ANNUAL COMPLIANCE STATEMENT

Aurora ENERGY

For the Assessment Period ending 31 March 2021

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1. Introduction

1.1. Context

1. Aurora Energy is subject to price-quality regulation made under Part 4 of the Commerce Act 1986.

2. The Commerce Commission (Commission) regulates the maximum annual revenue Aurora Energy can earn from its customers and the minimum quality of service it must deliver.

3. For this Assessment Period ending 31 March 2021, Aurora Energy is subject to the *Electricity Distribution Services Default Price-Quality Path Determination 2020* (DPP Determination) and the subsequent *Electricity Distribution Services Default Price-Quality Path (Aurora quality standard variation) Amendments Determination 2020* (QSV Determination).

4. Clause 11.4 of the DPP Determination requires Aurora Energy to provide to the Commission an annual compliance statement in respect of the Wash-up Amount calculation, quality standards and quality incentives and transactions, within 5 months after the end of each Assessment Period. This annual compliance statement (Statement) has been prepared pursuant to that clause for the Assessment Period ending 31 March 2021.

1.2. Definitions

5. All capitalised terms used in this Statement have the meanings ascribed to them in the DPP Determination, the QSV Determination, or the *Electricity Distribution Services Input Methodology Determination 2021* (IMs). Accordingly, this Statement must be read in conjunction with the DPP Determination, the QSV Determination and, where necessary, the IMs.

1.3. Content of Statement

6. The content of this Statement is specified in the DPP Determination. A matrix showing the relationship between the requirements set out in the DPP Determination and the contents of this Statement can be found in Appendix A.

1.4. Certification

7. This Statement was prepared and certified in accordance with clause 11.5 of the DPP Determination on 26 August 2021. A copy of the Director's Certificate can be found in Appendix B.

1.5. Assurance Report

8. Audit NZ has prepared an assurance report that meets the requirements of schedule 8 of the DPP Determination. A copy of that report can be found in Appendix C.

2. Wash-up Amount Calculation

2.1. Statement of Compliance

9. As demonstrated in section 2.2, Aurora Energy has complied with the requirements to calculate the Wash-up Amount in clause 8.6 of the DPP Determination for the Assessment Period ending 31 March 2021.

2.2. Calculation of the Wash-up Amount

10. Clause 8.6 of the DPP Determination requires that, a Non-exempt EDB must calculate the Wash-up Amount for each Assessment Period using the methodology specified in Schedule 1.6 of the DPP Determination.

11. Table 1 demonstrates the calculation of the Wash-up Amount in accordance with the formula set out in Schedule 1.6 of the DPP Determination. The three components of this calculation are described in more detail in sections 2.3 to 2.5 of this Statement.

Table 1: Wash-up amount calculation

Wash-up Amount for the **2021 Assessment Period**		
Term	**Description**	**Value ($000)**
Actual Allowable Revenue (AAR)	Actual Net Allowable Revenue plus Actual Pass-through Costs and Recoverable Costs less (Pass-through Balance x (1 + 67th Percentile Estimate of Post-tax WACC)).	97,324
Actual Revenue (AR)	Sum of Actual Revenue From Prices plus Other Regulated Income.	98,508
Revenue Foregone (RV)	Actual Net Allowable Revenue x (Revenue Reduction Percentage - 20%) when Revenue Reduction Percentage is greater than 20%, otherwise nil.	Nil
Wash-up Amount	AAR – AR – RV	**(1,184)**

2.3. Calculation of Actual Allowable Revenue

12. Schedule 1.6 of the DPP Determination defines Actual Allowable Revenue for the first Assessment Period of the DPP Regulatory Period, as the amount calculated in accordance with the formula in Table 2.

Table 2: Actual Allowable Revenue for the 2021 Assessment Period

Actual Allowable Revenue for the 2021 Assessment Period		
Term	**Description**	**Value ($000)**
Actual Net Allowable Revenue (ANAR)	Amount specified as Forecast Net Allowable Revenue for the first Assessment Period.	87,335
Actual Pass-through Costs	Sum of all Pass-through Costs that were incurred or approved by the Commission in the Assessment Period.	1,434
Actual Recoverable Costs	Sum of all Recoverable Costs that were incurred or approved by the Commission in the Assessment Period.	9,230
Pass-through Balance	The amount calculated for the Assessment Period ending 31 March 2020 under clause 8.6 of the *Electricity Distribution Services Default Price-Quality Path Determination 2015*.	675
Total Actual Allowable Revenue (AAR)	Actual Net Allowable Revenue + Actual Pass-through Costs And Recoverable Costs – (Pass-through Balance x (1 + 67th Percentile Estimate Of Post-tax WACC))	**97,324**

13. Aurora Energy's Actual Net Allowable Revenue is specified in Schedule 1.1 of the DPP Determination. For the Assessment Period ending 31 March 2021 - $87,335,000.

14. Further information supporting Actual Pass-through costs And Recoverable Costs and the Pass-through Balance is included in Appendix D.

2.4. Actual Revenue

15. Section 4.2 of the DPP Determination defines Actual Revenue as the amount calculated in accordance with the formula in Table 3.

Table 3: Actual Revenue for the 2021 Assessment Period

Actual Revenue for the 2021 Assessment Period		
Term	**Description**	**Value ($000)**
Actual Revenue from Prices	Actual prices between 1 April 2020 and 31 March 2021 multiplied by actual quantities for the Assessment Period.	98,409
Other Regulated Income	Other income associated with supply of Electricity Lines Services.	99
Total Actual Revenue (AR)	Sum of Actual Revenue From Prices plus Other Regulated Income	**98,508**

16. Further information supporting Actual Revenue From Prices is included in Appendix E.

2.5. Revenue Foregone

17. Section 4.2 of the DPP Determination defines Revenue Foregone as the amount calculated in accordance with the formula in Table 4.

Table 4: Revenue foregone for the 2021 Assessment Period

Revenue Foregone for the 2021 Assessment Period		
Term	**Description**	**Value ($000)**
Actual Net Allowable Revenue (ANAR)	Amount specified as Forecast Net Allowable Revenue for the first Assessment Period.	87,335
Revenue Reduction Percentage (RRP)	1 - (Actual Revenue From Prices / Forecast Revenue From Prices)	-1%
Revenue Foregone (RV)	Actual Net Allowable Revenue x (RRP- 20%) when RRP is greater than 20%, otherwise nil	**Nil**

3. Compliance with the Quality Path

3.1. Statement of Compliance

18. Aurora Energy has complied with the quality standards for the Assessment Period ending 31 March 2021

3.1.1. Planned interruptions quality standard

19. Aurora Energy has complied with the planned interruptions quality standard set in clause 9.1 of the DPP Determination for the Assessment Period ending 31 March 2021.

20. Clause 9.1 of the DPP Determination requires that, a Non-exempt EDB must comply with the planned interruptions reliability assessment cap specified in clause 9.2 of the Determination for the DPP Regulatory Period.

21. Clause 9.3 of the DPP Determination states that if at any time during the DPP Regulatory Period, a Non-exempt EDB transitions from the DPP onto a Customised Price-Quality Path (CPP), the Planned Accumulated SAIDI Limit and Planned Accumulated SAIFI Limit, will be adjusted in accordance with the formulae included in clause 9.4.

22. Aurora transitioned from the DPP to a CPP on 1 April 2021. The calculation of those adjustments, together with the compliance assessments are included in Table 5 and Table 6.

Table 5: Planned interruptions quality standard compliance for the 2021 Assessment Period - SAIDI

Planned interruptions quality standard for the 2021 Assessment Period - SAIDI	
Sum of Planned SAIDI Assessed Values ≤ Planned Accumulated SAIDI Limit	
Planned Accumulated SAIDI Limit	979.80
Number of Assessment Periods that Aurora Energy has been subject to the DPP prior to transitioning to a CPP	1
Pro-rated planned SAIDI limit (Planned Accumulated SAIDI Limit ÷ 5 x number of Assessment Periods that Aurora Energy has been subject to the DPP)	195.96
Planned SAIDI Assessed Value for the first Assessment Period	102.73
Compliance result	Compliant

Table 6: Planned interruptions quality standard compliance for the 2021 Assessment Period - SAIFI

Planned interruptions quality standard for the 2021 Assessment Period - SAIFI	
Sum of Planned SAIFI Assessed Values ≤ Planned Accumulated SAIFI Limit	
Planned Accumulated SAIFI Limit	5.54
Number of Assessment Periods that Aurora Energy has been subject to the DPP prior to transitioning to a CPP	1
Pro-rated planned SAIFI limit (Planned Accumulated SAIFI Limit ÷ 5 x number of Assessment Periods that Aurora Energy has been subject to the DPP)	1.11
Planned SAIFI Assessed Value for the first Assessment Period	0.68
Compliance result	Compliant

23. Further information supporting Planned SAIDI and SAIFI Assessed Values is included in section 3.2.

3.1.2. Unplanned interruptions quality standard

24. Aurora Energy has complied with the unplanned interruptions quality standard set in clause 9.7 of the DPP Determination for the Assessment Period ending 31 March 2021.

25. Clause 9.7 of the DPP Determination requires that, a Non-exempt EDB must, in respect of each Assessment Period, comply with the annual unplanned interruptions reliability assessment cap specified in clause 9.8, for that Assessment Period.

26. Aurora Energy's Unplanned SAIDI Limit and Unplanned SAIFI Limit have been amended by the QSV Determination.

27. Aurora Energy complies with the unplanned interruption quality standard as demonstrated in Table 7 and Table 8.

Table 7: Unplanned interruptions quality standard compliance for the 2021 Assessment Period - SAIDI

Unplanned interruptions quality standard for the 2021 Assessment Period - SAIDI	
Sum of Unplanned SAIDI Assessed Values ≤ Unplanned SAIDI Limit	
Unplanned SAIDI Limit	124.94
Unplanned SAIDI Assessed Value	85.39
Compliance result	Compliant

Table 8: Unplanned interruptions quality standard compliance for the 2021 Assessment Period - SAIFI

Unplanned interruptions quality standard for the 2021 Assessment Period - SAIFI	
Sum of Unplanned SAIFI Assessed Values ≤ Unplanned SAIFI Limit	
Unplanned SAIFI limit	2.07
Unplanned SAIFI assessed value	1.46
Compliance result	Compliant

28. Further information supporting Unplanned SAIDI and SAIFI Assessed Values is included in section 3.3 and Appendix F.

3.1.3. Extreme event standard

29. Aurora Energy has complied with the extreme event quality standard set in clause 9.7 of the Determination for the Assessment Period ending 31 March 2021.

30. Clause 9.9 of the DPP Determination requires that, a Non-exempt EDB must, in respect of each Assessment Period, comply with the extreme event standard specified in clause 9.10 for that Assessment Period.

31. Compliance is established in Table 9.

Table 9: Extreme Event quality standard compliance for the 2021 Assessment Period - SAIDI

Extreme Event quality standard for the 2021 Assessment Period - SAIDI	
Unplanned SAIDI value ≤ 120 minutes, and customer interruption minutes ≤ six million during any 24-hour period, excluding unplanned interruptions from major external factors	
Number of extreme events	Compliance result
0	Compliant

3.2. Planned SAIDI and SAIFI Assessed Values

32. Table 10 and Table 11 demonstrate Aurora Energy's planned SAIDI and SAIFI Assessed Values for the Assessment Period.

Table 10: Planned SAIDI Assessed Value for the 2021 Assessment Period

Planned SAIDI Assessed Value for the 2021 Assessment Period		
Term	Description	Value
Class B non-notified interruptions		48.57
Class B Notified Interruptions falling outside the Notified Interruption Window		7.81
$SAIDI_B$	Sum of Class B non-notified interruptions	56.38
Class B Notified Interruptions falling inside the Notified Interruption Window		81.03
Class B Intended Interruptions Cancelled Without Notice		11.68
Class B Intended Interruptions Cancelled With Notice		0.00
$SAIDI_N$	Sum of Class B Notified Interruptions	92.70
Planned SAIDI Assessed Value	$SAIDI_B + (SAIDI_N /2)$	102.73

Table 11: Planned SAIFI Assessed Value for the 2021 Assessment Period

Planned SAIFI Assessed Value for the 2021 Assessment Period		
Term	Description	Value
Planned SAIFI Assessed Value	Sum of SAIFI Values for Class B Interruptions commencing within the Assessment Period	0.68

3.3. MAJOR EVENTS

3.3.1. SAIDI and SAIFI boundary values

33. Aurora Energy's SAIDI Unplanned Boundary Value and SAIFI Unplanned Boundary Value are set out in Table 12 below.

Table 12: SAIDI Unplanned Boundary Value and SAIFI Unplanned Boundary Value

Aurora Energy's SAIDI Unplanned Boundary Value and SAIFI Unplanned Boundary Value	
Term	Value
SAIDI Unplanned Boundary Value	5.69
SAIFI Unplanned Boundary Value	0.0737

3.3.2. SAIDI Major Events

34. Aurora Energy experienced four SAIDI Major Events on its network during the Assessment Period. Table 13, below, sets out the start and end dates and times of those Major Events and the SAIDI values attributed to each.

35. Further information about each SAIDI Major Event is included in Appendix F.

Table 13: Unplanned SAIDI major events during the 2021 Assessment Period

Unplanned SAIDI Major Events during the 2021 Assessment Period			
Start	End	Pre-normalised unplanned SAIDI value	Normalised SAIDI value
13/06/2020 7:00 am	15/06/2020 6:00 am	8.58	0.24
15/10/2020 8:30 pm	17/10/2020 11:30 am	7.14	0.51
3/11/2020 7:00 pm	5/11/2020 6:00 pm	6.75	0.13
12/12/2020 3:00 pm	14/12/2020 7:30 am	7.89	1.07

3.3.3. SAIFI Major Events

36. Aurora Energy experienced one SAIFI Major Event on its network during the Assessment Period. Table 14, below, sets out the start and end dates and times of that Major Events and the SAIFI values attributed to that Major Event.

