

Electricity Invercargill limited

DEFAULT PRICE QUALITY PATH ANNUAL COMPLIANCE STATEMENT

1 April 2020 – 31 March 2021 Assessment Period

*Pursuant to the Electricity Distribution Services Default Price-Quality Path
Determination 2020*

24 June 2021

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1. Introduction

Electricity Invercargill Limited is subject to price-quality regulation under Part 4 of the Commerce Act 1986. The Commerce Commission has set a Default Price-Quality Path (DPP) which applies to Electricity Invercargill Limited from 1 April 2020.

This annual compliance statement is published in accordance with clause 11.4 of the 2020 DPP Determination, and applies to the first assessment period, commencing 1 April 2020 and ending 31 March 2021.

2. Date prepared

This statement was prepared on 24 June 2021.

3. Wash-up amount

3.1 Statement of compliance

As demonstrated in Table 1 in Section 3.2, and consistent with clause 8.6 of the 2020 DPP Determination Electricity Invercargill Limited has complied with the wash-up amount calculation for the first assessment period.

3.2 Wash-up amount calculation

Table 1

| Wash-up amount RY21 | | |
|--------------------------------|--|----------------------|
| Term | Description | Value (\$000) |
| Actual allowable revenue (AAR) | <i>Sum of actual net allowable revenue, actual pass-through and recoverable costs, pass-through balance and revenue wash-up draw down amount</i> | 19,483 |
| Actual revenue (AR) | <i>Sum of actual revenue from prices plus other regulated income</i> | 19,505 |
| Revenue foregone (RV) | <i>Actual net allowable revenue x (revenue reduction percentage - 20%) when revenue reduction percentage is greater than 20%, otherwise nil</i> | - |
| Wash-up amount | AAR - AR - RV | (22) |

Further information supporting actual allowable revenue is included in Section 3.2.1.

Further information supporting actual revenue is included in Section 3.2.2.

Further information supporting revenue foregone is included in Section 3.2.3.

3.2.1 Actual allowable revenue

Table 2 below shows the actual allowable revenue for the assessment period consistent with Schedule 1.6 of the 2020 DPP Determination.

Table 2

| Actual allowable revenue RY21 | | |
|---|--|----------------------|
| Term | Description | Value (\$000) |
| Actual net allowable revenue (ANAR) | <i>Amount specified as forecast net allowable revenue for the first assessment period</i> | 12,258 |
| Actual pass-through costs | <i>Sum of all pass-through costs that were incurred or approved by the Commission in the assessment period</i> | 222 |
| Actual recoverable costs | <i>Sum of all recoverable costs that were incurred or approved by the Commission in the assessment period</i> | 6,787 |
| Pass-through balance | <i>The amount calculated for the assessment period ending 31 March 2020 under clause 8.6 of the 2015 DPP Determination</i> | (207) |
| Total actual allowable revenue (AAR) | <i>Actual net allowable revenue + actual pass-through costs and actual recoverable costs – (pass-through balance x (1 + 67th percentile estimate of post-tax WACC))</i> | 19,483 |

Further information supporting actual pass-through costs, actual recoverable costs and the pass-through balance is included in Appendix A.

3.2.2 Actual revenue

Table 3 below shows actual revenue for the assessment period consistent with clause 4.2 of the 2020 DPP Determination.

Table 3

| Actual revenue RY21 | | |
|----------------------------------|---|----------------------|
| Term | Description | Value (\$000) |
| Actual revenue from prices | <i>Actual prices between 1 April 2020 and 31 March 2021 multiplied by actual quantities for the assessment period</i> | 19,452 |
| Other regulated income | <i>Other income associated with supply of electricity distribution services</i> | 53 |
| Total actual revenue (AR) | <i>Sum of actual revenue from prices plus other regulated income</i> | 19,505 |

Further information supporting actual revenue from prices is included in Appendix B.

3.2.3 Revenue foregone

Table 4 below shows the revenue foregone consistent with clause 4.2 of the 2020 DPP Determination.

Table 4

| Revenue foregone RY21 | | |
|-------------------------------------|--|----------------------|
| Term | Description | Value (\$000) |
| Actual net allowable revenue (ANAR) | <i>Amount specified as forecast net allowable revenue for the first assessment period</i> | 12,258 |
| Revenue reduction percentage (RRP) | <i>1 - (actual revenue from prices / forecast revenue from prices)</i> | 0.03% |
| Revenue foregone (RV) | <i>Actual net allowable revenue x (RRP- 20%) when RRP is greater than 20%, otherwise nil</i> | - |

4. Quality standards

4.1 Statement of compliance with planned interruptions quality standards

Electricity Invercargill Limited is subject to a planned accumulated SAIDI limit and a planned accumulated SAIFI limit which are assessed for the DPP regulatory period as stated in clause 9.2 of the 2020 DPP Determination.

Table 5 and Table 6 below show the planned accumulated SAIDI and SAIFI limits for Electricity Invercargill Limited for the DPP regulatory period and the planned SAIDI and SAIFI assessed values for the first assessment period.

Table 5

| Planned interruptions quality standard - SAIDI | |
|---|------------------|
| Sum of planned SAIDI assessed values \leq Planned accumulated SAIDI limit | |
| Planned accumulated SAIDI limit | 114.49 |
| Planned SAIDI assessed value for the first assessment period | 13.31 |
| Compliance result | Compliant |

Table 6

| Planned interruptions quality standard - SAIFI | |
|---|------------------|
| Sum of planned SAIFI assessed values \leq Planned accumulated SAIFI limit | |
| Planned accumulated SAIFI limit | 0.5183 |
| Planned SAIFI assessed value for the first assessment period | 0.0775 |
| Compliance result | Compliant |

Further information supporting planned SAIDI and SAIFI assessed values is included in Section 4.1.1.

4.1.1 Planned SAIDI and SAIFI assessed values

Table 7 and Table 8 below show Electricity Invercargill Limited's planned SAIDI and SAIFI assessed values for the assessment period.

Table 7

| Planned SAIDI assessed value RY21 | | |
|---|--|-------|
| Term | Description | Value |
| Class B non-notified interruptions | | 12.85 |
| Class B notified interruptions falling outside window | | 0 |
| SAIDI _B | <i>Sum of Class B non-notified interruptions</i> | 12.85 |
| Class B notified interruptions falling inside window | | 0.92 |
| Class B intended interruptions cancelled without notice | | 0 |
| Class B intended interruptions cancelled with notice | | 0 |
| SAIDI _N | <i>Sum of Class B notified interruptions</i> | 0.92 |
| Planned SAIDI assessed value | <i>SAIDI_B + (SAIDI_N/2)</i> | 13.31 |

Table 8

| Planned SAIFI assessed value RY21 | | |
|-----------------------------------|---|--------|
| Term | Description | Value |
| Planned SAIFI assessed value | <i>Sum of Class B interruptions commencing within the assessment period</i> | 0.0775 |

4.2 Statement of compliance with unplanned interruptions quality standards

As demonstrated in Table 9 and Table 10 below, and consistent with clause 9.7 of the 2020 DPP Determination, Electricity Invercargill Limited has complied with the unplanned interruptions quality standard.

