for 13 hours between 122kph to 137kph recorded at Mount Kaukau. The storm caused multiple instances of tree debris flying into the 11kV lines as well as other damage to network equipment. The strong winds also hindered repair times, as repair works were only carried out when safe to do so in the challenging weather conditions.						
WELL's response	WELL reports on all unplanned outages which occur on the network. Outages where the SAIDI value exceeds 0.45 are investigated further, and reports written with findings and recommendations. As part of this SAIDI major event there were five outages with a SAIDI value greater than 0.45 for which detailed reports were written. Discussions on these outages and lessons learnt after the storm were made during the fortnight Network Reliability meeting.						
Prevention and future improvements	Installation of additional line fault indicators to reduce fault location timeframes, and installation of conductor covers to reduce the effect of incidental contact by windborne debris.						
Start date and time	End date and time	SAIDI value before any replacement	Replaced SAIDI value	Location	Equipment involved		
				WAI7	CONDUCTOR		
				EVA2	CAUSE UNKNOWN		
				KOR4	CONDUCTOR		
				MAN3	CONNECTOR		
				EVA2	CONDUCTOR		
21/07/2022 11/20 am	22/07/2022 11:20 am			NGA4	JUMPER		
21/07/2022 11:30 am	22/07/2022 11:30 am	3.08	0.48	WAI12	INSULATOR		
				PLI11	CONDUCTOR - TREE FALLEN		
				HAY2822	CONDUCTOR - TREE FALLEN		
				POR2	CONDUCTOR - TREE FALLEN		
			PLI11	CONDUCTOR			
				KAR3	SUBSTATION - DUE TO VANDALISM		





		BRO5	POLE - DUE TO CAR VS POLE

SAIDI major event - storm						
Cause of the SAIDI major event	On 29th and 30th March 2023 there was a severe storm in the Wellington region, with sustained wind gusts for 19 hours between 100kph to 124kph recorded at Mount Kaukau. The faults occurred during a 19-hour period where wind gusts exceeded 100km/h over the wider Wellington region. The storm caused multiple instances of tree debris flying into the 11kV lines, landslip, as well as other damage to network equipment. The strong winds also hindered repair times, as repair works were only carried out when safe to do so in the challenging weather conditions. There were no mitigating factors.					
WELL's response	WELL reports on all unplanned outages which occur on the network. Outages where the SAIDI value exceeds 0.45 are investigated further, and reports written with findings and recommendations. As part of this SAIDI major event there was one outage with a SAIDI value greater than 0.45 for which detailed reports were written. Discussions on these outages and lessons learnt after the storm were made during the fortnight Network Reliability meeting.					
Prevention and future improvements	Installation of additional line fault indicators to reduce fault location timeframes, and installation of conductor covers to reduce the effect of incidental contact by windborne debris.					
Start date and time	End date and time	SAIDI value before any replacement	Replaced SAIDI value	Location	Equipment involved	
29/03/2023 8:30 pm	30/03/2023 8:30 pm	2.29	0.23	TRE8	CONDUCTOR - TREE DEBRIS	
				NAE3	JUMPER	
				MEL4	CAUSE UNKNOWN	
				MAN2	JUMPER	
				HAY2822	CONDUCTOR - TREE DEBRIS	
				POR12	CONDUCTOR - TREE DEBRIS	



SAIFI major event - storm						
Cause of the SAIFI major event	On 21st and 22nd July 2022, there was a severe storm in the Wellington region, with sustained wind gusts for 13 hours between 122kph to 137kph recorded at Mount Kaukau. The storm caused multiple instances of tree debris flying into the 11kV lines as well as other damage to network equipment. The strong winds also hindered repair times, as repair works were only carried out when safe to do so in the challenging weather conditions. There were no mitigating factors					
WELL's response	WELL reports on all unplanned interruptions which occur on the network. Interruptions where the SAIFI value exceeds 0.02 are investigated, and new controls are considered. As part of this SAIFI major event there were no interruptions with a SAIFI value greater than 0.02. As part of the SAIDI major event day above, five interruptions were investigated further. The investigation findings, including any lessons learnt and recommended new controls, were provided as part of the fortnightly Network Reliability meeting following the event.					
Prevention and future	Installation of additional line fault indicators to reduce fault location timeframes, and installation of conductor covers to reduce the effect of					
improvements	incidental contact by windborne debris.					
Start date and time	End date and time	SAIFI value before any replacement	Replaced SAIFI value	Location	Equipment involved	
21/07/2022 11:30 am	22/07/2022 11:30 am	0.04652	0.00717	See SAIDI major event above	See SAIDI major event above	





# **15 Appendix K: Average customer number calculation**

Month	ICP numbers		
Apr-22	172,553		
May-22	172,869		
Jun-22	172,935		
Jul-22	172,988		
Aug-22	173,282		
Sep-22	173,529		
Oct-22	173,585		
Nov-22	173,616		
Dec-22	173,960		
Jan-23	173,921		
Feb-23	174,445		
Mar-23	174,464		
Average	173,512		

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