37. Further information about the SAIFI Major Event is included in Appendix F.

Table 14: Unplanned SAIFI major events during the 2021 Assessment Period

Unplanned SAIFI Major Events during the 2021 Assessment Period			
Start	**End**	**Pre-normalised unplanned SAIFI value**	**Normalised SAIFI value**
24/03/2021 7:00 am	25/03/2021 11:00 pm	0.10	0.01

3.4. MEASURING PLANNED AND UNPLANNED INTERRUPTIONS

Information about policies, procedures and calculations for measuring planned and unplanned interruptions during the Assessment Period is set out in Appendix G.

4. Quality Incentive Adjustment

38. Table 15, below, demonstrates the calculation of Aurora Energy's Quality Incentive Adjustment for the Assessment Period in accordance with the DPP Determination, as amended by the QSV Determination.

Table 15: Quality Incentive Adjustment calculation for the 2021 Assessment Period

Quality Incentive Adjustment calculation for the 2021 Assessment Period		
Term	**Description**	**Value ($)**
SAIDI planned adjustment	$(SAIDI_{planned, target} - SAIDI_{planned, assessed}) \times 0.5 \times IR$	(4,457)
SAIDI unplanned adjustment (April - September)	$(SAIDI_{unplanned, target} - SAIDI_{unplanned, assessed}) \times IR$	19,955
SAIDI unplanned adjustment (October - March)	$(SAIDI_{unplanned, target} - SAIDI_{unplanned, assessed}) \times IR$	(26,326)
Total adjustment	SAIDI planned adjustment + SAIDI unplanned adjustment (April - September) + SAIDI unplanned adjustment (October - March)	(10,828)
Revenue at risk	0.02 * ANAR	1,746,700
Total penalty/reward		(10,828)
67th Percentile Estimate of Post-tax WACC		4.23%
Quality Incentive Adjustment		(11,764)

39. Table 16, below, sets out the inputs to the Quality Incentive Adjustment calculation.

Table 16: Quality Incentive Adjustment inputs for the 2021 Assessment Period

Quality Incentive Adjustment inputs for the 2021 Assessment Period		
Term	**Units**	**Value**
Planned interruptions		
SAIDI Planned Interruption Cap	minutes	195.96
SAIDI Planned Interruption Collar	minutes	0.00
SAIDI Planned Interruption Target	minutes	102.05
Planned SAIDI Assessed Value	minutes	102.73

Incentive Rate		13,155
Actual Net Allowable Revenue (ANAR)	$	87,335,000
Minimum of the Planned SAIDI Cap and assessed value	minutes	102.73
Planned SAIDI subject to incentive	minutes	(0.68)
Adjustment (IR x 0.5)	$	6,578
SAIDI planned adjustment	$	(4,457)
Unplanned interruptions		
SAIDI Unplanned Interruption Cap (April - September)	minutes	41.06
SAIDI Unplanned Interruption Collar (April - September)	minutes	0.00
SAIDI Unplanned Interruption Target (April - September)	minutes	31.81
Unplanned SAIDI Assessed Value (April - September)	minutes	30.29
Minimum of the Unplanned SAIDI Cap and assessed value (April - September)	minutes	30.29
Unplanned SAIDI subject to incentive (April - September)	minutes	1.52
Adjustment (IR)	$	13,155
SAIDI unplanned adjustment (April - September)	$	19,955
SAIDI Unplanned Interruption Cap (October - March)	minutes	62.30
SAIDI Unplanned Interruption Collar (October - March)	minutes	0.00
SAIDI Unplanned Interruption Target (October - March)	minutes	53.10
Unplanned SAIDI Assessed Value (October - March)	minutes	55.10

Minimum of the Unplanned SAIDI Cap and assessed value (October - March)	minutes	55.10
Unplanned SAIDI subject to incentive (October - March)	minutes	(2.00)
Adjustment (IR)	$	13,155
SAIDI unplanned adjustment (October - March)	$	(26,326)

5. MISCELLANEOUS STATEMENTS

As required by clause 11.5(c) of the DPP Determination, Aurora Energy has not entered into any agreement with another EDB or Transpower for an Amalgamation, Merger, Major Transaction or Transfer in the Assessment Period ending 31 March 2021.

Appendix A. Compliance Matrix

This schedule demonstrates how this Statement complies with the DPP Determination.

Determination Requirement	Determination Reference	Statement Reference
The annual compliance statement must:	Clause 11.5	
state whether or not the Non-exempt EDB has—	Clause 11.5(a)	
complied with the requirements to calculate the Wash-up Amount in clause 8.6 for the Assessment Period; and	Clause 11.5(a)(i)	Section 2.1
complied with the quality standards in clause 9 for the assessment period;	Clause 11.5(a)(ii)	Section 3.1
state the day on which the statement was prepared;	Clause 11.5(b)	Section 1.4
state whether or not the Non-exempt EDB has entered into any agreement with another EDB or Transpower for an Amalgamation, Merger, Major Transaction or Transfer in the Assessment Period;	Clause 11.5(c)	Section 5
include a certificate in the form set out in Schedule 7, signed by at least one director of the Non-exempt EDB; and	Clause 11.5(d)	Appendix B
be accompanied by an assurance report meeting the requirements in Schedule 8, in respect of all information contained in the 'annual compliance statement'.	Clause 11.5(e)	Appendix C
The 'annual compliance statement' must include any information reasonably necessary to demonstrate whether the Non-exempt EDB has complied with clause 8.6, clause 9, clauses 10.1-10.18 and Schedule 4, including, but not limited to—	Clause 11.6	
Wash-up Amount calculation		

Determination Requirement	Determination Reference	Statement Reference
details of the Wash-up Amount calculation as specified in clause 8.6, together with supporting information for all components of the calculation;	Clause 11.6(a)	Section 2, Appendix D and Appendix E
Quality standards and quality incentives compliance		
actions taken to mitigate any non-compliance with clause 9 and Schedules 3.1-3.3 and to prevent similar non-compliance in future Assessment Periods;	Clause 11.6(b)	N/A
for the planned interruptions reliability assessment cap specified in clause 9.2, the Planned SAIDI Assessed Value, Planned SAIFI Assessed Value, Planned SAIDI Accumulated Limit and Planned SAIFI Accumulated Limit for the Assessment Period, and any supporting calculations (including those in Schedule 3.1);	Clause 11.6(c)	Sections 3.1.1 and 3.2
for the annual unplanned interruptions reliability assessment specified in clause 9.8, the Unplanned SAIDI Assessed Value, Unplanned SAIFI Assessed Value, Unplanned SAIDI Limit, Unplanned SAIFI Limit, SAIDI Unplanned Boundary Value and SAIFI Unplanned Boundary Value for the Assessment Period, and any supporting calculations (including those in Schedule 3.2);	Clause 11.6(d)	Sections 3.1.2, 3.3 and Appendix F
for the Quality Incentive Adjustment, SAIDI Planned Interruption Cap, SAIDI Unplanned Interruption Cap, SAIDI Planned Interruption Collar, SAIDI Unplanned Interruption Collar, SAIDI Planned Interruption Target, SAIDI Unplanned Interruption Target and Incentive Rate for the Assessment Period, and any supporting calculations (including those in Schedule 4);	Clause 11.6(e)	Section 4
a description of the policies and procedures which the Non-exempt EDB has used for capturing and recording Class B Interruptions and Class C Interruptions, and for calculating Planned SAIDI Assessed Values and Unplanned SAIDI Assessed Values and Planned SAIFI Assessed Values and Unplanned SAIFI Assessed Values for the Assessment Period;	Clause 11.6(f)	Appendix G
information relating to each SAIDI Major Event within the Assessment Period, including:	Clause 11.6(g)	Appendix F
the Cause of the SAIDI Major Event;	Clause 11.6(g)(i)	

Determination Requirement	Determination Reference	Statement Reference
the start date (dd/mm/yyyy) of the SAIDI Major Event;	Clause 11.6(g)(ii)	Appendix F
the start time (hh:mm am/pm) of the SAIDI Major Event;	Clause 11.6(g)(iii)	
the end date (dd/mm/yyyy) of the SAIDI Major Event;	Clause 11.6(g)(iv)	
the end time (hh:mm am/pm) of the SAIDI Major Event;	Clause 11.6(g)(v)	
the SAIDI Value of the SAIDI Major Event before any replacements under paragraph (2) of Schedule 3.2 occurred;	Clause 11.6(g)(vi)	
the replaced SAIDI Value of the SAIDI Major Event in accordance with paragraph (2) of Schedule 3.2;	Clause 11.6(g)(vii)	
the Location of the SAIDI Major Event;	Clause 11.6(g)(viii)	
the Main Equipment involved in the SAIDI Major Event;	Clause 11.6(g)(ix)	
how the Non-exempt EDB responded to the SAIDI Major Event;	Clause 11.6(g)(x)	
any mitigating factors that may have prevented or minimised the SAIDI Major Event;	Clause 11.6(g)(xi)	
a description of any steps the Non-exempt EDB proposes to take to mitigate the risk of future similar SAIDI Major Events;	Clause 11.6(g)(xii)	
information relating to each SAIFI Major Event within the Assessment Period, including:	Clause 11.6(h)	Appendix F
the Cause of the SAIFI Major Event;	Clause 11.6(h)(i)	
the start date (dd/mm/yyyy) of the SAIFI Major Event;	Clause 11.6(h)(ii)	
the start time (hh:mm am/pm) of the SAIFI Major Event;	Clause 11.6(h)(iii)	
the end date (dd/mm/yyyy) of the SAIFI Major Event;	Clause 11.6(h)(iv)	

Determination Requirement	Determination Reference	Statement Reference
the end time (hh:mm am/pm) of the SAIFI Major Event;	Clause 11.6(h)(v)	Appendix F
the SAIFI Value of the SAIFI Major Event before any replacements under paragraph (3) of Schedule 3.2 occurred;	Clause 11.6(h)(vi)	
the replaced SAIFI Value of the SAIFI Major Event in accordance with paragraph (3) of Schedule 3.2;	Clause 11.6(h)(vii)	
the Location of the SAIFI Major Event;	Clause 11.6(h)(viii)	
the Main Equipment involved in the SAIFI Major Event;	Clause 11.6(h)(ix)	
how the Non-exempt EDB responded to the SAIFI Major Event;	Clause 11.6(h)(x)	
any mitigating factors that may have prevented or minimised the SAIFI Major Event;	Clause 11.6(h)(xi)	
a description of any steps the Non-exempt EDB proposes to take to mitigate the risk of future similar SAIFI Major Events; and	Clause 11.6(h)(xii)	
Transactions		
all information and calculations required to be made under clauses 10.1- 10.18, including:	Clause 11.6(i)	N/A
all adjusted measures made in accordance with clauses 10.4-10.18;	Clause 11.6(i)(i)	
any supporting information and calculations used to determine the adjusted measures made in accordance with clauses 10.4-10.18;	Clause 11.6(i)(ii)	
details of the Wash-up Amount calculation for the period in an Assessment Period commencing 1 April and ending on the day where a Transfer, Major Transaction, Amalgamation, or Merger has occurred, and any supporting information for all components of the calculation;	Clause 11.6(i)(iii)	

Determination Requirement	Determination Reference	Statement Reference
the sum of the SAIDI Values for Class B Interruptions for the period in an Assessment Period commencing 1 April and ending on the day where a Transfer, Major Transaction, Amalgamation, or Merger has occurred, and any supporting calculations;	Clause 11.6(i)(iv)	N/A
the sum of the SAIDI Values for Class C Interruptions for the period in an Assessment Period commencing 1 April and ending on the day where a Transfer, Major Transaction, Amalgamation, or Merger has occurred, and any supporting calculations;	Clause 11.6(i)(v)	
the sum of the SAIFI Values for Class B Interruptions for the period in an Assessment Period commencing 1 April and ending on the day where a Transfer, Major Transaction, Amalgamation, or Merger has occurred, and any supporting calculations; and	Clause 11.6(i)(vi)	
the sum of the SAIFI Values for Class C Interruptions for the period in an Assessment Period commencing 1 April and ending on the day where a Transfer, Major Transaction, Amalgamation, or Merger has occurred, and any supporting calculations.	Clause 11.6(i)(vii)	

Appendix B. DIRECTOR'S CERTIFICATE

Clause 11.5(d)

We, Stephen Richard Thompson and Margaret Patricia Devlin, being directors of Aurora Energy Limited certify that, having made all reasonable enquiry, to the best of our knowledge and belief, the attached annual compliance statement of Aurora Energy Limited, and related information, prepared for the purposes of the *Electricity Distribution Services Default Price-Quality Path Determination 2020* and the *Electricity Distribution Services Default Price-Quality Path (Aurora quality standard variation) Amendments Determination 2020* has been prepared in accordance with all the relevant requirements.

Stephen Richard Thompson

Margaret Patricia Devlin

26 August 2021

Appendix C. ASSURANCE REPORT

AUDIT NEW ZEALAND
Mana Arotake Aotearoa

Independent Assurance Report

To the Directors of Aurora Energy Limited on the Annual Compliance Statement for the assessment period ended 31 March 2021 as required by the Electricity Distribution Services Default Price-Quality Path Determination 2020

The Auditor-General is the auditor of Aurora Energy Limited (the company). The Auditor-General has appointed me, Julian Tan, using the staff and resources of Audit New Zealand, to undertake a reasonable assurance engagement, on his behalf, on whether the Annual Compliance Statement on pages 3 to 21 and 26 to 54 for the assessment period ended on 31 March 2021 has been prepared, in all material respects, in compliance with the Electricity Distribution Services Default Price-Quality Path Determination 2020 (the Determination) and the Electricity Distribution Services Default Price-Quality Path (Aurora quality standard variation) Amendments Determination 2020 (QSV Amendments Determination).

The Commerce Commission issued the QSV Amendments Determination, on 17 December 2020 under section 52Q of the Commerce Act 1986, to amend schedules 3.2 and 4 of the Determination as it relates to the company.

Reference to 'the Determination', 'clause/s' and 'schedule/s' in this assurance report, should hereafter be read as if the amendments to schedules 3.2 and 4 have already been incorporated.