Table 9

| Unplanned interruptions quality standard RY21 - SAIDI | | |
|--|---|------------------|
| Unplanned SAIDI assessed value ≤ Unplanned SAIDI limit | | |
| Unplanned SAIDI limit | | 25.86 |
| Unplanned SAIDI assessed value | <i>Sum of normalised SAIDI values for Class C interruptions commencing within the assessment period</i> | 9.67 |
| Compliance result | | Compliant |

Table 10

| Unplanned interruptions quality standard RY21 - SAIFI | | |
|--|---|------------------|
| Unplanned SAIFI assessed value ≤ Unplanned SAIFI limit | | |
| Unplanned SAIFI limit | | 0.6956 |
| Unplanned SAIFI assessed value | <i>Sum of normalised SAIFI values for Class C interruptions commencing within the assessment period</i> | 0.3066 |
| Compliance result | | Compliant |

Information about policies, procedures and calculations for measuring planned and unplanned interruptions during the assessment period is in Appendix C.

4.2.1 Major events

Table 11 and Table 12 below show the SAIDI and SAIFI values attributed to major events which occurred during the assessment period.

Further information about major events is included in Appendix D.

Table 11

| Unplanned SAIDI major events RY21 | | | |
|-----------------------------------|----------------------|--------------------------------|----------------------------|
| Start | End | Pre-normalised unplanned SAIDI | Normalised unplanned SAIDI |
| 27 April 2020 5:31am | 27 April 2020 9:15am | 4.86860 | 0.114997 |
| 2 May 2020 2:06am | 2 May 2020 4:30am | 9.165353 | 0.172083 |
| 4 June 2020 1:41am | 4 June 2020 6:21am | 5.752309 | 0.172083 |
| 1 March 2021 15:55pm | 1 March 2021 20:52pm | 6.996436 | 0.098443 |

Table 12

| Unplanned SAIFI major events RY21 | | | |
|--|-------------------------|---------------------------------------|-----------------------------------|
| Start | End | Pre-normalised unplanned SAIFI | Normalised unplanned SAIFI |
| 2 May 2020 3:06am | 2 May 2020 4:30am | 0.190954 | 0.001675 |
| 14 November 2020 19:05pm | 15 November 2020 1:22am | 0.106436 | 0.001675 |
| 1 March 2021 15:55pm | 1 March 2021 20:52pm | 0.085893 | 0.001675 |

4.3 Statement of compliance with extreme event standard

As demonstrated in Table 13 below, and consistent with clause 9.9 of the 2020 DPP Determination Electricity Invercargill Limited has complied with the extreme event standard.

Table 13

| Extreme event standard RY21 | |
|--|-------------------|
| <i>Unplanned SAIDI value \leq 120 minutes, and customer interruption minutes \leq six million during any 24-hour period, excluding unplanned interruptions from major external factors</i> | |
| Number of extreme events | Compliance result |
| 0 | Compliant |

4.4 Quality Incentive Adjustment

Table 14 below shows Electricity Invercargill Limited's quality incentive adjustment for the assessment period.

Table 14

| Quality Incentive Adjustment RY21 | | |
|---|--|---------------|
| Term | Description | Value (\$000) |
| SAIDI planned adjustment | $(SAIDI_{planned, target} - SAIDI_{planned, assessed}) \times 0.5 \times IR$ | (7.23) |
| SAIDI unplanned adjustment | $(SAIDI_{unplanned, target} - SAIDI_{unplanned, assessed}) \times IR$ | 14.55 |
| Total adjustment | $SAIDI_{planned adjustment} + SAIDI_{unplanned adjustment}$ | 7.32 |
| Revenue at risk | $0.02 * ANAR$ | 245.16 |
| Total penalty/reward | | 7.32 |
| 67th percentile estimate of post-tax WACC | | 4.23% |
| Quality incentive adjustment | | 7.96 |

Table 15 below shows Electricity Invercargill Limited's quality incentive adjustment inputs consistent with Schedule 4 of the 2020 DPP Determination.

Table 15

| Quality Incentive Adjustment Inputs RY21 | | | | | |
|---|---------|--------|---|---------|-------|
| Term | Units | Value | Term | Units | Value |
| SAIDI planned interruption cap | minutes | 22.90 | SAIDI unplanned interruption cap | minutes | 25.86 |
| SAIDI planned interruption collar | minutes | - | SAIDI unplanned interruption collar | minutes | - |
| SAIDI planned interruption target | minutes | 7.63 | SAIDI unplanned interruption target | minutes | 15.39 |
| Planned SAIDI assessed value | minutes | 13.31 | Unplanned SAIDI assessed value | minutes | 9.67 |
| Incentive rate | | 2,544 | | | |
| Actual net allowable revenue (ANAR) | \$000 | 12,258 | | | |
| SAIDI planned interruption target | minutes | 7.63 | SAIDI unplanned interruption target | minutes | 15.39 |
| Minimum of the planned SAIDI cap and assessed value | minutes | 13.31 | Minimum of the unplanned SAIDI cap and assessed value | minutes | 9.67 |
| Planned SAIDI subject to incentive | minutes | (5.68) | Unplanned SAIDI subject to incentive | minutes | 5.72 |
| Adjustment (IR x 0.5) | \$ | 1,272 | Adjustment (IR) | \$ | 2,544 |
| SAIDI planned adjustment | \$000 | (7.23) | SAIDI unplanned adjustment | \$000 | 14.55 |

5. Transactions

Electricity Invercargill Limited has not entered into any agreements with another EDB or Transpower for an amalgamation, merger, major transaction or transfer in the assessment period.

6. Director's certification

A Director's certificate in the form set out in Schedule 7 of the 2020 DPP Determination is included as Appendix E.

7. Assurance report

An assurance report meeting the requirements of Schedule 8 of the 2020 DPP Determination is included in Appendix F.

Appendix A – Pass-through and recoverable costs

Pass-through costs

Table 16

| Actual and forecast pass-through costs RY21 | | | | |
|--|-----------------------|-------------------------|----------------------------------|---|
| Actual pass-through costs | Actual (\$000) | Forecast (\$000) | Forecast variance (\$000) | Explanation for variances |
| Rates on system fixed assets | 132 | 128 | 4 | |
| Commerce Act levies | 27 | 44 | (17) | Variance due to a reduction in the electricity price quality regulation levy. |
| Electricity Authority levies | 53 | 54 | (1) | |
| Utilities Disputes levies | 11 | 9 | 2 | |
| Total actual pass-through costs | 222 | 235 | (13) | |