Opinion

In our opinion, in all material respects:

- as far as appears from our examination, the information used in the preparation of the Annual Compliance Statement has been properly extracted from the company's accounting and other records, sourced from its financial and non-financial systems; and
- the company has complied with clauses 11.5 and 11.6 of the Determination in preparing the Annual Compliance Statement for the assessment period ended 31 March 2021.

Basis for opinion

We conducted our engagement in accordance with the Standard on Assurance Engagements (SAE) 3100 (Revised) *Assurance Engagements on Compliance*, issued by the New Zealand Auditing and Assurance Standards Board. An engagement conducted in accordance with SAE (NZ) 3100 (Revised) requires that we also comply with the International Standard on Assurance Engagements (New Zealand) 3000 (Revised) *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information*.

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

Directors' responsibilities

The directors of the company are responsible:

- For the preparation of the Annual Compliance Statement under clause 11.4 and in accordance with the requirements in clauses 11.5 and 11.6 of the Determination.
- For the identification of risks that may threaten compliance with the clauses identified above and controls which will mitigate those risks and monitor ongoing compliance.

Auditor's responsibilities

Our responsibilities, in terms of clause 11.5(e) and schedule 8(1)(b)(vi) and 8(1)(c) of the Determination, are to express an opinion on whether:

- as far as appears from our examination, the information used in the preparation of the Annual Compliance Statement has been properly extracted from the company's accounting and other records, sourced from its financial and non-financial systems; and
- the Annual Compliance Statement, for the assessment period ended 31 March 2021, has been prepared, in all material respects, in accordance with the requirements in clauses 11.5 and 11.6 of the Determination.

To meet these responsibilities, we planned and performed procedures in accordance with SAE 3100 (Revised), to obtain reasonable assurance about whether the company has complied, in all material respects, with clauses 11.5 and 11.6 of the Determination.

In relation to the wash-up amount set out in clause 8.6 of the Determination, our procedures included recalculation of the wash-up amount in accordance with schedule 1.6 of the Determination and assessing it against the amounts and disclosures contained on pages 4 to 6 of the Annual Compliance Statement.

In relation to the quality standards in clause 9 of the Determination, our procedures included examination, on a test basis, of evidence relevant to the values and disclosures contained on pages 7 to 12 of the Annual Compliance Statement.

In relation to the quality incentive adjustment set out in schedule 4 of the Determination, our procedures included recalculation of the quality incentive adjustment in accordance with schedule 4 of the Determination and assessing it against the amounts and disclosures contained on pages 13 to 15 of the 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. The procedures selected depend on our judgement, including the identification and assessment of the risks of material non-compliance with the requirements.

Inherent limitations

Because of the inherent limitations of an assurance engagement, together with the internal control structure, it is possible that fraud, error or non-compliance with clauses 11.5 and 11.6 of the Determination may occur and not be detected. A reasonable assurance engagement throughout the assessment period does not provide assurance on whether compliance with clauses 11.5 and 11.6 of the Determination will continue in the future.

Restricted use

This report has been prepared for use by the directors of the company and the Commerce Commission in accordance with clause 11.5(e) of the Determination and is provided solely for the purpose of establishing whether the compliance requirements have been met. We disclaim any assumption of responsibility for any reliance on this report to any person other than the directors of the company and the Commerce Commission, or for any other purpose than that for which it was prepared.

Independence and quality control

We complied with the Auditor-General's:

- independence and other ethical requirements, which incorporate the independence and ethical requirements of Professional and Ethical Standard 1 issued by the New Zealand Auditing and Assurance Standards Board; and
- quality control requirements, which incorporate the quality control requirements of Professional and Ethical Standard 3 (Amended) issued by the New Zealand Auditing and Assurance Standards Board.

The Auditor-General, and his employees, and Audit New Zealand and its employees may deal with the company on normal terms within the ordinary course of trading activities of the company. Other than any dealings on normal terms within the ordinary course of trading activities of the company, this engagement, the assurance engagement on the Information Disclosures and the annual audit of the company's financial statements and statement of service performance, we have no relationship with or interests in the company.

Julian Tan
Audit New Zealand
On behalf of the Auditor-General
Dunedin, New Zealand
26 August 2021

Appendix D. Actual Pass-through and Recoverable Costs and Pass-through Balance

D.1. Pass-through Costs

Table 17: Actual and forecast pass-through costs for the 2021 Assessment Period

Actual and forecast Pass-through Costs for the 2021 Assessment Period				
Actual Pass-through Costs	Actual ($000)	Forecast ($000)	Forecast variance ($000)	Explanation for variances
Local Authority rates	937	778	159	Increase in the assessed capital value of the road reserve by the Dunedin City Council.
Commerce Act levies	157	195	(38)	Timing of the Commerce Act fourth quarter levy was delayed. Will be recognised in the next regulatory year.
Electricity Authority levies	280	275	5	In line with forecast.
Utilities Disputes levies	60	67	(7)	Case related levies in RY21 were less than prior years.
Total actual pass-through costs	1,434	1,315	119	

D.2. Recoverable Costs

Table 18: Actual and forecast recoverable costs for the 2021 Assessment Period

Actual and forecast recoverable costs for the 2021 Assessment Period				
Actual recoverable costs	**Actual ($000)**	**Forecast ($000)**	**Forecast variance ($000)**	**Explanation for variances**
Opex Incentive Amount	(18,470)	(18,470)	0	In line with forecast.
Capex Incentive Amount	0	0	0	-
Incremental Adjustment Term	0	0	0	-
Transpower connection and interconnection costs - Dunedin	12,132	12,148	0	Connection charge credit for the HWB-OAM 110 kV to 33 kV circuit conversion project.

Transpower connection and interconnection costs - Central	9,371	9,371	0	In line with forecast.
Transpower new investment contract - Dunedin	45	45	0	In line with forecast.
Transpower new investment contract - Central	417	417	0	In line with forecast.
Avoided transmission costs	0	0	0	-
System operator services	0	0	0	-
Distributed generation allowance	6,309	6,309	(0)	In line with forecast.
Claw-back	0	0	0	-
Standard application fee for a CPP proposal	0	0	0	-
Commerce Commission assessment fee for a CPP proposal	0	0	0	-
Verifier fee under a CPP proposal	0	0	0	-
Auditor's fee associated with a CPP proposal	0	0	0	-
Audit and assurance report for a CPP proposal	0	0	0	-
Catastrophic event allowance	0	0	0	-
Extended reserves allowance	0	0	0	-
Quality incentive adjustment	(614)	(614)	0	In line with forecast.
Capex wash-up	0	0	0	-
Transmission asset wash-up adjustment	0	0	0	-
2013-15 NPV wash-up allowance	0	0	0	-
Reconsideration event allowance	0	0	0	-
Engineer fee associated with a proposal of quality standard variation	0	0	0	-
Revenue wash-up draw down amount	0	0	0	-
Fire and Emergency New Zealand (FENZ) levies	39	38	1	In line with forecast.
Innovation project allowance	0	0	0	-

Total actual recoverable costs	**9,230**	**9,245**	**(15)**

D.3. Pass-through Balance

Table 19: Pass-through balance for the 2021 Assessment Period

Pass-through balance RY21		
Term	**Description**	**Value ($000)**
Pass-through Balance	Pass-through balance for the assessment period ending 31 March 2020	648
67th Percentile Estimate Of Post-tax WACC		4.23%
Pass-through Balance	Pass-through Balance x (1 + 67th Percentile Estimate Of Post-tax WACC)	**675**

Appendix E. Actual Revenue From Prices

40. Aurora Energy's Forecast Revenue From Prices for the first Assessment Period disclosed in Aurora Energy's Price-Setting Compliance Statement for the period 1 April 2020 to 31 March 2021 was $97,374,195.

41. Table 20, shows the actual Prices and Quantities for Actual Revenue From Prices for the first Assessment Period and includes $123,015 of revenue from wash-up billing of prior period Quantities. Those prior period Quantities were invoiced at the price applicable at the time of consumption.

Table 20: Composition of Actual Revenue From Prices for the 2021 Assessment Period

Load Group	Charge Type	Charge Applied	Actual Quantities as at 31 March 2021	Distribution Price as at 31 March 2021	Pass-through and Recoverable Price as at 31 March 2021	Distribution Actual Revenue	Pass-through and Recoverable Actual Revenue	Total Actual Revenue for the year ending 31 March 2021
Fixed charges - Dunedin								
Residential 15	Number	Daily	17,668,199	$ 0.1500	$ -	$ 2,650,230		**$ 2,650,230**
Residential 8	Number	Daily	194,842	$ 0.0410	$ -	$ 7,986		**$ 7,986**
Unmetered Supply	Number	Daily	730	$ 0.0572	$ -	$ 42		**$ 42**
L0	Number	Daily	34,673	$ 0.4657	$ 0.0639	$ 16,157	$ 2,205	**$ 18,362**
L0A	Number	Daily	55,095	$ 0.9669	$ 0.1723	$ 53,359	$ 9,388	**$ 62,747**
Load Group 1A	Number	Daily	149,584	$ 0.0431	$ -	$ 6,454		**$ 6,454**
Load Group 1A	Total Capacity kVA	Daily	1,196,672	$ 0.0594	-$ 0.0114	$ 71,074	-$ 13,633	**$ 57,441**
Load Group 1A	Total CPD kW	Daily	136,565	$ 0.3699	$ 0.2486	$ 50,519	$ 33,945	**$ 84,463**
Load Group 1	Number	Daily	1,056,251	$ 0.0431	$ -	$ 45,580		**$ 45,580**
Load Group 1	Total Capacity kVA	Daily	15,843,047	$ 0.0531	-$ 0.0081	$ 841,334	-$ 128,554	**$ 712,780**
Load Group 1	Total CPD kW	Daily	2,556,023	$ 0.3699	$ 0.2486	$ 945,497	$ 635,407	**$ 1,580,904**
Load Group 2	Number	Daily	1,135,484	$ 0.0933	$ -	$ 105,901		**$ 105,901**
Load Group 2	Total Capacity kVA	Daily	57,884,263	$ 0.0676	-$ 0.0210	$ 3,913,206	-$ 1,215,889	**$ 2,697,317**
Load Group 2	Total CPD kW	Daily	8,829,649	$ 0.3699	$ 0.2486	$ 3,266,143	$ 2,195,026	**$ 5,461,169**
Load Group 3	Number	Daily	37,403	$ 1.7000	$ -	$ 63,585		**$ 63,585**
Load Group 3	Total Capacity kVA	Daily	7,324,750	$ 0.1115	-$ 0.0352	$ 816,712	-$ 257,832	**$ 558,880**
Load Group 3	Total KVA-KM	Daily	41,064,306	$ 0.0011	$ -	$ 45,171		**$ 45,171**
Load Group 3	Total CPD kW	Daily	1,945,058	$ 0.2525	$ 0.2432	$ 491,127	$ 473,038	**$ 964,165**
Load Group 3A	Number	Daily	32,811	$ 1.7000	$ -	$ 55,779		**$ 55,779**
Load Group 3A	Total Capacity kVA	Daily	10,017,246	$ 0.1025	-$ 0.0352	$ 1,026,765	-$ 352,605	**$ 674,160**
Load Group 3A	Total KVA-KM	Daily	53,420,504	$ 0.0011	$ -	$ 58,763		**$ 58,763**
Load Group 3A	Total CPD kW	Daily	3,220,183	$ 0.2525	$ 0.2432	$ 813,097	$ 783,148	**$ 1,596,245**
Load Group 4	Number	Daily	27,030	$ 4.2700	$ -	$ 115,418		**$ 115,418**
Load Group 4	Total Capacity kVA	Daily	19,245,500	$ 0.0548	-$ 0.0082	$ 1,054,653	-$ 157,813	**$ 896,840**
Load Group 4	Total KVA-KM	Daily	108,106,350	$ 0.0011	$ -	$ 118,917		**$ 118,917**
Load Group 4	Total CPD kW	Daily	5,460,280	$ 0.2133	$ 0.2432	$ 1,164,677	$ 1,327,940	**$ 2,492,617**
Load Group 5	Number	Daily	2,535	$ 4.2700	$ -	$ 10,824		**$ 10,824**
Load Group 5	Total Capacity kVA	Daily	7,897,000	$ 0.0364	-$ 0.0097	$ 287,451	-$ 76,601	**$ 210,850**
Load Group 5	Total KVA-KM	Daily	49,978,015	$ 0.0011	$ -	$ 54,976		**$ 54,976**
Load Group 5	Total CPD kW	Daily	2,361,980	$ 0.1336	$ 0.2432	$ 315,561	$ 574,433	**$ 889,994**
Other Charges	Other Charge ($)	Annual	22,573	$ 1.0000	$ -	$ 22,573		**$ 22,573**
Transformer Charges	Other Charge ($)	Annual	446,075	$ 1.0000	$ -	$ 446,075		**$ 446,075**
Street Lighting	Fixed	Daily	365	$ 382.35	$ 61.57	$ 139,558	$ 22,473	**$ 162,031**
Street Lighting	Fixed	Daily	365	$ 750.83	$ 47.59	$ 274,053	$ 17,370	**$ 291,423**
Non-Standard	Fixed	Annual	1	$ 130,761		$ 130,764		**$ 130,764**
Variable charges - Dunedin								
Residential DN	kWh	Volume	19,420,247	$ 0.0891	$ 0.0041	$ 1,738,131	$ 93,003	**$ 1,831,134**
Residential DN	kWh	Volume	22,767,427	$ 0.1012	$ 0.0386	$ 2,325,261	$ 896,789	**$ 3,222,050**
Residential DN	kWh	Volume	1,238,920	$ 0.0815	$ 0.0013	$ 102,277	$ 1,825	**$ 104,102**
Residential DN	kWh	Volume	1,248,147	$ 0.0865	$ 0.0361	$ 109,820	$ 45,765	**$ 155,586**
Residential DN	kWh	Volume	1,242,626	$ 0.0061	$ -	$ 7,675		**$ 7,675**
Residential DN	kWh	Volume	165,938,879	$ 0.0439	$ 0.0114	$ 7,323,064	$ 1,911,514	**$ 9,234,578**
Residential DN	kWh	Volume	188,227,931	$ 0.0651	$ 0.0165	$ 12,335,490	$ 3,119,207	**$ 15,454,697**
Residential DN	kWh	Volume	1,578,876	$ 0.0228	$ 0.0058	$ 36,185	$ 9,166	**$ 45,350**
Residential DN	kWh	Volume	2,769,981	$ 0.0061	$ -	$ 17,067		**$ 17,067**
Unmetered Supply DN	kWh	Volume	3,614	$ 0.0204	$ 0.0052	$ 74	$ 19	**$ 93**
Residential DN	kWh	Volume	1,419,044	$ 0.0280	$ 0.0071	$ 39,798	$ 10,059	**$ 49,857**
					Total Dunedin	**$ 43,514,822**	**$ 9,958,794**	**$ 53,473,616**