Recoverable costs

Table 17

| Actual and forecast recoverable costs RY21 | | | | |
|--|----------------|------------------|---------------------------|---|
| Actual recoverable costs | Actual (\$000) | Forecast (\$000) | Forecast variance (\$000) | Explanation for variances |
| IRIS incentive adjustment | 973 | 973 | - | |
| Transmission charges | 5,304 | 5,304 | - | |
| New investment contract charges | 347 | 347 | - | |
| System operator services charges | - | - | - | |
| Avoided transmission charges | - | - | - | |
| Distributed generation allowance | - | - | - | |
| Claw-back | - | - | - | |
| Catastrophic event allowance | - | - | - | |
| Extended reserves allowance | - | - | - | |
| Quality incentive adjustment | 142 | 137 | 5 | Forecast amount did not include the time value of money adjustment. |
| Capex wash-up adjustment | - | - | - | |
| Reconsideration event allowance | - | - | - | |
| Quality standard variation engineers fee | - | - | - | |
| Urgent project allowance | - | - | - | |
| Fire and Emergency NZ levies | 20 | 20 | - | |
| Innovation project allowance | - | - | - | |
| Total actual recoverable costs | 6,787 | 6,782 | 5 | |

Pass-through balance

Table 18

| Pass-through balance RY21 | | |
|---|--|----------------------|
| Term | Description | Value (\$000) |
| Pass-through balance | <i>Pass-through balance for the assessment period ending 31 March 2020</i> | (207) |
| 67th percentile estimate of post-tax WACC | | 4.23% |
| Pass-through balance | <i>Pass-through balance x (1 + 67th percentile post-tax WACC)</i> | (216) |

Appendix B – Prices and quantities

Table 19 shows the actual prices and quantities for actual revenue from prices for the first assessment period.

Table 19

| Actual revenue from prices RY21 | | | | |
|---------------------------------|--------|------------|-----------------|------------------------|
| Price Category | Unit | Unit price | Actual quantity | Actual revenue (\$000) |
| ND08P | \$/day | \$ 0.6619 | 27.18 | 6.6 |
| ND08Q | \$/day | \$ 0.4605 | 91.65 | 15.4 |
| ND20P | \$/day | \$ 1.2231 | 1,101.95 | 491.9 |
| ND20Q | \$/day | \$ 0.8494 | 7,605.43 | 2,357.9 |
| NDL20P | \$/day | \$ 0.1500 | 1,078.43 | 59.0 |
| NDL20Q | \$/day | \$ 0.1000 | 5,313.88 | 194.0 |
| NDL08P | \$/day | \$ 0.1500 | 22.66 | 1.2 |
| NDL08Q | \$/day | \$ 0.1000 | 100.58 | 3.7 |
| | | | | - |
| NS001L | \$/day | \$ 0.1014 | 5,536.17 | 204.9 |
| NS001P | \$/day | \$ 0.4749 | 46.00 | 8.0 |
| NS008P | \$/day | \$ 0.6619 | 174.90 | 42.3 |
| NS008Q | \$/day | \$ 0.4605 | 9.50 | 1.6 |
| NS020P | \$/day | \$ 1.2231 | 273.16 | 121.9 |
| NS020Q | \$/day | \$ 0.8494 | 85.31 | 26.4 |
| | | | | - |
| | | | | - |
| NT015P | \$/day | \$ 1.0225 | 65.49 | 24.4 |
| NT015Q | \$/day | \$ 0.6619 | 9.00 | 2.2 |
| NT030P | \$/day | \$ 1.7127 | 541.77 | 338.7 |
| NT030Q | \$/day | \$ 1.1657 | 114.73 | 48.8 |
| NT050P | \$/day | \$ 3.4971 | 315.37 | 402.6 |
| NT050Q | \$/day | \$ 2.3746 | 66.07 | 57.3 |
| NT075P | \$/day | \$ 7.1813 | 115.15 | 301.8 |
| NT075Q | \$/day | \$ 5.2242 | 15.00 | 28.6 |
| NT100P | \$/day | \$ 8.7354 | 66.04 | 210.6 |
| NT100Q | \$/day | \$ 6.3323 | 7.00 | 16.2 |
| | | | | |
| Residential & General | \$/MWh | \$ 70.510 | 109,118.58 | 7,694.0 |
| EIL 20 KVA Low | \$/MWh | \$ 109.190 | 32,860.02 | 3,588.0 |
| EIL 8 KVA Low | \$/MWh | \$ 89.110 | 592.80 | 52.8 |
| Total | | | | 16,300.7 |