Load Group	Charge Type	Charge Applied	Actual Quantities as at 31 March 2021	Distribution Price as at 31 March 2021	Pass-through and Recoverable Price as at 31 March 2021	Distribution Actual Revenue	Pass-through and Recoverable Actual Revenue	Total Actual Revenue for the year ending 31 March 2021
Fixed charges - Clyde/Cromwell								
Residential 15	Number	Daily	6,239,609	$ 0.1500	$ -	$ 935,941	$ -	**$ 935,941**
Residential 8	Number	Daily	31,232	$ 0.0410	$ -	$ 1,280		**$ 1,280**
L0	Number	Daily	38,843	$ 0.6683	-$ 0.2429	$ 25,961	-$ 9,436	**$ 16,525**
L0A	Number	Daily	130,044	$ 1.2744	-$ 0.4965	$ 165,776	-$ 64,741	**$ 101,036**
Load Group 1A	Number	Daily	114,396	$ 0.0470	$ -	$ 5,384		**$ 5,384**
Load Group 1A	Total Capacity kVA	Daily	915,040	$ 0.1037	-$ 0.0407	$ 94,876	-$ 37,238	**$ 57,638**
Load Group 1A	Total CPD kW	Daily	117,437	$ 0.5947	$ 0.1657	$ 69,837	$ 19,457	**$ 89,294**
Load Group 1	Number	Daily	638,537	$ 0.0470	$ -	$ 30,055		**$ 30,055**
Load Group 1	Total Capacity kVA	Daily	9,577,125	$ 0.0958	-$ 0.0599	$ 917,487	-$ 573,689	**$ 343,798**
Load Group 1	Total CPD kW	Daily	1,409,577	$ 0.5947	$ 0.1657	$ 838,273	$ 233,558	**$ 1,071,831**
Load Group 2	Number	Daily	704,776	$ 0.0988	$ -	$ 69,571		**$ 69,571**
Load Group 2	Total Capacity kVA	Daily	36,029,414	$ 0.0809	-$ 0.0260	$ 2,914,801	-$ 936,724	**$ 1,978,077**
Load Group 2	Total CPD kW	Daily	4,063,241	$ 0.5131	$ 0.1623	$ 2,084,800	$ 659,475	**$ 2,744,275**
Load Group 3	Number	Daily	31,891	$ 1.8900	$ -	$ 60,274		**$ 60,274**
Load Group 3	Total Capacity kVA	Daily	5,922,816	$ 0.0965	-$ 0.0342	$ 575,097	-$ 202,558	**$ 372,538**
Load Group 3	Total KVA-KM	Daily	186,655,515	$ 0.0013	$ -	$ 242,831		**$ 242,831**
Load Group 3	Total CPD kW	Daily	958,867	$ 0.5529	$ 0.1364	$ 532,773	$ 130,789	**$ 663,563**
Load Group 3A	Number	Daily	18,733	$ 1.8900	$ -	$ 35,405		**$ 35,405**
Load Group 3A	Total Capacity kVA	Daily	5,572,538	$ 0.0856	-$ 0.0342	$ 477,010	-$ 190,581	**$ 286,429**
Load Group 3A	Total KVA-KM	Daily	164,468,087	$ 0.0013	$ -	$ 213,809		**$ 213,809**
Load Group 3A	Total CPD kW	Daily	813,129	$ 0.5529	$ 0.1364	$ 449,579	$ 110,911	**$ 560,490**
Load Group 4	Number	Daily	13,955	$ 4.9600	$ -	$ 69,217		**$ 69,217**
Load Group 4	Total Capacity kVA	Daily	9,792,600	$ 0.0697	-$ 0.0351	$ 682,544	-$ 343,720	**$ 338,824**
Load Group 4	Total KVA-KM	Daily	359,527,034	$ 0.0013	$ -	$ 467,385		**$ 467,385**
Load Group 4	Total CPD kW	Daily	1,403,200	$ 0.4937	$ 0.1364	$ 692,760	$ 191,397	**$ 884,156**
Load Group 5	Number	Daily	365	$ 4.9600	$ -	$ 1,810		**$ 1,810**
Load Group 5	Total Capacity kVA	Daily	912,500	$ 0.0615	-$ 0.0351	$ 56,119	-$ 32,029	**$ 24,090**
Load Group 5	Total KVA-KM	Daily	60,133,750	$ 0.0013	$ -	$ 78,174		**$ 78,174**
Load Group 5	Total CPD kW	Daily	38,325	$ 0.4937	$ 0.1364	$ 18,921	$ 5,228	**$ 24,149**
Other Charges	Other Charge ($)	Annual	- 9,782	$ 1.0000	$ -	-$ 9,782		**-$ 9,782**
Transformer Charges	Other Charge ($)	Annual	182,840	$ 1.0000	$ -	$ 182,840		**$ 182,840**
Non-Standard	Number	Annual	1	$ 433,221	$ -	$ 433,221		**$ 433,221**
Non-Standard	Number	Annual	1	$ 27,542	$ -	$ 27,542		**$ 27,542**
Non-Standard	Number	Annual	1	$ 28,014	$ -	$ 28,014		**$ 28,014**
Variable charges - Clyde/Cromwell								
Residential CYD/CML	kWh	Volume	41,177,350	$ 0.1283	-$ 0.0195	$ 5,295,904	-$ 801,835	**$ 4,494,068**
Residential CYD/CML	kWh	Volume	51,064,092	$ 0.1770	-$ 0.0136	$ 9,063,271	-$ 695,754	**$ 8,367,517**
Residential CYD/CML	kWh	Volume	662,057	$ 0.0762	-$ 0.0079	$ 50,564	-$ 5,314	**$ 45,250**
Residential CYD/CML	kWh	Volume	1,931,411	$ 0.0624	-$ 0.0064	$ 120,625	-$ 12,481	**$ 108,144**
Residential CYD/CML	kWh	Volume	25,073,181	$ 0.0677	-$ 0.0062	$ 1,699,845	-$ 156,414	**$ 1,543,430**
Residential CYD/CML	kWh	Volume	1,271,292	$ 0.0534	$ -	$ 67,978		**$ 67,978**
Residential CYD/CML	kWh	Volume	186,019	$ 0.0937	-$ 0.0097	$ 17,456	-$ 1,843	**$ 15,613**
Street Lighting kWh CYD/CML	kWh	Volume	1,186,102	$ 0.0509	-$ 0.0049	$ 60,373	-$ 5,812	**$ 54,561**
Street Lighting Lamps CYD/CML	#lamps	Daily	1,630,045	$ 0.0372	$ -	$ 60,638		**$ 60,638**
					Total Clyde/Cromwell	**$ 29,906,239**	**-$ 2,719,357**	**$ 27,186,882**

Load Group	Charge Type	Charge Applied	Actual Quantities as at 31 March 2021	Distribution Price as at 31 March 2021	Pass-through and Recoverable Price as at 31 March 2021	Distribution Actual Revenue	Pass-through and Recoverable Actual Revenue	Total Actual Revenue for the year ending 31 March 2021
Fixed charges - Queenstown								
Residential 15	Number	Daily	3,461,912	$ 0.1500	$ -	$ 519,287		$ 519,287
Residential 8	Number	Daily	37,877	$ 0.0410	$ -	$ 1,552		$ 1,552
Load Group 0	Number	Daily	32,901	$ 0.4262	$ 0.1552	$ 14,019	$ 5,107	$ 19,126
Load Group 0A	Number	Daily	70,300	$ 0.7721	$ 0.3688	$ 54,470	$ 25,805	$ 80,275
Load Group 1A	Number	Daily	59,459	$ 0.0402	$ -	$ 2,398		$ 2,398
Load Group 1A	Total Capacity kVA	Daily	475,400	$ 0.0536	-$ 0.0187	$ 25,494	-$ 8,894	$ 16,600
Load Group 1A	Total CPD kW	Daily	63,897	$ 0.2524	$ 0.1906	$ 16,129	$ 12,179	$ 28,308
Load Group 1	Number	Daily	312,064	$ 0.0402	$ -	$ 12,584		$ 12,584
Load Group 1	Total Capacity kVA	Daily	4,679,895	$ 0.0502	-$ 0.0187	$ 234,997	-$ 87,528	$ 147,469
Load Group 1	Total CPD kW	Daily	1,000,531	$ 0.2524	$ 0.1906	$ 252,535	$ 190,703	$ 443,238
Load Group 2	Number	Daily	545,239	$ 0.0652	$ -	$ 35,567		$ 35,567
Load Group 2	Total Capacity kVA	Daily	25,243,346	$ 0.0629	-$ 0.0173	$ 1,587,866	-$ 436,780	$ 1,151,086
Load Group 2	Total CPD kW	Daily	4,260,528	$ 0.3121	$ 0.2276	$ 1,329,923	$ 969,677	$ 2,299,600
Load Group 3	Number	Daily	8,776	$ 1.4800	$ -	$ 12,988		$ 12,988
Load Group 3	Total Capacity kVA	Daily	1,655,302	$ 0.1449	-$ 0.0173	$ 239,853	-$ 28,636	$ 211,217
Load Group 3	Total KVA-KM	Daily	23,312,416	$ 0.0011	$ -	$ 25,644		$ 25,644
Load Group 3	Total CPD kW	Daily	407,775	$ 0.1963	$ 0.1380	$ 80,046	$ 56,273	$ 136,319
Load Group 3A	Number	Daily	10,225	$ 1.4800	$ -	$ 15,133		$ 15,133
Load Group 3A	Total Capacity kVA	Daily	3,023,256	$ 0.1325	-$ 0.0173	$ 400,582	-$ 52,302	$ 348,279
Load Group 3A	Total KVA-KM	Daily	46,353,676	$ 0.0011	$ -	$ 50,989		$ 50,989
Load Group 3A	Total CPD kW	Daily	733,471	$ 0.1963	$ 0.1380	$ 143,981	$ 101,219	$ 245,199
Load Group 4	Number	Daily	6,935	$ 3.8900	$ -	$ 26,977		$ 26,977
Load Group 4	Total Capacity kVA	Daily	5,307,750	$ 0.0720	-$ 0.0004	$ 382,158	-$ 2,123	$ 380,035
Load Group 4	Total KVA-KM	Daily	60,199,233	$ 0.0011	$ -	$ 66,219		$ 66,219
Load Group 4	Total CPD kW	Daily	1,642,135	$ 0.2264	$ 0.1380	$ 371,779	$ 226,615	$ 598,394
Load Group 5	Number	Daily		$ 3.8900	$ -			$ -
Load Group 5	Total Capacity kVA	Daily		$ 0.0171	-$ 0.0004			$ -
Load Group 5	Total KVA-KM	Daily		$ 0.0011	$ -			$ -
Load Group 5	Total CPD kW	Daily		$ 0.1556	$ 0.1380			$ -
Other Charges	Other Charge ($)	Annual	- 1,512	$ 1.0000	$ -	-$ 1,512		-$ 1,512
Transformer Charges	Other Charge ($)	Annual	122,150	$ 1.0000	$ -	$ 122,150		$ 122,150
Non-Standard	Number	Annual	1	$ 88,049	$ 115,909	$ 88,049	$ 115,909	$ 203,958
Variable charges - Queenstown								
Residential FKN	kWh	Volume	26,046,190	$ 0.0845	$ 0.0026	$ 2,210,120	$ 69,147	$ 2,279,267
Residential FKN	kWh	Volume	38,473,031	$ 0.1028	$ 0.0280	$ 3,969,916	$ 1,081,492	$ 5,051,408
Residential FKN	kWh	Volume	1,588,426	$ 0.0318	$ 0.0058	$ 50,738	$ 9,274	$ 60,011
Residential FKN	kWh	Volume	1,112,511	$ 0.0194	$ 0.0036	$ 21,585	$ 4,001	$ 25,586
Residential FKN	kWh	Volume	18,947,254	$ 0.0216	$ 0.0040	$ 409,774	$ 75,979	$ 485,754
Residential FKN	kWh	Volume	788,849	$ 0.0138	$ -	$ 11,027		$ 11,027
Residential FKN	kWh	Volume	246,511	$ 0.0486	$ 0.0089	$ 11,985	$ 2,188	$ 14,173
Street Lighting kWh FKN	kWh	Volume	893,026	$ 0.0126	$ 0.0023	$ 11,252	$ 2,054	$ 13,306
Street Lighting Lamps FKN	#lamps	Daily	1,042,370	$ 0.0372	$ -	$ 38,776		$ 38,776
Fixed charges - Queenstown Sub								
Residential 15	Number	Daily	480,958	$ 0.1500	$ -	$ 72,144		$ 72,144
Residential 8	Number	Daily	730	$ 0.0410	$ -	$ 30		$ 30
Load Group 0	Number	Daily	5,310	$ 0.4262	$ 0.1552	$ 2,263	$ 824	$ 3,087
Load Group 0A	Number	Daily	4,831	$ 0.7721	$ 0.3688	$ 3,731	$ 1,781	$ 5,512
Load Group 1A	Number	Daily	5,636	$ 0.0402	$ -	$ 227		$ 227
Load Group 1A	Total Capacity kVA	Daily	45,088	$ 0.0536	-$ 0.0187	$ 2,418	-$ 844	$ 1,574
Load Group 1A	Total CPD kW	Daily	7,023	$ 0.2524	$ 0.1906	$ 1,773	$ 1,339	$ 3,111
Load Group 1	Number	Daily	76,764	$ 0.0402	$ -	$ 3,096		$ 3,096
Load Group 1	Total Capacity kVA	Daily	1,151,460	$ 0.0502	-$ 0.0187	$ 57,821	-$ 21,544	$ 36,277
Load Group 1	Total CPD kW	Daily	259,312	$ 0.2524	$ 0.1906	$ 65,450	$ 49,424	$ 114,875
Load Group 2	Number	Daily	72,970	$ 0.0587	$ -	$ 4,282		$ 4,282
Load Group 2	Total Capacity kVA	Daily	3,554,852	$ 0.0566	-$ 0.0173	$ 201,206	-$ 61,500	$ 139,706
Load Group 2	Total CPD kW	Daily	627,579	$ 0.2809	$ 0.2276	$ 176,286	$ 142,837	$ 319,123
Load Group 3	Number	Daily	2,920	$ 1.2200	$ -	$ 3,562		$ 3,562
Load Group 3	Total Capacity kVA	Daily	567,210	$ 0.1195	-$ 0.0173	$ 67,782	-$ 9,813	$ 57,969
Load Group 3	Total KVA-KM	Daily	1,370,860	$ 0.0011	$ -	$ 1,508		$ 1,508
Load Group 3	Total CPD kW	Daily	183,230	$ 0.1619	$ 0.1380	$ 29,665	$ 25,286	$ 54,951
Load Group 3A	Number	Daily	2,920	$ 1.2200	$ -	$ 3,562		$ 3,562
Load Group 3A	Total Capacity kVA	Daily	931,480	$ 0.1093	-$ 0.0173	$ 101,811	-$ 16,115	$ 85,696
Load Group 3A	Total KVA-KM	Daily	3,612,099	$ 0.0011	$ -	$ 3,973		$ 3,973
Load Group 3A	Total CPD kW	Daily	247,327	$ 0.1619	$ 0.1380	$ 40,042	$ 34,131	$ 74,173
Load Group 4	Number	Daily	3,019	$ 3.0100	$ -	$ 9,087		$ 9,087
Load Group 4	Total Capacity kVA	Daily	1,783,250	$ 0.0558	-$ 0.0004	$ 99,505	-$ 713	$ 98,792
Load Group 4	Total KVA-KM	Daily	3,623,491	$ 0.0011	$ -	$ 3,986		$ 3,986
Load Group 4	Total CPD kW	Daily	639,445	$ 0.1755	$ 0.1380	$ 112,223	$ 88,243	$ 200,466
Load Group 5	Number	Daily	365	$ 3.0100	$ -	$ 1,099		$ 1,099
Load Group 5	Total Capacity kVA	Daily	912,500	$ 0.0133	-$ 0.0004	$ 12,136	-$ 365	$ 11,771
Load Group 5	Total KVA-KM	Daily	1,095,000	$ 0.0011	$ -	$ 1,205		$ 1,205
Load Group 5	Total CPD kW	Daily	203,670	$ 0.1206	$ 0.1380	$ 24,563	$ 28,106	$ 52,669
Other Charges	Other Charge ($)	Annual		$ 1.0000	$ -			$ -
Transformer Charges	Other Charge ($)	Annual	62,052	$ 1.0000	$ -	$ 62,052		$ 62,052
Non-Standard	Number	Annual	1	$ 75,331	$ 54,720	$ 75,331	$ 54,720	$ 130,051
Variable charges - Queenstown Sub								
Residential FKN Sub	kWh	Volume	2,840,278	$ 0.0845	$ 0.0026	$ 240,006	$ 7,519	$ 247,525
Residential FKN Sub	kWh	Volume	4,309,764	$ 0.1028	$ 0.0280	$ 443,179	$ 120,709	$ 563,888
Residential FKN Sub	kWh	Volume	555,157	$ 0.0318	$ 0.0058	$ 17,670	$ 3,183	$ 20,853
Residential FKN Sub	kWh	Volume	137,583	$ 0.0194	$ 0.0036	$ 2,678	$ 480	$ 3,158
Residential FKN Sub	kWh	Volume	2,437,260	$ 0.0216	$ 0.0040	$ 52,702	$ 9,807	$ 62,508
Residential FKN Sub	kWh	Volume	99,296	$ 0.0138	$ -	$ 1,370		$ 1,370
Residential FKN Sub	kWh	Volume	60,988	$ 0.0486	$ 0.0089	$ 2,969	$ 536	$ 3,505
					Total Queenstown	$ 14,851,419	$ 2,789,391	$ 17,640,810