| Price Category | Unit | Unit price | Actual quantity | Actual revenue (\$000) | Unit | Unit price | Actual quantity | Actual revenue (\$000) | ActualTotal revenue (\$000) |
|----------------|--------|------------|-----------------|------------------------|--------|------------|-----------------|------------------------|-----------------------------|
| 7227954NV-421 | \$/day | \$ 3.18 | 1 | 1.16 | \$/MWh | 70.51 | 79.23 | 5.59 | 6.75 |
| 724187NV-3BD | \$/day | -\$ 10.80 | 1 | -3.94 | \$/MWh | 70.51 | 170.69 | 12.04 | 8.09 |
| 7302304NV-CA2 | \$/day | \$ 1.68 | 1 | 0.61 | \$/MWh | 70.51 | 79.80 | 5.63 | 6.24 |
| 730262NV-92A | \$/day | -\$ 3.26 | 1 | -1.19 | \$/MWh | 70.51 | 99.14 | 6.99 | 5.80 |
| 731881NV-4FA | \$/day | \$ 11.85 | 1 | 4.32 | \$/MWh | 70.51 | 83.45 | 5.88 | 10.21 |
| 733395NV-F13 | \$/day | \$ 4.72 | 1 | 1.72 | \$/MWh | 70.51 | 107.90 | 7.61 | 9.33 |
| 734325NV-9C1 | \$/day | \$ 4.25 | 1 | 1.55 | \$/MWh | 70.51 | 37.99 | 2.68 | 4.23 |
| 734326NV-501 | \$/day | \$ 9.39 | 1 | 3.43 | \$/MWh | 70.51 | 53.84 | 3.80 | 7.22 |
| 734355NV-C9C | \$/day | \$ 15.66 | 1 | 5.72 | \$/MWh | 70.51 | 39.77 | 2.80 | 8.52 |
| 734360NV-62B | \$/day | -\$ 6.48 | 1 | -2.36 | \$/MWh | 70.51 | 109.13 | 7.69 | 5.33 |
| 7344583NV-C71 | \$/day | \$ 6.61 | 1 | 2.41 | \$/MWh | 70.51 | 1.58 | 0.11 | 2.53 |
| 734470NV-384 | \$/day | \$ 14.62 | 1 | 5.34 | \$/MWh | 70.51 | 6.63 | 0.47 | 5.81 |
| 734846NV-9FF | \$/day | \$ 0.72 | 1 | 0.26 | \$/MWh | 70.51 | 4.95 | 0.35 | 0.61 |
| 7350005NV-3D0 | \$/day | \$ 0.50 | 1 | 0.18 | \$/MWh | 70.51 | 59.18 | 4.17 | 4.36 |
| 7350693NV-BBE | \$/day | \$ 2.35 | 1 | 0.86 | \$/MWh | 70.51 | 52.03 | 3.67 | 4.53 |
| 735249NV-D8B | \$/day | \$ 7.22 | 1 | 2.63 | \$/MWh | 70.51 | 122.42 | 8.63 | 11.27 |
| 740340NV-747 | \$/day | -\$ 8.30 | 1 | -3.03 | \$/MWh | 70.51 | 177.48 | 12.51 | 9.48 |
| 740394NV-B0F | \$/day | -\$ 0.33 | 1 | -0.12 | \$/MWh | 70.51 | 132.17 | 9.32 | 9.20 |
| 7433294NV-FC6 | \$/day | \$ 7.82 | 1 | 2.86 | \$/MWh | 70.51 | 41.26 | 2.91 | 5.77 |
| 743331NV-CBF | \$/day | \$ 1.43 | 1 | 0.52 | \$/MWh | 70.51 | 96.23 | 6.79 | 7.31 |
| 7433753NV-0E6 | \$/day | -\$ 12.60 | 1 | -4.60 | \$/MWh | 70.51 | 203.22 | 14.33 | 9.73 |
| 744592NV-A06 | \$/day | \$ 6.15 | 1 | 2.24 | \$/MWh | 70.51 | 47.47 | 3.35 | 5.59 |
| 7447592NV-D72 | \$/day | \$ 4.10 | 1 | 1.50 | \$/MWh | 70.51 | 36.64 | 2.58 | 4.08 |
| 7501257NV-2E9 | \$/day | \$ 4.06 | 1 | 1.48 | \$/MWh | 70.51 | 40.87 | 2.88 | 4.36 |
| 750191NV-4A6 | \$/day | \$ 0.86 | 1 | 0.31 | \$/MWh | 70.51 | 127.60 | 9.00 | 9.31 |
| 7501996NV-A4D | \$/day | -\$ 7.64 | 1 | -2.79 | \$/MWh | 70.51 | 132.12 | 9.32 | 6.53 |
| 755825NV-937 | \$/day | \$ 19.84 | 1 | 7.24 | \$/MWh | 70.51 | 27.30 | 1.92 | 9.17 |
| 800449NV-3FB | \$/day | -\$ 0.04 | 1 | -0.01 | \$/MWh | 70.51 | 71.00 | 5.01 | 4.99 |
| 82029943NV-B5B | \$/day | \$ 11.61 | 1 | 4.24 | \$/MWh | 70.51 | 17.07 | 1.20 | 5.44 |
| 8305375NV-D2C | \$/day | \$ 0.13 | 1 | 0.05 | \$/MWh | 70.51 | 43.64 | 3.08 | 3.13 |
| 836598NV-F14 | \$/day | -\$ 20.82 | 1 | -7.60 | \$/MWh | 70.51 | 330.50 | 23.30 | 15.70 |
| 8541431NV-DF3 | \$/day | \$ 11.70 | 1 | 4.27 | \$/MWh | 70.51 | 43.06 | 3.04 | 7.31 |
| 8665382NV-F7A | \$/day | -\$ 5.48 | 1 | -2.00 | \$/MWh | 70.51 | 237.29 | 16.73 | 14.73 |
| 8665408NV-7A3 | \$/day | \$ 5.63 | 1 | 2.05 | \$/MWh | 70.51 | 75.54 | 5.33 | 7.38 |
| 880344NV-C87 | \$/day | -\$ 11.90 | 1 | -4.34 | \$/MWh | 70.51 | 423.43 | 29.86 | 25.51 |
| 8803601NV-E7B | \$/day | \$ 8.22 | 1 | 3.00 | \$/MWh | 70.51 | 98.32 | 6.93 | 9.93 |
| 880375NV-73A | \$/day | \$ 13.68 | 1 | 4.99 | \$/MWh | 70.51 | 172.92 | 12.19 | 17.19 |
| 8803767NV-900 | \$/day | -\$ 2.53 | 1 | -0.92 | \$/MWh | 70.51 | 54.77 | 3.86 | 2.94 |
| 900319NV-09D | \$/day | \$ 5.76 | 1 | 2.10 | \$/MWh | 70.51 | 72.18 | 5.09 | 7.19 |
| 900356NV-DE6 | \$/day | -\$ 4.25 | 1 | -1.55 | \$/MWh | 70.51 | 449.18 | 31.67 | 30.12 |
| 9003573NV-568 | \$/day | -\$ 3.90 | 1 | -1.42 | \$/MWh | 70.51 | 159.54 | 11.25 | 9.83 |
| 900390NV-B86 | \$/day | \$ 18.70 | 1 | 6.83 | \$/MWh | 70.51 | 124.92 | 8.81 | 15.63 |
| 930505NV-E04 | \$/day | \$ 9.91 | 1 | 3.62 | \$/MWh | 70.51 | 31.82 | 2.24 | 5.86 |
| 930921NV-E57 | \$/day | \$ 17.57 | 1 | 6.41 | \$/MWh | 70.51 | 100.80 | 7.11 | 13.52 |

| | | | | | | | | | |
|----------------|--------|----------|---|-------|--------|--------|--------|-------|-------|
| 931326NV-837 | \$/day | \$ 11.91 | 1 | 4.35 | \$/MWh | 70.51 | 67.08 | 4.73 | 9.08 |
| 931746NV-BC6 | \$/day | \$ 14.56 | 1 | 5.31 | \$/MWh | 70.51 | 196.93 | 13.89 | 19.20 |
| 931760NV-71C | \$/day | \$ 16.82 | 1 | 6.14 | \$/MWh | 70.51 | 63.44 | 4.47 | 10.61 |
| 931776NV-C3E | \$/day | \$ 20.43 | 1 | 7.46 | \$/MWh | 70.51 | 106.42 | 7.50 | 14.96 |
| 934525NV-5D1 | \$/day | \$ 5.68 | 1 | 2.07 | \$/MWh | 70.51 | 88.03 | 6.21 | 8.28 |
| 7205085NV-6A2 | \$/day | \$ 8.37 | 1 | 3.06 | \$/MWh | 24.78 | 166.34 | 4.12 | 7.18 |
| 721862NV-A61 | \$/day | \$ 4.15 | 1 | 1.51 | \$/MWh | 43.23 | 44.37 | 1.92 | 3.43 |
| 721876NV-1C6 | \$/day | \$ 11.27 | 1 | 4.11 | \$/MWh | 41.68 | 88.99 | 3.71 | 7.82 |
| 7227011NV-2C2 | \$/day | \$ 12.88 | 1 | 4.70 | \$/MWh | 50.72 | 74.93 | 3.80 | 8.50 |
| 722703NV-43B | \$/day | \$ 17.50 | 1 | 6.39 | \$/MWh | 24.48 | 258.52 | 6.33 | 12.72 |
| 7229001NV-0AF | \$/day | \$ 9.09 | 1 | 3.32 | \$/MWh | 32.33 | 104.73 | 3.39 | 6.70 |
| 724179NV-031 | \$/day | \$ 4.58 | 1 | 1.67 | \$/MWh | 46.93 | 33.67 | 1.58 | 3.25 |
| 724111NV-DD5 | \$/day | \$ 14.80 | 1 | 5.40 | \$/MWh | 90.05 | 70.25 | 6.33 | 11.73 |
| 73015753NV-A0E | \$/day | \$ 12.83 | 1 | 4.68 | \$/MWh | 24.13 | 178.52 | 4.31 | 8.99 |
| 7301908NV-756 | \$/day | \$ 10.11 | 1 | 3.69 | \$/MWh | 20.31 | 158.62 | 3.22 | 6.91 |
| 7301973NV-CDF | \$/day | \$ 12.31 | 1 | 4.49 | \$/MWh | 23.48 | 166.55 | 3.91 | 8.40 |
| 7302313NV-BC5 | \$/day | \$ 4.85 | 1 | 1.77 | \$/MWh | 51.50 | 31.30 | 1.61 | 3.38 |
| 7302953NV-36A | \$/day | \$ 16.52 | 1 | 6.03 | \$/MWh | 32.53 | 172.40 | 5.61 | 11.64 |
| 7317032NV-617 | \$/day | \$ 21.32 | 1 | 7.78 | \$/MWh | 27.53 | 220.67 | 6.08 | 13.86 |
| 733399NV-C0D | \$/day | \$ 10.11 | 1 | 3.69 | \$/MWh | 26.66 | 118.39 | 3.16 | 6.85 |
| 734110NV-971 | \$/day | \$ 16.66 | 1 | 6.08 | \$/MWh | 40.17 | 156.90 | 6.30 | 12.38 |
| 7341272NV-801 | \$/day | \$ 8.38 | 1 | 3.06 | \$/MWh | 39.18 | 60.35 | 2.36 | 5.42 |
| 7341276NV-90B | \$/day | \$ 12.49 | 1 | 4.56 | \$/MWh | 26.02 | 154.85 | 4.03 | 8.59 |
| 734165NV-163 | \$/day | \$ 42.30 | 1 | 15.44 | \$/MWh | 32.37 | 470.46 | 15.23 | 30.67 |
| 7341792NV-7BE | \$/day | \$ 15.15 | 1 | 5.53 | \$/MWh | 24.09 | 224.06 | 5.40 | 10.93 |
| 7341793NV-BFB | \$/day | \$ 11.05 | 1 | 4.03 | \$/MWh | 26.81 | 143.48 | 3.85 | 7.88 |
| 734188NV-482 | \$/day | \$ 44.35 | 1 | 16.19 | \$/MWh | 19.19 | 825.84 | 15.85 | 32.04 |
| 734318NV-162 | \$/day | \$ 16.86 | 1 | 6.15 | \$/MWh | 39.29 | 153.94 | 6.05 | 12.20 |
| 734424NV-A86 | \$/day | \$ 6.58 | 1 | 2.40 | \$/MWh | 36.76 | 62.02 | 2.28 | 4.68 |
| 734460NV-929 | \$/day | \$ 9.09 | 1 | 3.32 | \$/MWh | 61.85 | 50.77 | 3.14 | 6.46 |
| 734802NV-A50 | \$/day | \$ 15.95 | 1 | 5.82 | \$/MWh | 28.80 | 164.47 | 4.74 | 10.56 |
| 7403555NV-A42 | \$/day | \$ 18.51 | 1 | 6.76 | \$/MWh | 37.86 | 216.22 | 8.19 | 14.94 |
| 740373NV-C7F | \$/day | \$ 18.53 | 1 | 6.76 | \$/MWh | 38.80 | 121.58 | 4.72 | 11.48 |
| 740385NV-DE7 | \$/day | \$ 17.85 | 1 | 6.52 | \$/MWh | 20.60 | 325.33 | 6.70 | 13.22 |
| 740630NV-71F | \$/day | \$ 17.23 | 1 | 6.29 | \$/MWh | 35.43 | 196.31 | 6.96 | 13.24 |
| 740649NV-C13 | \$/day | \$ 2.87 | 1 | 1.05 | \$/MWh | 168.74 | 65.95 | 11.13 | 12.18 |
| 7433014NV-08B | \$/day | \$ 39.08 | 1 | 14.26 | \$/MWh | 31.23 | 521.53 | 16.29 | 30.55 |
| 7433292NV-E49 | \$/day | \$ 33.91 | 1 | 12.38 | \$/MWh | 34.91 | 303.74 | 10.60 | 22.98 |
| 744103NV-5A5 | \$/day | \$ 52.39 | 1 | 19.12 | \$/MWh | 24.04 | 796.49 | 19.15 | 38.27 |
| 744608NV-473 | \$/day | \$ 23.56 | 1 | 8.60 | \$/MWh | 27.39 | 284.28 | 7.79 | 16.39 |
| 744611NV-08F | \$/day | \$ 24.72 | 1 | 9.02 | \$/MWh | 34.46 | 279.79 | 9.64 | 18.66 |
| 744655NV-320 | \$/day | \$ 15.06 | 1 | 5.50 | \$/MWh | 28.16 | 197.38 | 5.56 | 11.06 |
| 7447142NV-C31 | \$/day | \$ 14.09 | 1 | 5.14 | \$/MWh | 29.30 | 183.95 | 5.39 | 10.53 |
| 754696NV-0EE | \$/day | \$ 26.77 | 1 | 9.77 | \$/MWh | 33.07 | 289.52 | 9.57 | 19.35 |
| 7551948NV-7E0 | \$/day | \$ 28.27 | 1 | 10.32 | \$/MWh | 30.63 | 306.74 | 9.40 | 19.71 |
| 755884NV-D6D | \$/day | \$ 12.25 | 1 | 4.47 | \$/MWh | 53.93 | 71.24 | 3.84 | 8.31 |
| 760735NV-A99 | \$/day | \$ 12.57 | 1 | 4.59 | \$/MWh | 39.83 | 108.77 | 4.33 | 8.92 |