Load Group	Charge Type	Charge Applied	Actual Quantities as at 31 March 2021	Distribution Price as at 31 March 2021	Pass-through and Recoverable Price as at 31 March 2021	Distribution Actual Revenue	Pass-through and Recoverable Actual Revenue	Total Actual Revenue for the year ending 31 March 2021
Fixed charges - Te Anau								
Residential 15	Number	Daily	46,287	$ 0.1500	$ -	$ 6,943		**$ 6,943**
Residential 8	Number	Daily	981	$ 0.0410	$ -	$ 40		**$ 40**
Load Group 0	Number	Daily		$ 0.6249	$ -			**$ -**
Load Group 0A	Number	Daily	1,032	$ 1.2906	$ -	$ 1,349	$ -	**$ 1,349**
Load Group 1A	Number	Daily	365	$ 0.0312	$ -	$ 11		**$ 11**
Load Group 1A	Total Capacity kVA	Daily	2,920	$ 0.0786	$ -	$ 229	$ -	**$ 229**
Load Group 1A	Total CPD kW	Daily	365	$ 0.6848	$ -	$ 250	$ -	**$ 250**
Load Group 1	Number	Daily		$ 0.0312	$ -			**$ -**
Load Group 1	Total Capacity kVA	Daily		$ 0.0702	$ -			**$ -**
Load Group 1	Total CPD kW	Daily		$ 0.6848	$ -			**$ -**
Load Group 2	Number	Daily	1,238	$ 0.0658	$ -	$ 81		**$ 81**
Load Group 2	Total Capacity kVA	Daily	35,409	$ 0.0660	$ -	$ 2,337	$ -	**$ 2,337**
Load Group 2	Total CPD kW	Daily	2,880	$ 0.6617	$ -	$ 1,906	$ -	**$ 1,906**
Variable charges - Te Anau								
Residential Heritage	kWh	Volume	286,261	$ 0.1099	$ -	$ 31,955	$ -	**$ 31,955**
Residential Heritage	kWh	Volume	319,602	$ 0.1652	$ -	$ 53,909	$ -	**$ 53,909**
Residential Heritage	kWh	Volume		$ 0.0454	$ -			**$ -**
Residential Heritage	kWh	Volume	120,781	$ 0.0514	$ -	$ 6,493	$ -	**$ 6,493**
Residential Heritage	kWh	Volume	23,593	$ 0.0303	$ -	$ 715		**$ 715**
Street Lighting kWh	kWh	Volume	7,733	$ 0.0710	$ -	$ 549	$ -	**$ 549**
Street Lighting Lamps	#lamps	Daily	29,565	$ 0.0372	$ -	$ 1,100		**$ 1,100**
					Total Heritage	**$ 107,869**	**$ -**	**$ 107,869**
Total Network						**$ 88,380,349**	**$ 10,028,828**	**$ 98,409,177**

Appendix F. MAJOR EVENTS

Details of the four SAIDI Major Events and one SAIFI Major Event that Aurora Energy experienced on its network during the Assessment Period are set out below, together with details of the normalisation of the SAIDI and SAIFI values associated with the Major Events.

F.1. JUNE 2020 SAIDI MAJOR EVENT

Table 21: Details of June 2020 SAIDI Major Event

Details of June 2020 SAIDI Major Event	
Cause	Two outage events contributed to the SAIDI Major Event: – Outage event 1: Defective Equipment; and – Outage event 2: Unknown Cause.
Start date	13 June 2020
Start time	7:00 am
End date	15 June 2020
End time	6:00 am
Raw SAIDI Value	8.58 minutes
Replaced SAIDI Value	0.24 minutes
Location of the Major Event	Outage event 1: Clyde, Central Otago (2052 – Clyde/Alexandra No1) Outage event 2: Frankton, Queenstown (730 – T1 Transformer Dalefield)
Main Equipment involved in the Major Event	Outage event 1: Subtransmission Other Outage event 2: Subtransmission Lines
How Aurora Energy responded to the Major Event	Outage event 1: Aurora Energy initiated a field response and investigation into outage event 1, in response to a SCADA alarm being activated in the control room and to protection settings tripping on the transformer within the zone substation. Investigations revealed that the transformer insulating oil level was low. The oil was topped up and the transformer livened. Outage event 2: A field crew was directed to patrol the feeder. No fault cause or safety issues were found and supply was restored.
Any mitigating factors that may have prevented or minimised the Major Event	Having an oil level gauge that provided more accurate level indications for both summer and winter conditions may have prevented outage event 1. Having a permanent connection point installed at the site of the Earnscleugh zone-substation to enable the quick deployment of a mobile substation may have minimised the duration of the interruptions associated with outage event 1.

Description of any steps Aurora Energy proposes to take to mitigate the risk of future similar Major Events	To mitigate the risk of future, similar major events, Aurora Energy proposes to: – ensure that it has documented contingency plans in place for all zone substations; – progress zone substation works that will enable rapid connection of the mobile substation (as required for contingency plans); – review Aurora Energy's network requirements for using mobile substations as a key contingency element for both reactive incidents and scheduled works at substations; – complete transformer maintenance in accordance with Aurora Energy maintenance standards; – ensure that the asset maintenance process, including asset information requirements, prioritisation of defects, is clearly documented, with clear roles and responsibilities; – establish a comprehensive asset management system, to ensure visibility and coordination of asset information and associated maintenance works; – formalise incident escalation processes for both Aurora Energy and its fault response contractors; – ensure outage information updates are made regularly to Aurora Energy from field crews and to customers; – establish a roster of duty engineers for providing technical support after hours; – review how and when incident management structures are required to be triggered/implemented; – establish clarity in role/responsibility and improve communication with other key stakeholders; and – ensure network operation centre response to SCADA alarms is consistent, through use of ADMS/SCADA information and training of network coordinators.

F.2. October 2020 SAIDI Major Event

Table 22: Details of October 2020 SAIDI Major Event

Details of October 2020 SAIDI Major Event	
Cause	Three outage events contributed to the SAIDI Major Event: – Outage event 1: Third Party Interference; – Outage event 2: Vegetation; and – Outage event 3: Defective Equipment.
Start date	15 October 2020
Start time	8:30 pm
End date	17 October 2020
End time	11:30 am
Raw SAIDI Value	7.14 minutes
Replaced SAIDI Value	0.51 minutes
Location of the Major Event	Outage event 1: Lindis Crossing, Central Otago (Recloser 8157) Outage event 2: Fernhill/Glenorchy, Queenstown (5202 – Glenorchy, 5308 – Broadview Rise-Watts Road) Outage event 3: East Taieri, Dunedin (Feeder 3)
Main Equipment involved in the Major Event	Outage event 1: Distribution Lines (Excluding LV) Outage event 2: Distribution Lines (Excluding LV) Outage event 3: Distribution Lines (Excluding LV)
How Aurora Energy responded to the Major Event	Outage event 1: Field crews responded to the outage event and replaced the damaged equipment. Outage Event 2: Field crews removed the vegetation and repaired the line. Outage Event 3: Field crews responded to the outage event and replaced the defective equipment.
Any mitigating factors that may have prevented or minimised the Major Event	This Major Event was a combination of three unrelated, unplanned outage events on the Aurora Energy's network during a rolling 24-hour period. As such, we do not believe that there were any mitigating factors in this instance that may have prevented or minimised the Major Event.
Description of any steps Aurora Energy proposes to take to mitigate the risk of future similar Major Events	Aurora Energy will continue to review, with an aim to improving, its fault response times, so that customers are impacted by unplanned outage events for no longer than necessary. Aurora Energy is also undertaking a significant asset replacement and renewal programme, with an aim to improving the safety and reliability of supply to consumers in future years.

F.3. NOVEMBER 2020 SAIDI MAJOR EVENT

Table 23: Details of November 2020 SAIDI Major Event

Details of November 2020 SAIDI Major Event	
Cause	Two outage events contributed to the SAIDI Major Event, both of which were caused by Defective Equipment.
Start date	3 November 2020
Start time	7:00 pm
End date	5 November 2020
End time	6:00 pm
Raw SAIDI Value	6.75 minutes
Replaced SAIDI Value	0.13 minutes
Location of the Major Event	Outage event 1: Cromwell, Central Otago (831 – Inniscort Street-Alpha Street) Outage event 2: East Taieri, Dunedin (Feeder 4)
Main Equipment involved in the Major Event	Outage event 1: Distribution Cables (Excluding LV) Outage event 2: Distribution Other (Excluding LV)
How Aurora Energy responded to the Major Event	Outage event 1: Field crews localised the faulty cable joint and restored customers in a phased manner as repairs were performed. Outage event 2: The high voltage circuit was isolated so that repairs to the low voltage fuses could be safely performed.
Any mitigating factors that may have prevented or minimised the Major Event	In respect of outage event 2, all materials were sourced and available on-site to perform the task, and the crew was standing by to immediately carry out the work once the high voltage circuit had been isolated.
Description of any steps Aurora Energy proposes to take to mitigate the risk of future similar Major Events	To minimize the risk of future similar Major Events to outage event 1, Aurora Energy will: – consider the design and construction methodology of similar future projects; – review internal processes around access to equipment; – review and look for opportunities to improve and implement site labelling for equipment and switches; and – review and look for opportunities to improve visibility and locational awareness of fault passage indicators installed on the network.

F.4. December 2020 SAIDI Major Event

Table 24: Details of December 2020 SAIDI Major Event

Details of November 2020 SAIDI Major Event	
Cause	Six outage events contributed to the SAIDI Major Event: – Outage event 1: Unknown Cause and Human Error; – Outage event 2: Unknown Cause; – Outage event 3: Defective Equipment; – Outage event 4: Defective Equipment; – Outage event 5: Defective Equipment; and – Outage event 6: Vegetation.
Start date	12 December 2020
Start time	3:00 pm
End date	14 December 2020
End time	7:30 am
Raw SAIDI Value	7.89 minutes
Replaced SAIDI Value	1.07 minutes
Location of the Major Event	Outage event 1: Green Island, Dunedin (Feeder 3) Outage event 2: Alexandra, Central Otago (3152 – Omakau Line) Outage event 3: Frankton, Queenstown (7784 – Jacks Point) Outage event 4: Cromwell, Central Otago (831 – Inniscort Street-Alpha Street) Outage event 5: Alexandra, Central Otago (168 – Dunstan Road-Manuherikia Road) Outage event 6: Berwick, Dunedin (Feeder 1)
Main Equipment involved in the Major Event	Outage event 1: Distribution Lines (Excluding LV) Outage event 2: Subtransmission Lines Outage event 3: Distribution Lines (Excluding LV) Outage event 4: Distribution Cables (Excluding LV) Outage event 5: Subtransmission Lines Outage event 6: Distribution Lines (Excluding LV)
How Aurora Energy responded to the Major Event	Outage event 1: Initiated field response to patrol the feeder to determine if there was a cause for trip or safe to liven. No fault cause or safety issues were found and supply was restored. Supply was again interrupted and a streetlight bracket was subsequently removed due to poor bracket design and unsafe positioning. The feeder was then further patrolled and supply restored. Outage event 2: Field crews patrolled the feeder to determine if there was a cause for trip or safe to liven. No fault cause or safety issues were found and supply was restored.

	Outage event 3: Field crews responded to the outage event and replaced the Defective Equipment. Outage event 4: Field crews responded to the outage event and replaced the Defective Equipment. Outage event 5: Field crews responded to the outage event and replaced the Defective Equipment. Outage event 6: Initiated field response to patrol the feeder to determine if there was a cause for trip or safe to liven. Vegetation on the line found and removed. Upon completion of the feeder patrol, supply was restored to the feeder.
Any mitigating factors that may have prevented or minimised the Major event	This Major Event was a combination of six unrelated, unplanned outage events on the Aurora Network during a rolling 24-hour period. As such, we do not believe that there were any mitigating factors in this instance that may have prevented or minimised the Major Event.
Description of any steps Aurora Energy proposes to take to mitigate the risk of future similar Major Events	Aurora Energy will continue to review, with an aim to improving, its fault response times, so that customers are impacted by unplanned outage events for no longer than necessary. Aurora Energy is also undertaking a significant asset replacement and renewal programme, with an aim to improving the safety and reliability of supply to consumers in future years.

F.5. March 2021 SAIFI Major Event

Table 25: Details of March 2021 SAIFI Major Event

Details of March 2021 SAIFI Major Event	
Cause	Two outage events contributed to the SAIFI Major Event: – Outage event 1: Vegetation; and – Outage event 2: Unknown Cause.
Start date	24 March 2021
Start time	7:00 am
End date	25 March 2021
End time	11:00 pm
Raw SAIFI Value	0.10 interruptions
Replaced SAIFI Value	0.01 interruptions
Location of the Major Event	Outage event 1: Wanaka, Central Otago (2752 – State Highway 6-Luggate) Outage event 2: Fernhill, Queenstown (5308 – Broadview Rise-Watts Road)
Main Equipment involved in the Major Event	Outage event 1: Distribution Lines (Excluding LV) Outage event 2: Distribution Lines (Excluding LV)
How Aurora Energy responded to the Major Event	Outage event 1: Field crews patrolled the feeder to determine whether it was safe to liven. Supply was restored, however, the feeder continued to trip. A set of temporary fuses that had been installed for upcoming planned works were replaced as one of the fuses had blown. Supply was then restored. Outage event 2: Initiated field response to patrol the feeder to determine if there was a cause for trip or safe to liven. No fault cause or safety issues were found and supply was restored.
Any mitigating factors that may have prevented or minimised the Major Event	The extent of outage event 1 may have been minimised if relevant staff had been aware that the fuses had been installed as fuse links instead of solid links as this impacts on the protection grading of a feeder.
Description of any steps Aurora Energy proposes to take to mitigate the risk of future similar Major Events	Aurora Energy will ensure that: – it has a standard specifying which types of links are to be used for temporary isolations; and – the network operations team is informed if fuses are installed as temporary links instead of solid links.

F.6. Normalisation of RY21 Major Events

Table 26: Normalisation of RY21 SAIDI Major Events

Normalisation of RY21 SAIDI Major Events												
Aurora Energy's SAIDI Unplanned Boundary Value												5.69
1/48th of the SAIDI Unplanned Boundary Value	June 2020 Major Event			October 2020 Major Event			November 2020 Major Event			December 2020 Major Event		
	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour
0.1185	13/06/2020 7:00	0.0000	0.0000	15/10/2020 20:30	0.0000	0.0000	3/11/2020 19:00	0.0000	0.0000	12/12/2020 15:00	0.3065	0.1185
0.1185	13/06/2020 7:30	0.0000	0.0000	15/10/2020 21:00	0.0000	0.0000	3/11/2020 19:30	0.0000	0.0000	12/12/2020 15:30	0.0000	0.0000
0.1185	13/06/2020 8:00	0.0000	0.0000	15/10/2020 21:30	0.0000	0.0000	3/11/2020 20:00	0.0000	0.0000	12/12/2020 16:00	0.5547	0.1185
0.1185	13/06/2020 8:30	0.0000	0.0000	15/10/2020 22:00	0.0000	0.0000	3/11/2020 20:30	0.0000	0.0000	12/12/2020 16:30	0.0000	0.0000
0.1185	13/06/2020 9:00	2.1488	0.1185	15/10/2020 22:30	0.0000	0.0000	3/11/2020 21:00	0.0000	0.0000	12/12/2020 17:00	0.0000	0.0000
0.1185	13/06/2020 9:30	0.0000	0.0000	15/10/2020 23:00	0.0000	0.0000	3/11/2020 21:30	0.0000	0.0000	12/12/2020 17:30	0.0000	0.0000
0.1185	13/06/2020 10:00	0.0000	0.0000	15/10/2020 23:30	0.0000	0.0000	3/11/2020 22:00	0.0000	0.0000	12/12/2020 18:00	0.0000	0.0000
0.1185	13/06/2020 10:30	0.0053	0.0053	16/10/2020 0:00	0.0000	0.0000	3/11/2020 22:30	0.0000	0.0000	12/12/2020 18:30	0.0000	0.0000
0.1185	13/06/2020 11:00	0.0000	0.0000	16/10/2020 0:30	0.0000	0.0000	3/11/2020 23:00	0.0000	0.0000	12/12/2020 19:00	0.0000	0.0000
0.1185	13/06/2020 11:30	0.0000	0.0000	16/10/2020 1:00	0.0000	0.0000	3/11/2020 23:30	0.0000	0.0000	12/12/2020 19:30	0.0000	0.0000
0.1185	13/06/2020 12:00	0.0000	0.0000	16/10/2020 1:30	0.0000	0.0000	4/11/2020 0:00	0.0000	0.0000	12/12/2020 20:00	0.5186	0.1185
0.1185	13/06/2020 12:30	0.0000	0.0000	16/10/2020 2:00	0.0000	0.0000	4/11/2020 0:30	0.0000	0.0000	12/12/2020 20:30	0.0000	0.0000
0.1185	13/06/2020 13:00	0.0000	0.0000	16/10/2020 2:30	0.0000	0.0000	4/11/2020 1:00	0.0000	0.0000	12/12/2020 21:00	0.0004	0.0004
0.1185	13/06/2020 13:30	0.0000	0.0000	16/10/2020 3:00	0.0000	0.0000	4/11/2020 1:30	0.0000	0.0000	12/12/2020 21:30	0.0000	0.0000

Normalisation of RY21 SAIDI Major Events												
Aurora Energy's SAIDI Unplanned Boundary Value												5.69
1/48th of the SAIDI Unplanned Boundary Value	June 2020 Major Event			October 2020 Major Event			November 2020 Major Event			December 2020 Major Event		
	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour
0.1185	13/06/2020 14:00	0.0000	0.0000	16/10/2020 3:30	0.0000	0.0000	4/11/2020 2:00	0.0000	0.0000	12/12/2020 22:00	0.0000	0.0000
0.1185	13/06/2020 14:30	0.0000	0.0000	16/10/2020 4:00	0.0000	0.0000	4/11/2020 2:30	0.0000	0.0000	12/12/2020 22:30	0.0000	0.0000
0.1185	13/06/2020 15:00	0.0000	0.0000	16/10/2020 4:30	0.0000	0.0000	4/11/2020 3:00	0.0000	0.0000	12/12/2020 23:00	0.0000	0.0000
0.1185	13/06/2020 15:30	0.0000	0.0000	16/10/2020 5:00	0.0000	0.0000	4/11/2020 3:30	0.0000	0.0000	12/12/2020 23:30	0.0000	0.0000
0.1185	13/06/2020 16:00	0.0000	0.0000	16/10/2020 5:30	0.0000	0.0000	4/11/2020 4:00	0.0000	0.0000	13/12/2020 0:00	0.0000	0.0000
0.1185	13/06/2020 16:30	0.0000	0.0000	16/10/2020 6:00	0.0000	0.0000	4/11/2020 4:30	0.0000	0.0000	13/12/2020 0:30	0.0000	0.0000
0.1185	13/06/2020 17:00	0.0000	0.0000	16/10/2020 6:30	0.0000	0.0000	4/11/2020 5:00	0.0000	0.0000	13/12/2020 1:00	0.0000	0.0000
0.1185	13/06/2020 17:30	0.0000	0.0000	16/10/2020 7:00	0.0000	0.0000	4/11/2020 5:30	0.0000	0.0000	13/12/2020 1:30	0.0000	0.0000
0.1185	13/06/2020 18:00	0.0000	0.0000	16/10/2020 7:30	0.0000	0.0000	4/11/2020 6:00	0.0000	0.0000	13/12/2020 2:00	0.0000	0.0000
0.1185	13/06/2020 18:30	0.0000	0.0000	16/10/2020 8:00	0.0000	0.0000	4/11/2020 6:30	0.0000	0.0000	13/12/2020 2:30	0.0000	0.0000
0.1185	13/06/2020 19:00	0.0000	0.0000	16/10/2020 8:30	0.0000	0.0000	4/11/2020 7:00	0.0000	0.0000	13/12/2020 3:00	0.0000	0.0000
0.1185	13/06/2020 19:30	0.0000	0.0000	16/10/2020 9:00	0.0000	0.0000	4/11/2020 7:30	0.0000	0.0000	13/12/2020 3:30	0.0000	0.0000
0.1185	13/06/2020 20:00	0.0000	0.0000	16/10/2020 9:30	0.0000	0.0000	4/11/2020 8:00	0.0000	0.0000	13/12/2020 4:00	0.0000	0.0000
0.1185	13/06/2020 20:30	0.0000	0.0000	16/10/2020 10:00	0.0000	0.0000	4/11/2020 8:30	0.0000	0.0000	13/12/2020 4:30	0.0000	0.0000
0.1185	13/06/2020 21:00	0.0000	0.0000	16/10/2020 10:30	0.0000	0.0000	4/11/2020 9:00	0.0000	0.0000	13/12/2020 5:00	0.0000	0.0000
0.1185	13/06/2020 21:30	0.0000	0.0000	16/10/2020 11:00	0.1092	0.1092	4/11/2020 9:30	0.0000	0.0000	13/12/2020 5:30	0.0000	0.0000
0.1185	13/06/2020 22:00	0.0000	0.0000	16/10/2020 11:30	0.0000	0.0000	4/11/2020 10:00	0.0000	0.0000	13/12/2020 6:00	0.0000	0.0000
0.1185	13/06/2020 22:30	0.0000	0.0000	16/10/2020 12:00	4.0006	0.1185	4/11/2020 10:30	0.0000	0.0000	13/12/2020 6:30	0.0000	0.0000