| | | | | | | | | | |
|---------------|--------|-----------|---|-------|--------|--------|---------|-------|-------|
| 760737NV-A1C | \$/day | \$ 40.02 | 1 | 14.61 | \$/MWh | 41.14 | 321.66 | 13.23 | 27.84 |
| 7757907NV-783 | \$/day | \$ 42.05 | 1 | 15.35 | \$/MWh | 35.00 | 388.42 | 13.59 | 28.94 |
| 7757994NV-4A4 | \$/day | \$ 18.46 | 1 | 6.74 | \$/MWh | 41.01 | 156.22 | 6.41 | 13.14 |
| 810201NV-DAD | \$/day | \$ 10.55 | 1 | 3.85 | \$/MWh | 40.48 | 77.27 | 3.13 | 6.98 |
| 8102959NV-5D5 | \$/day | \$ 32.82 | 1 | 11.98 | \$/MWh | 31.92 | 337.23 | 10.76 | 22.74 |
| 8144266NV-0A8 | \$/day | \$ 21.37 | 1 | 7.80 | \$/MWh | 26.47 | 306.48 | 8.11 | 15.91 |
| 825292NV-886 | \$/day | \$ 59.71 | 1 | 21.79 | \$/MWh | 24.70 | 713.46 | 17.62 | 39.42 |
| 8305967NV-D0E | \$/day | \$ 22.66 | 1 | 8.27 | \$/MWh | 107.76 | 49.14 | 5.30 | 13.57 |
| 8305981NV-63B | \$/day | \$ 51.95 | 1 | 18.96 | \$/MWh | 39.22 | 439.16 | 17.22 | 36.19 |
| 831121NV-B96 | \$/day | \$ 16.42 | 1 | 5.99 | \$/MWh | 50.51 | 102.15 | 5.16 | 11.15 |
| 832431NV-6DE | \$/day | \$ 46.32 | 1 | 16.91 | \$/MWh | 54.98 | 265.29 | 14.59 | 31.49 |
| 835083NV-C88 | \$/day | \$ 13.41 | 1 | 4.89 | \$/MWh | 155.91 | 19.93 | 3.11 | 8.00 |
| 835871NV-C17 | \$/day | \$ 28.49 | 1 | 10.40 | \$/MWh | 35.37 | 282.87 | 10.01 | 20.40 |
| 8365737NV-155 | \$/day | \$ 34.88 | 1 | 12.73 | \$/MWh | 30.29 | 351.15 | 10.64 | 23.37 |
| 8425758NV-FE5 | \$/day | \$ 6.28 | 1 | 2.29 | \$/MWh | 25.59 | 189.91 | 4.86 | 7.15 |
| 8509006NV-D55 | \$/day | \$ 15.34 | 1 | 5.60 | \$/MWh | 20.29 | 236.99 | 4.81 | 10.41 |
| 8509025NV-CC0 | \$/day | \$ 28.30 | 1 | 10.33 | \$/MWh | 22.49 | 433.13 | 9.74 | 20.07 |
| 8509026NV-000 | \$/day | \$ 29.09 | 1 | 10.62 | \$/MWh | 29.11 | 331.81 | 9.66 | 20.28 |
| 850908NV-B67 | \$/day | \$ 85.51 | 1 | 31.21 | \$/MWh | 20.61 | 1359.23 | 28.01 | 59.22 |
| 8509245NV-937 | \$/day | \$ 22.45 | 1 | 8.19 | \$/MWh | 20.27 | 385.23 | 7.81 | 16.00 |
| 850948NV-9C2 | \$/day | \$ 3.19 | 1 | 1.16 | \$/MWh | 25.79 | 43.04 | 1.11 | 2.27 |
| 8509962NV-AA6 | \$/day | \$ 4.67 | 1 | 1.70 | \$/MWh | 31.65 | 47.20 | 1.49 | 3.20 |
| 8665558NV-6AF | \$/day | \$ 12.49 | 1 | 4.56 | \$/MWh | 47.08 | 83.65 | 3.94 | 8.50 |
| 880302NV-FAD | \$/day | \$ 15.06 | 1 | 5.50 | \$/MWh | 19.91 | 225.76 | 4.49 | 9.99 |
| 8803031NV-F85 | \$/day | \$ 19.61 | 1 | 7.16 | \$/MWh | 20.38 | 324.08 | 6.60 | 13.76 |
| 8803032NV-345 | \$/day | \$ 11.88 | 1 | 4.34 | \$/MWh | 32.77 | 137.48 | 4.51 | 8.84 |
| 8803047NV-B57 | \$/day | \$ 8.24 | 1 | 3.01 | \$/MWh | 47.01 | 87.23 | 4.10 | 7.11 |
| 880308NV-D3C | \$/day | \$ 14.15 | 1 | 5.16 | \$/MWh | 22.92 | 168.55 | 3.86 | 9.03 |
| 880309NV-179 | \$/day | \$ 23.15 | 1 | 8.45 | \$/MWh | 25.88 | 327.70 | 8.48 | 16.93 |
| 8803164NV-3C6 | \$/day | \$ 11.55 | 1 | 4.22 | \$/MWh | 27.52 | 127.60 | 3.51 | 7.73 |
| 8803165NV-F83 | \$/day | \$ 7.02 | 1 | 2.56 | \$/MWh | 27.55 | 83.79 | 2.31 | 4.87 |
| 880317NV-84F | \$/day | \$ 10.21 | 1 | 3.73 | \$/MWh | 90.00 | 36.24 | 3.26 | 6.99 |
| 880321NV-E38 | \$/day | \$ 18.28 | 1 | 6.67 | \$/MWh | 20.11 | 327.80 | 6.59 | 13.26 |
| 880323NV-EBD | \$/day | \$ 27.83 | 1 | 10.16 | \$/MWh | 24.76 | 377.70 | 9.35 | 19.51 |
| 880327NV-FB7 | \$/day | \$ 44.53 | 1 | 16.25 | \$/MWh | 20.42 | 788.29 | 16.10 | 32.35 |
| 8803283NV-7B5 | \$/day | \$ 23.49 | 1 | 8.57 | \$/MWh | 21.95 | 341.62 | 7.50 | 16.07 |
| 8803298NV-3CC | \$/day | \$ 49.20 | 1 | 17.96 | \$/MWh | 28.70 | 484.87 | 13.92 | 31.87 |
| 880329NV-C2C | \$/day | \$ 137.87 | 1 | 50.32 | \$/MWh | 24.43 | 1824.54 | 44.57 | 94.90 |
| 880336NV-95F | \$/day | \$ 62.95 | 1 | 22.98 | \$/MWh | 28.63 | 751.87 | 21.53 | 44.50 |
| 880361NV-C9D | \$/day | \$ 71.76 | 1 | 26.19 | \$/MWh | 20.90 | 1325.65 | 27.71 | 53.90 |
| 8803625NV-224 | \$/day | \$ 22.56 | 1 | 8.23 | \$/MWh | 20.11 | 338.41 | 6.81 | 15.04 |
| 880363NV-C18 | \$/day | \$ 11.99 | 1 | 4.38 | \$/MWh | 30.22 | 129.77 | 3.92 | 8.30 |
| 880397NV-D05 | \$/day | \$ 44.28 | 1 | 16.16 | \$/MWh | 24.38 | 529.64 | 12.91 | 29.07 |
| 9003051NV-DBD | \$/day | \$ 35.66 | 1 | 13.02 | \$/MWh | 25.87 | 428.93 | 11.10 | 24.11 |
| 900305NV-92E | \$/day | \$ 39.23 | 1 | 14.32 | \$/MWh | 45.14 | 302.56 | 13.66 | 27.98 |
| 900306NV-5EE | \$/day | \$ 34.79 | 1 | 12.70 | \$/MWh | 50.16 | 179.52 | 9.00 | 21.70 |
| 9003071NV-0E8 | \$/day | \$ 57.14 | 1 | 20.86 | \$/MWh | 19.75 | 952.42 | 18.81 | 39.67 |