Normalisation of RY21 SAIDI Major Events												
Aurora Energy's SAIDI Unplanned Boundary Value												5.69
1/48th of the SAIDI Unplanned Boundary Value	June 2020 Major Event			October 2020 Major Event			November 2020 Major Event			December 2020 Major Event		
	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour
0.1185	13/06/2020 23:00	0.0000	0.0000	16/10/2020 12:30	0.0000	0.0000	4/11/2020 11:00	0.0103	0.0103	13/12/2020 7:00	0.0000	0.0000
0.1185	13/06/2020 23:30	0.0000	0.0000	16/10/2020 13:00	0.0000	0.0000	4/11/2020 11:30	0.0000	0.0000	13/12/2020 7:30	0.0000	0.0000
0.1185	14/06/2020 0:00	0.0000	0.0000	16/10/2020 13:30	0.0000	0.0000	4/11/2020 12:00	0.0000	0.0000	13/12/2020 8:00	1.4151	0.1185
0.1185	14/06/2020 0:30	0.0000	0.0000	16/10/2020 14:00	0.0000	0.0000	4/11/2020 12:30	0.0000	0.0000	13/12/2020 8:30	0.0000	0.0000
0.1185	14/06/2020 1:00	0.0000	0.0000	16/10/2020 14:30	0.0000	0.0000	4/11/2020 13:00	0.0000	0.0000	13/12/2020 9:00	0.0000	0.0000
0.1185	14/06/2020 1:30	0.0000	0.0000	16/10/2020 15:00	0.0000	0.0000	4/11/2020 13:30	0.0000	0.0000	13/12/2020 9:30	0.0000	0.0000
0.1185	14/06/2020 2:00	0.0000	0.0000	16/10/2020 15:30	0.0000	0.0000	4/11/2020 14:00	0.0000	0.0000	13/12/2020 10:00	0.0000	0.0000
0.1185	14/06/2020 2:30	0.0000	0.0000	16/10/2020 16:00	0.0000	0.0000	4/11/2020 14:30	0.0000	0.0000	13/12/2020 10:30	0.0000	0.0000
0.1185	14/06/2020 3:00	0.0000	0.0000	16/10/2020 16:30	0.0000	0.0000	4/11/2020 15:00	0.0000	0.0000	13/12/2020 11:00	0.0000	0.0000
0.1185	14/06/2020 3:30	0.0000	0.0000	16/10/2020 17:00	0.0000	0.0000	4/11/2020 15:30	0.0000	0.0000	13/12/2020 11:30	0.0000	0.0000
0.1185	14/06/2020 4:00	0.0000	0.0000	16/10/2020 17:30	0.0000	0.0000	4/11/2020 16:00	0.0000	0.0000	13/12/2020 12:00	0.0000	0.0000
0.1185	14/06/2020 4:30	0.0000	0.0000	16/10/2020 18:00	0.0000	0.0000	4/11/2020 16:30	0.0000	0.0000	13/12/2020 12:30	0.1469	0.1185
0.1185	14/06/2020 5:00	0.0000	0.0000	16/10/2020 18:30	0.0000	0.0000	4/11/2020 17:00	0.0000	0.0000	13/12/2020 13:00	0.0000	0.0000
0.1185	14/06/2020 5:30	0.0000	0.0000	16/10/2020 19:00	1.2231	0.1185	4/11/2020 17:30	0.0000	0.0000	13/12/2020 13:30	0.0000	0.0000
0.1185	14/06/2020 6:00	0.0000	0.0000	16/10/2020 19:30	0.0000	0.0000	4/11/2020 18:00	0.0000	0.0000	13/12/2020 14:00	0.0000	0.0000
0.1185	14/06/2020 6:30	6.4242	0.1185	16/10/2020 20:00	1.7637	0.1185	4/11/2020 18:30	6.7357	0.1185	13/12/2020 14:30	3.0051	0.1185
0.1185	14/06/2020 7:00	0.0000	0.0000	16/10/2020 20:30	0.0441	0.0441	4/11/2020 19:00	0.0000	0.0000	13/12/2020 15:00	1.4353	0.1185
0.1185	14/06/2020 7:30	0.0000	0.0000	16/10/2020 21:00	0.0000	0.0000	4/11/2020 19:30	0.0000	0.0000	13/12/2020 15:30	0.0000	0.0000

Normalisation of RY21 SAIDI Major Events												
Aurora Energy's SAIDI Unplanned Boundary Value												5.69
1/48th of the SAIDI Unplanned Boundary Value	June 2020 Major Event			October 2020 Major Event			November 2020 Major Event			December 2020 Major Event		
	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour
0.1185	14/06/2020 8:00	0.0000	0.0000	16/10/2020 21:30	0.0000	0.0000	4/11/2020 20:00	0.0000	0.0000	13/12/2020 16:00	0.0000	0.0000
0.1185	14/06/2020 8:30	0.0000	0.0000	16/10/2020 22:00	0.0000	0.0000	4/11/2020 20:30	0.0000	0.0000	13/12/2020 16:30	0.2810	0.1185
0.1185	14/06/2020 9:00	0.0000	0.0000	16/10/2020 22:30	0.0000	0.0000	4/11/2020 21:00	0.0000	0.0000	13/12/2020 17:00	0.0000	0.0000
0.1185	14/06/2020 9:30	0.0000	0.0000	16/10/2020 23:00	0.0000	0.0000	4/11/2020 21:30	0.0000	0.0000	13/12/2020 17:30	0.0000	0.0000
0.1185	14/06/2020 10:00	0.0000	0.0000	16/10/2020 23:30	0.0000	0.0000	4/11/2020 22:00	0.0000	0.0000	13/12/2020 18:00	0.0000	0.0000
0.1185	14/06/2020 10:30	0.0000	0.0000	17/10/2020 0:00	0.0000	0.0000	4/11/2020 22:30	0.0000	0.0000	13/12/2020 18:30	0.0000	0.0000
0.1185	14/06/2020 11:00	0.0000	0.0000	17/10/2020 0:30	0.0000	0.0000	4/11/2020 23:00	0.0000	0.0000	13/12/2020 19:00	0.0000	0.0000
0.1185	14/06/2020 11:30	0.0000	0.0000	17/10/2020 1:00	0.0000	0.0000	4/11/2020 23:30	0.0000	0.0000	13/12/2020 19:30	0.0000	0.0000
0.1185	14/06/2020 12:00	0.0000	0.0000	17/10/2020 1:30	0.0000	0.0000	5/11/2020 0:00	0.0000	0.0000	13/12/2020 20:00	0.0000	0.0000
0.1185	14/06/2020 12:30	0.0000	0.0000	17/10/2020 2:00	0.0000	0.0000	5/11/2020 0:30	0.0000	0.0000	13/12/2020 20:30	0.0000	0.0000
0.1185	14/06/2020 13:00	0.0000	0.0000	17/10/2020 2:30	0.0000	0.0000	5/11/2020 1:00	0.0000	0.0000	13/12/2020 21:00	0.0000	0.0000
0.1185	14/06/2020 13:30	0.0000	0.0000	17/10/2020 3:00	0.0000	0.0000	5/11/2020 1:30	0.0000	0.0000	13/12/2020 21:30	0.0000	0.0000
0.1185	14/06/2020 14:00	0.0000	0.0000	17/10/2020 3:30	0.0000	0.0000	5/11/2020 2:00	0.0000	0.0000	13/12/2020 22:00	0.2282	0.1185
0.1185	14/06/2020 14:30	0.0000	0.0000	17/10/2020 4:00	0.0000	0.0000	5/11/2020 2:30	0.0000	0.0000	13/12/2020 22:30	0.0000	0.0000
0.1185	14/06/2020 15:00	0.0000	0.0000	17/10/2020 4:30	0.0000	0.0000	5/11/2020 3:00	0.0000	0.0000	13/12/2020 23:00	0.0000	0.0000
0.1185	14/06/2020 15:30	0.0000	0.0000	17/10/2020 5:00	0.0000	0.0000	5/11/2020 3:30	0.0000	0.0000	13/12/2020 23:30	0.0000	0.0000
0.1185	14/06/2020 16:00	0.0025	0.0025	17/10/2020 5:30	0.0000	0.0000	5/11/2020 4:00	0.0000	0.0000	14/12/2020 0:00	0.0000	0.0000
0.1185	14/06/2020 16:30	0.0000	0.0000	17/10/2020 6:00	0.0000	0.0000	5/11/2020 4:30	0.0000	0.0000	14/12/2020 0:30	0.0000	0.0000

Normalisation of RY21 SAIDI Major Events												
Aurora Energy's SAIDI Unplanned Boundary Value												5.69
1/48th of the SAIDI Unplanned Boundary Value	June 2020 Major Event			October 2020 Major Event			November 2020 Major Event			December 2020 Major Event		
	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour
0.1185	14/06/2020 17:00	0.0000	0.0000	17/10/2020 6:30	0.0000	0.0000	5/11/2020 5:00	0.0000	0.0000	14/12/2020 1:00	0.0000	0.0000
0.1185	14/06/2020 17:30	0.0000	0.0000	17/10/2020 7:00	0.0000	0.0000	5/11/2020 5:30	0.0000	0.0000	14/12/2020 1:30	0.0000	0.0000
0.1185	14/06/2020 18:00	0.0000	0.0000	17/10/2020 7:30	0.0000	0.0000	5/11/2020 6:00	0.0000	0.0000	14/12/2020 2:00	0.0000	0.0000
0.1185	14/06/2020 18:30	0.0000	0.0000	17/10/2020 8:00	0.0000	0.0000	5/11/2020 6:30	0.0000	0.0000	14/12/2020 2:30	0.0000	0.0000
0.1185	14/06/2020 19:00	0.0000	0.0000	17/10/2020 8:30	0.0000	0.0000	5/11/2020 7:00	0.0000	0.0000	14/12/2020 3:00	0.0000	0.0000
0.1185	14/06/2020 19:30	0.0000	0.0000	17/10/2020 9:00	0.0000	0.0000	5/11/2020 7:30	0.0000	0.0000	14/12/2020 3:30	0.0000	0.0000
0.1185	14/06/2020 20:00	0.0000	0.0000	17/10/2020 9:30	0.0000	0.0000	5/11/2020 8:00	0.0000	0.0000	14/12/2020 4:00	0.0000	0.0000
0.1185	14/06/2020 20:30	0.0000	0.0000	17/10/2020 10:00	0.0000	0.0000	5/11/2020 8:30	0.0000	0.0000	14/12/2020 4:30	0.0000	0.0000
0.1185	14/06/2020 21:00	0.0000	0.0000	17/10/2020 10:30	0.0000	0.0000	5/11/2020 9:00	0.0000	0.0000	14/12/2020 5:00	0.0000	0.0000
0.1185	14/06/2020 21:30	0.0000	0.0000	17/10/2020 11:00	0.0000	0.0000	5/11/2020 9:30	0.0000	0.0000	14/12/2020 5:30	0.0000	0.0000
0.1185	14/06/2020 22:00	0.0000	0.0000	17/10/2020 11:30	0.0000	0.0000	5/11/2020 10:00	0.0000	0.0000	14/12/2020 6:00	0.0000	0.0000
0.1185	14/06/2020 22:30	0.0000	0.0000				5/11/2020 10:30	0.0000	0.0000	14/12/2020 6:30	0.0000	0.0000
0.1185	14/06/2020 23:00	0.0000	0.0000				5/11/2020 11:00	0.0000	0.0000	14/12/2020 7:00	0.0000	0.0000
0.1185	14/06/2020 23:30	0.0000	0.0000				5/11/2020 11:30	0.0000	0.0000	14/12/2020 7:30	0.0000	0.0000
0.1185	15/06/2020 0:00	0.0000	0.0000				5/11/2020 12:00	0.0000	0.0000			
0.1185	15/06/2020 0:30	0.0000	0.0000				5/11/2020 12:30	0.0000	0.0000			
0.1185	15/06/2020 1:00	0.0000	0.0000				5/11/2020 13:00	0.0000	0.0000			
0.1185	15/06/2020 1:30	0.0000	0.0000				5/11/2020 13:30	0.0000	0.0000			

Normalisation of RY21 SAIDI Major Events												
Aurora Energy's SAIDI Unplanned Boundary Value												5.69
1/48th of the SAIDI Unplanned Boundary Value	June 2020 Major Event			October 2020 Major Event			November 2020 Major Event			December 2020 Major Event		
	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour	Half hour commencing	Raw SAIDI Value for half hour	Normalised SAIDI Value for half hour
0.1185	15/06/2020 2:00	0.0000	0.0000				5/11/2020 14:00	0.0000	0.0000			
0.1185	15/06/2020 2:30	0.0000	0.0000				5/11/2020 14:30	0.0000	0.0000			
0.1185	15/06/2020 3:00	0.0000	0.0000				5/11/2020 15:00	0.0000	0.0000			
0.1185	15/06/2020 3:30	0.0000	0.0000				5/11/2020 15:30	0.0000	0.0000			
0.1185	15/06/2020 4:00	0.0000	0.0000				5/11/2020 16:00	0.0000	0.0000			
0.1185	15/06/2020 4:30	0.0000	0.0000				5/11/2020 16:30	0.0000	0.0000			
0.1185	15/06/2020 5:00	0.0000	0.0000				5/11/2020 17:00	0.0000	0.0000			
0.1185	15/06/2020 5:30	0.0000	0.0000				5/11/2020 17:30	0.0000	0.0000			
0.1185	15/06/2020 6:00	0.0000	0.0000				5/11/2020 18:00	0.0000	0.0000			
Total		**8.5808**	**0.2449**		**7.1406**	**0.5089**		**6.7460**	**0.1288**		**7.8918**	**1.0673**

Table 27: Normalisation of RY21 SAIFI Major Event

Normalisation of RY21 SAIFI Major Event			
Aurora Energy's SAIFI Unplanned Boundary Value			0.0737
1/48th of the SAIFI Unplanned Boundary Value	March 2021 Major Event		
	Half hour commencing	Raw SAIFI Value for half hour	Normalised SAIFI Value for half hour
0.0015	24/03/2021 7:00	0.0000	0.0000
0.0015	24/03/2021 7:30	0.0000	0.0000
0.0015	24/03/2021 8:00	0.0000	0.0000
0.0015	24/03/2021 8:30	0.0000	0.0000
0.0015	24/03/2021 9:00	0.0000	0.0000
0.0015	24/03/2021 9:30	0.0000	0.0000
0.0015	24/03/2021 10:00	0.0000	0.0000
0.0015	24/03/2021 10:30	0.0000	0.0000
0.0015	24/03/2021 11:00	0.0000	0.0000
0.0015	24/03/2021 11:30	0.0000	0.0000
0.0015	24/03/2021 12:00	0.0000	0.0000
0.0015	24/03/2021 12:30	0.0000	0.0000
0.0015	24/03/2021 13:00	0.0000	0.0000
0.0015	24/03/2021 13:30	0.0000	0.0000
0.0015	24/03/2021 14:00	0.0000	0.0000
0.0015	24/03/2021 14:30	0.0000	0.0000
0.0015	24/03/2021 15:00	0.0000	0.0000
0.0015	24/03/2021 15:30	0.0000	0.0000
0.0015	24/03/2021 16:00	0.0000	0.0000
0.0015	24/03/2021 16:30	0.0000	0.0000
0.0015	24/03/2021 17:00	0.0000	0.0000
0.0015	24/03/2021 17:30	0.0000	0.0000
0.0015	24/03/2021 18:00	0.0000	0.0000
0.0015	24/03/2021 18:30	0.0000	0.0000
0.0015	24/03/2021 19:00	0.0000	0.0000
0.0015	24/03/2021 19:30	0.0000	0.0000
0.0015	24/03/2021 20:00	0.0000	0.0000

Normalisation of RY21 SAIFI Major Event			
Aurora Energy's SAIFI Unplanned Boundary Value			0.0737
1/48th of the SAIFI Unplanned Boundary Value	March 2021 Major Event		
	Half hour commencing	Raw SAIFI Value for half hour	Normalised SAIFI Value for half hour
0.0015	24/03/2021 20:30	0.0000	0.0000
0.0015	24/03/2021 21:00	0.0000	0.0000
0.0015	24/03/2021 21:30	0.0000	0.0000
0.0015	24/03/2021 22:00	0.0000	0.0000
0.0015	24/03/2021 22:30	0.0000	0.0000
0.0015	24/03/2021 23:00	2.0631	0.0015
0.0015	24/03/2021 23:30	1.5928	0.0015
0.0015	25/03/2021 0:00	0.0000	0.0000
0.0015	25/03/2021 0:30	0.0339	0.0015
0.0015	25/03/2021 1:00	0.0000	0.0000
0.0015	25/03/2021 1:30	0.0468	0.0015
0.0015	25/03/2021 2:00	0.0000	0.0000
0.0015	25/03/2021 2:30	0.0000	0.0000
0.0015	25/03/2021 3:00	0.0819	0.0015
0.0015	25/03/2021 3:30	0.0101	0.0009
0.0015	25/03/2021 4:00	0.0000	0.0000
0.0015	25/03/2021 4:30	1.2348	0.0015
0.0015	25/03/2021 5:00	0.0419	0.0001
0.0015	25/03/2021 5:30	0.0000	0.0000
0.0015	25/03/2021 6:00	0.0000	0.0000
0.0015	25/03/2021 6:30	0.0757	0.0015
0.0015	25/03/2021 7:00	0.0379	0.0015
0.0015	25/03/2021 7:30	0.0000	0.0000
0.0015	25/03/2021 8:00	0.0000	0.0000
0.0015	25/03/2021 8:30	0.0000	0.0000
0.0015	25/03/2021 9:00	0.0000	0.0000
0.0015	25/03/2021 9:30	0.0000	0.0000
0.0015	25/03/2021 10:00	0.0094	0.0015
0.0015	25/03/2021 10:30	0.0000	0.0000

Normalisation of RY21 SAIFI Major Event			
Aurora Energy's SAIFI Unplanned Boundary Value			0.0737
1/48th of the SAIFI Unplanned Boundary Value	March 2021 Major Event		
	Half hour commencing	Raw SAIFI Value for half hour	Normalised SAIFI Value for half hour
0.0015	25/03/2021 11:00	0.0000	0.0000
0.0015	25/03/2021 11:30	0.0000	0.0000
0.0015	25/03/2021 12:00	0.0000	0.0000
0.0015	25/03/2021 12:30	0.0000	0.0000
0.0015	25/03/2021 13:00	0.0000	0.0000
0.0015	25/03/2021 13:30	0.0000	0.0000
0.0015	25/03/2021 14:00	0.0000	0.0000
0.0015	25/03/2021 14:30	0.0000	0.0000
0.0015	25/03/2021 15:00	0.0000	0.0000
0.0015	25/03/2021 15:30	0.0000	0.0000
0.0015	25/03/2021 16:00	0.0000	0.0000
0.0015	25/03/2021 16:30	0.0000	0.0000
0.0015	25/03/2021 17:00	0.0000	0.0000
0.0015	25/03/2021 17:30	0.0000	0.0000
0.0015	25/03/2021 18:00	0.0000	0.0000
0.0015	25/03/2021 18:30	0.0000	0.0000
0.0015	25/03/2021 19:00	0.0000	0.0000
0.0015	25/03/2021 19:30	0.0000	0.0000
0.0015	25/03/2021 20:00	0.0000	0.0000
0.0015	25/03/2021 20:30	0.0000	0.0000
0.0015	25/03/2021 21:00	0.0000	0.0000
0.0015	25/03/2021 21:30	0.0000	0.0000
0.0015	25/03/2021 22:00	0.0000	0.0000
0.0015	25/03/2021 22:30	0.0000	0.0000
0.0015	25/03/2021 23:00	0.0000	0.0000
Total		**0.0994**	**0.0149**

Appendix G. Policies and Procedures for Capturing and Recording Interruptions and Calculating SAIDI/SAIFI

G.1. Capturing and Recording Interruptions

Records for all Interruptions (planned and unplanned) on the Aurora Energy network are maintained in electronic-copy and in databases. The relevant procedure for recording Interruption information is set out in document QP2109 "Network Outage Reporting"[1].

The duty Network Coordinator is responsible for initiating an outage report as soon as an Unplanned Interruption occurs and, when completed, attaching relevant information (for example, switching instructions and SCADA print-outs). The Network Operations Team Leader examines the daily report from the after-hours telephone answering service to ensure that reports for Interruptions involving single high voltage (HV) fuses or low voltage (LV) fuses supplying multiple consumers are captured. All details on the fault reports are subsequently checked by the Network Operations Manager.

The Network Operations Team is responsible for entering data from the report into the electronic database. The electronic database holds all of the data attributes for each Interruption required to calculate SAIDI Assessed Values and SAIFI Assessed Values.

Monitoring the quality of Interruption information entered into the database is the responsibility of the Network Operations Manager. Identifying and resolving problems with quality of data is performed weekly and again at month end.

The database is used to collect data on Interruptions where equipment is removed from service. It therefore includes all Planned and Unplanned Interruptions, as well as those involving all HV fuses and where LV fuses supply multiple ICPs. Momentary interruptions due to circuit reclosers at zone substations less than one minute are also included.

G.2. Successive Interruptions

We record and report on successive Interruptions, for the purposes of both SAIDI and SAIFI, if restoration of supply occurred for longer than one minute.

We recognise any stage of an outage event that interrupts consumers for a second time, or interrupts 'new' consumers as a result of fault finding, as an additional interruption, strictly in line with the definition of Interruption in the DPP Determination.

[1] This is an interim document, under Delta branding, as not all process documentation has been converted to Aurora Energy branding following the expiry of Delta's management contract term from 1 July 2017, and the decision to repopulate Aurora Energy as a standalone distributor.

G.3. Outage Management System

The Network Operations team is currently completing the implementation of an Outage Management System (OMS), which aims to improve both the internal work processes and services delivered to customers. Aurora Energy's GE PowerOn Fusion system connects the network asset and customer models to accurately understand customer impact of outage events, and provides the opportunity for improving customer service.

G.4. Review of Interruptions

Each month, all Interruptions are reviewed by the Regulatory Manager, together with the Network Operations Manager, for consistency of coding.

A monthly a summary of reliability performance is discussed at a monthly governance group meeting and is then reported to the Directors of Aurora Energy.

At the end of March each year, further analysis is carried out prior to the production of the reports for publication of the Statement and for information disclosure. These reports are scrutinised by the Network Operations Manager and the Regulatory Manager for consistency of coding and to ensure that only those interruptions that are consistent with the definition of "Interruption" are included in the Class B or C Interruptions.

G.5. Retention of Documentation

Retention of network Interruption documentation and database records are maintained for a sufficient period as required by law or regulation.

G.6. Calculating SAIDI and SAIFI

G.6.1. Meeting the definition of "Interruption"

Interruptions that meet the definition of an "Interruption" in the DPP Determination are the only interruptions that contribute to Aurora Energy's SAIDI Assessed Value and SAFI Assessed Value.

The following interruptions are therefore excluded from the calculations:

- interruptions where no consumers were affected;
- interruptions that occur on Aurora Energy's low voltage network;
- interruptions that last for less than a period of 1 minute;
- interruptions that relate to extended reserves;
- interruptions that are a result of an automatic under voltage, under frequency, or rolling outage scheme or similar arrangement required as part of the system operator serves or other instruction from an authorised regulator;
- interruptions that are a result of a breach of the contract under which the electricity is conveyed;

- interruptions that are as a result of a request from the consumer and only that consumer is affected by the interruption;
- interruptions that are as a result of a request by the consumer's retailer; or
- interruptions that are for the purpose of isolating an unsafe installation.

G.6.2. Meeting the definition of "Class B Interruption"

A "Class B Interruption" is defined in the DPP Determination as meaning *"planned interruptions by a non-exempt EDB"*.

We interpret this as meaning Planned Interruptions that are initiated by Aurora Energy. Planned interruptions that are initiated by Transpower or an external third party are excluded.

G.6.3. Meeting the definition of "Class C interruption"

A "Class C Interruption" is defined in the DPP Determination as meaning *"unplanned interruptions originating within the system fixed assets of a non-exempt EDB"*. *"System fixed assets"* is defined in the DPP Determination as meaning *"all fixed assets owned, provided, maintained, or operated by a non-exempt EDB that are used or intended to be used for the supply of electricity lines services."*

We interpret this as meaning Unplanned Interruptions that originate within our network. Unplanned Interruptions that originate on assets that are external to our network, but that interrupt the supply of electricity on our network, are excluded.

G.6.4. Customer Interruption Minutes

The Customer Interruption Minutes value is used to calculate SAIDI. The value is calculated by applying the following formula:

Interruption duration x number of active ICPs affected by the interruption = Customer Interruption Minutes

The interruption duration is the length of time between the Interruption start time and the Interruption restoration time, expressed in minutes.

G.6.5. Total number of consumers on the network

Consumer numbers are derived from the geographic information system (GIS) for that segment of the circuit affected by the planned or unplanned interruption. Each month the ICPs in the GIS are reconciled with the active ICPs in the network connection database used for line charge billing to retailers. The network connection database is updated daily from the national registry and a full reconciliation with the national registry is carried out at the end of each month.

The consumer number used to calculate the SAIDI Assessed Value and the SAIFI Assessed Value is the average of the start period (April) consumer number billed to retailers and the end period (March) consumer number billed to retailers.

G.6.6. Raw SAIDI value

The raw SAIDI value for an Interruption is calculated by applying the following formula:

$$\frac{\textit{Customer Interruption Minutes}}{\textit{Total number of consumers on the network}} = \textit{Raw SAIDI value}$$

G.6.7. Raw SAIFI value

The raw SAIDI value for an Interruption is calculated by applying the following formula:

$$\frac{\textit{Number of customers affected}}{\textit{Total number of consumers on the network}} = \textit{Raw SAIFI value}$$

G.6.8. Planned SAIDI Assessed Value

The Planned SAIDI Assessed Value is calculated in accordance with paragraph (2) of Schedule 3.1 of the DPP Determination.

If a planned interruption meets the definition of:

- a "Class B Notified Interruption"
- an "Intended Interruption"

in the DPP Determination, the $SAIDI_N$ value and $SAIDI_B$ value are calculated for that Interruption. The $SAIDI_B$ value, if any, is then attributed to that Interruption and half of the $SAIDI_N$ value, if any, resulting in one SAIDI value for the Interruption.

If a Planned Interruption does not meet either of the above definitions, the $SAIDI_B$ value (being the raw SAIDI value) is attributed to that Interruption.

The SAIDI Values calculated for every Class B Planned Interruption commencing within the Assessment Period are then summed to determine the Planned SAIDI Assessed Value.

G.6.9. Planned SAIFI Assessed Value

The Planned SAIFI Assessed Value is calculated in accordance with paragraph (3) of Schedule 3.1 of the DPP Determination.

The raw SAIFI Values for every Class B Planned Interruption commencing within the Assessment Period are then summed to determine the Planned SAIFI Assessed Value.

G.6.10. Unplanned SAIDI Assessed Value

The Unplanned SAIDI Assessed Value is calculated in accordance with paragraph (2) of Schedule 3.2 of the DPP Determination.

The following steps are followed to calculate the Unplanned SAIDI Assessed Value:

- **Step 1 – allocating SAIDI to a 30 minute period:** The raw SAIDI Value for an Interruption is allocated to the relevant 30 minute period that starts either on the half hour or half past the hour.

  Aurora Energy does this by allocating the raw SAIDI Value for an Interruption to the 30 minute period that correlates to the Interruption start time.

  For example, if the Interruption start time is 11:34 on 20 June 2020, the 30 minute period to which the raw SAIDI Value for that Interruption is allocated would be the 11:30 period on 20 June 2020. The duration of the Interruption has no bearing on the 30 minute period to which the raw SAIDI Values are allocated.
- **Step 2 – identifying a Major Event**: Major Events are identified where, in any 24-hour period, the SAIDI Value exceeds the SAIDI Unplanned Boundary Value. The 24-hour periods are rolled half-hourly. Consistent with the Commission's commentary in its Reasons Paper on the DPP Determination[2], a Major Event can last longer than 24 hours as long as the Major Event criteria is met.
- **Step 3 – replacement of SAIDI**: If a SAIDI Major Event is identified, the SAIDI Value for each 30 minute period within the SAIDI Major Event that exceeds 1/48th of Aurora Energy's SAIDI Unplanned Boundary Value[3] is replaced with 1/48th of Aurora Energy's SAIDI Unplanned Boundary Value. This new value becomes the normalised SAIDI Value for that 30 minute period.
- **Step 4 – sum of normalised SAIDI**: The Unplanned SAIDI Assessed Value is then calculated by summing the normalised SAIDI Values for every 30 minute period within the Assessment Period.

G.6.11. Unplanned SAIFI Assessed Value

The Unplanned SAIFI Assessed Value is calculated in accordance with paragraph (3) of Schedule 3.2 of the DPP Determination, and the same steps as set out for calculating Unplanned SAIDI Assessed Value above at paragraph G.6.10 are followed, with the exception being the application of Aurora Energy's SAIFI Unplanned Boundary Value, which is specified in Schedule 3.2 of the DPP Determination as being 0.0737.

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2 Default price-quality paths for electricity distribution businesses from 1 April 2020 – Final decision, Reasons Paper, 27 November 2019, paragraphs K69 to K74.

3 Aurora Energy's SAIDI Unplanned Boundary is specified in Schedule 3.2 of the DPP Determination as being 5.69.


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