| | | | | | | | | | |
|----------------|--------|-----------|---|--------|--------|--------|---------|--------|--------|
| 90030815NV-060 | \$/day | \$ 18.61 | 1 | 6.79 | \$/MWh | 53.15 | 499.14 | 26.53 | 33.32 |
| 9003081NV-0FF | \$/day | \$ 17.68 | 1 | 6.45 | \$/MWh | 26.61 | 88.51 | 2.36 | 8.81 |
| 9003083NV-07A | \$/day | \$ 40.98 | 1 | 14.96 | \$/MWh | 27.14 | 623.93 | 16.93 | 31.89 |
| 900308NV-675 | \$/day | \$ 55.50 | 1 | 20.26 | \$/MWh | 29.58 | 657.90 | 19.46 | 39.72 |
| 9003117NV-793 | \$/day | \$ 45.47 | 1 | 16.60 | \$/MWh | 23.92 | 675.86 | 16.17 | 32.76 |
| 900313NV-20C | \$/day | \$ 16.04 | 1 | 5.85 | \$/MWh | 38.65 | 171.23 | 6.62 | 12.47 |
| 9003212NV-9DF | \$/day | \$ 8.60 | 1 | 3.14 | \$/MWh | 22.94 | 117.81 | 2.70 | 5.84 |
| 9003235NV-940 | \$/day | \$ 66.99 | 1 | 24.45 | \$/MWh | 24.18 | 1008.45 | 24.38 | 48.84 |
| 9003243NV-D92 | \$/day | \$ 19.11 | 1 | 6.98 | \$/MWh | 27.21 | 272.55 | 7.42 | 14.39 |
| 9003244NV-058 | \$/day | \$ 27.70 | 1 | 10.11 | \$/MWh | 19.54 | 492.82 | 9.63 | 19.74 |
| 900325NV-47B | \$/day | \$ 89.82 | 1 | 32.78 | \$/MWh | 18.97 | 1634.37 | 31.00 | 63.79 |
| 900327NV-4FE | \$/day | \$ 7.81 | 1 | 2.85 | \$/MWh | 20.75 | 116.03 | 2.41 | 5.26 |
| 900330NV-399 | \$/day | \$ 82.10 | 1 | 29.97 | \$/MWh | 19.47 | 1453.26 | 28.29 | 58.26 |
| 900358NV-E7D | \$/day | \$ 36.42 | 1 | 13.29 | \$/MWh | 68.53 | 136.13 | 9.33 | 22.62 |
| 9003385NV-2F6 | \$/day | \$ 15.94 | 1 | 5.82 | \$/MWh | 22.41 | 192.68 | 4.32 | 10.14 |
| 900342NV-641 | \$/day | \$ 14.34 | 1 | 5.23 | \$/MWh | 26.67 | 148.38 | 3.96 | 9.19 |
| 9003503NV-035 | \$/day | \$ 17.18 | 1 | 6.27 | \$/MWh | 39.77 | 155.51 | 6.18 | 12.46 |
| 900350NV-C69 | \$/day | \$ 8.83 | 1 | 3.22 | \$/MWh | 32.14 | 89.40 | 2.87 | 6.10 |
| 900351NV-02C | \$/day | \$ 28.64 | 1 | 10.45 | \$/MWh | 17.59 | 548.85 | 9.65 | 20.11 |
| 9003603NV-336 | \$/day | \$ 55.06 | 1 | 20.10 | \$/MWh | 25.55 | 790.64 | 20.20 | 40.30 |
| 900383NV-DEB | \$/day | \$ 28.42 | 1 | 10.37 | \$/MWh | 47.99 | 188.49 | 9.05 | 19.42 |
| 900384NV-021 | \$/day | \$ 70.91 | 1 | 25.88 | \$/MWh | 27.16 | 882.22 | 23.96 | 49.84 |
| 9003995NV-251 | \$/day | \$ 24.24 | 1 | 8.85 | \$/MWh | 30.20 | 254.47 | 7.68 | 16.53 |
| 920755NV-4EA | \$/day | \$ 20.20 | 1 | 7.37 | \$/MWh | 27.14 | 290.99 | 7.90 | 15.27 |
| 930503NV-F8B | \$/day | \$ 6.80 | 1 | 2.48 | \$/MWh | 52.53 | 41.99 | 2.21 | 4.69 |
| 931704NV-9E6 | \$/day | \$ 16.09 | 1 | 5.87 | \$/MWh | 36.75 | 133.49 | 4.91 | 10.78 |
| 931741NV-60C | \$/day | \$ 51.92 | 1 | 18.95 | \$/MWh | 28.55 | 605.70 | 17.29 | 36.24 |
| 931749NV-418 | \$/day | \$ 19.70 | 1 | 7.19 | \$/MWh | 28.41 | 252.26 | 7.17 | 14.36 |
| 933534NV-759 | \$/day | \$ 15.32 | 1 | 5.59 | \$/MWh | 21.83 | 198.31 | 4.33 | 9.92 |
| 9406011NV-187 | \$/day | \$ 74.37 | 1 | 27.15 | \$/MWh | 28.48 | 880.08 | 25.06 | 52.21 |
| 9406013NV-102 | \$/day | \$ 37.39 | 1 | 13.65 | \$/MWh | 52.92 | 242.38 | 12.83 | 26.47 |
| 9408016NV-48D | \$/day | \$ 380.78 | 1 | 138.98 | \$/MWh | 28.69 | 5055.26 | 145.04 | 284.02 |
| 880395NV-D80 | \$/day | \$ 56.76 | 1 | 20.72 | \$/MWh | 109.70 | 484.06 | 53.10 | 73.82 |
| 900392NV-B03 | \$/day | \$ 84.16 | 1 | 30.72 | \$/MWh | 25.88 | 1018.17 | 26.35 | 57.07 |
| 7302939NV-E0B | \$/day | \$ 12.05 | 1 | 4.40 | \$/MWh | 26.43 | 136.54 | 3.61 | 8.01 |

| | |
|---|---------------|
| Total actual revenue from prices | 19,452 |
|---|---------------|

Table 20 shows the forecast revenue from prices for the first assessment period from the price setting compliance statement.

Table 20

| Forecast revenue from prices RY21 | |
|---|--------|
| Total forecast revenue from prices | 19,457 |

Appendix C – Policies and procedures for measuring planned and unplanned interruptions

Electricity Invercargill Limited contracts PowerNet to manage its network via a Network Management Agreement. PowerNet has a range of quality controlled documentation that govern the operational processes that surround the interruption, restoration and quality of supply to its customers and by which power interruptions are managed, recorded and reported at PowerNet.

The below processes and documentation are designed to cover the relevant information relating to the recording and reporting of SAIDI and SAIFI.

- OP-SC01 System Control Faults/Defects Processes
- OP-SC02 System Control Outages Processes
- OP-SC04 System Control Reporting Processes
- OP-STD-005 Planned Outages and Operating Orders Standard
- OP-STD-0001 Network Faults, Defects and Supply Complaints Standard
- OP-STD-011 Operating Sequence Standard

Key information includes:

- Responsibilities and critical tasks for preparation, checking, actioning and altering operating sequences.
- Responsibilities for recording faults and unplanned interruptions at the system control operator level, through to reviewing and reporting of faults and interruptions.
- Methods by which notification of unplanned interruptions are identified and captured from various sources such as customers, network equipment, contractors, Transpower, the public or emergency services.
- The use of operating sequences for planned maintenance and unplanned fault restoration and how the information from these orders flow through to the Outage Reporting System in the form of duration of power interruptions and the number of customers affected.
- The method of notifying customers of planned or notified planned interruptions, including where and how this information is stored for future reference.
- The method of calculating raw SAIDI and SAIFI for both planned and unplanned interruptions.
- The process for uploading raw data extracted from the Outage Reporting System to calculate SAIDI and SAIFI assessed values, including the normalisation of unplanned major events.
- The preparation, retention and archiving of supporting records and data.

PowerNet interprets an “Interruption” (as defined in the Default Price-Quality Path Determinations) as the loss of power to a single consumer due to a single root cause. Therefore, cases where a customer receives multiple power cuts during the remediation of a single root cause are considered single interruptions for the purposes of SAIDI/SAIFI calculation. This interpretation maintains consistency with the approach used to calculate the quality limits under which Electricity Invercargill Limited operates.

Appendix D – SAIDI and SAIFI major events

The tables below show the normalisation of the SAIDI and SAIFI major events that took place during the assessment period, consistent with Schedule 3.2 of the 2020 DPP Determination.

Table 21

| Normalisation of unplanned SAIDI major events RY21 | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| SAIDI unplanned boundary value | | | | | 4.13 |
| ORS # 37298 | | | | | |
| 1/48th of the SAIDI unplanned boundary value | Half hour commencing | Sum SAIDI (half-hour) | Sum SAIDI (previous 24-hour) | Max SAIDI (rolling 24-hour) | SAIDI assessed value |
| 0.086 | 26/04/2020 6:00 | 0 | 0 | 4.868606 | 0 |
| 0.086 | 26/04/2020 6:30 | 0 | 0 | 4.868606 | 0 |
| 0.086 | 26/04/2020 7:00 | 0 | 0 | 4.868606 | 0 |
| 0.086 | 26/04/2020 7:30 | 0 | 0 | 4.868606 | 0 |
| 0.086 | 26/04/2020 8:00 | 0 | 0 | 4.868606 | 0 |
| 0.086 | 26/04/2020 8:30 | 0 | 0 | 4.868606 | 0 |
| 0.086 | 26/04/2020 9:00 | 0 | 0 | 4.868606 | 0 |
| 0.086 | 26/04/2020 9:30 | 0 | 0 | 4.868606 | 0 |
| 0.086 | 26/04/2020 10:00 | 0 | 0 | 4.868606 | 0 |
| 0.086 | 26/04/2020 10:30 | 0 | 0 | 4.868606 | 0 |
| 0.086 | 26/04/2020 11:00 | 0 | 0 | 4.868606 | 0 |
| 0.086 | 26/04/2020 11:30 | 0 | 0 | 4.868606 | 0 |
| 0.086 | 26/04/2020 12:00 | 0 | 0 | 4.868606 | 0 |
| 0.086 | 26/04/2020 12:30 | 0 | 0 | 4.868606 | 0 |
| 0.086 | 26/04/2020 13:00 | 0 | 0 | 4.868606 | 0 |
| 0.086 | 26/04/2020 13:30 | 0.028955 | 0.028955 | 4.868606 | 0.028955 |
| 0.086 | 26/04/2020 14:00 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 14:30 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 15:00 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 15:30 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 16:00 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 16:30 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 17:00 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 17:30 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 18:00 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 18:30 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 19:00 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 19:30 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 20:00 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 20:30 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 21:00 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 21:30 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 22:00 | 0 | 0.028955 | 4.868606 | 0 |

| ORS # 37298 continued | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIDI unplanned boundary value | Half hour commencing | Sum SAIDI (half-hour) | Sum SAIDI (previous 24-hour) | Max SAIDI (rolling 24-hour) | SAIDI assessed value |
| 0.086 | 26/04/2020 22:30 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 23:00 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 26/04/2020 23:30 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 27/04/2020 0:00 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 27/04/2020 0:30 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 27/04/2020 1:00 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 27/04/2020 1:30 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 27/04/2020 2:00 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 27/04/2020 2:30 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 27/04/2020 3:00 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 27/04/2020 3:30 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 27/04/2020 4:00 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 27/04/2020 4:30 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 27/04/2020 5:00 | 0 | 0.028955 | 4.868606 | 0 |
| 0.086 | 27/04/2020 5:30 | 4.839651 | 4.868606 | 4.868606 | 0.0860417 |
| 0.086 | 27/04/2020 6:00 | 0 | 4.868606 | 4.868606 | 0 |
| 0.086 | 27/04/2020 6:30 | 0 | 4.868606 | 4.868606 | 0 |
| 0.086 | 27/04/2020 7:00 | 0 | 4.868606 | 4.868606 | 0 |
| 0.086 | 27/04/2020 7:30 | 0 | 4.868606 | 4.868606 | 0 |
| 0.086 | 27/04/2020 8:00 | 0 | 4.868606 | 4.868606 | 0 |
| 0.086 | 27/04/2020 8:30 | 0 | 4.868606 | 4.868606 | 0 |
| 0.086 | 27/04/2020 9:00 | 0 | 4.868606 | 4.868606 | 0 |
| 0.086 | 27/04/2020 9:30 | 0 | 4.868606 | 4.868606 | 0 |
| 0.086 | 27/04/2020 10:00 | 0 | 4.868606 | 4.868606 | 0 |
| 0.086 | 27/04/2020 10:30 | 0 | 4.868606 | 4.868606 | 0 |
| 0.086 | 27/04/2020 11:00 | 0 | 4.868606 | 4.868606 | 0 |
| 0.086 | 27/04/2020 11:30 | 0 | 4.868606 | 4.868606 | 0 |
| 0.086 | 27/04/2020 12:00 | 0 | 4.868606 | 4.868606 | 0 |
| 0.086 | 27/04/2020 12:30 | 0 | 4.868606 | 4.868606 | 0 |
| 0.086 | 27/04/2020 13:00 | 0 | 4.868606 | 4.868606 | 0 |
| 0.086 | 27/04/2020 13:30 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 14:00 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 14:30 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 15:00 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 15:30 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 16:00 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 16:30 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 17:00 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 17:30 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 18:00 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 18:30 | 0 | 4.839651 | 4.839651 | 0 |

| ORS # 37298 continued | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIDI unplanned boundary value | Half hour commencing | Sum SAIDI (half-hour) | Sum SAIDI (previous 24-hour) | Max SAIDI (rolling 24-hour) | SAIDI assessed value |
| 0.086 | 27/04/2020 19:00 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 19:30 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 20:00 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 20:30 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 21:00 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 21:30 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 22:00 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 22:30 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 23:00 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 27/04/2020 23:30 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 28/04/2020 0:00 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 28/04/2020 0:30 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 28/04/2020 1:00 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 28/04/2020 1:30 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 28/04/2020 2:00 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 28/04/2020 2:30 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 28/04/2020 3:00 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 28/04/2020 3:30 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 28/04/2020 4:00 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 28/04/2020 4:30 | 0 | 4.839651 | 4.839651 | 0 |
| 0.086 | 28/04/2020 5:00 | 0 | 4.839651 | 4.839651 | 0 |
| TOTAL | | | 4.868606 | | 0.1149967 |

ORS # 37298

- (i) Cause; Defective equipment, failed insulator
- (ii) Start date; 27/4/20
- (iii) Start time; 05:31
- (iv) End date; 27/4/20
- (v) End time; 09:15
- (vi) SAIDI before; 4.868606
- (vii) SAIDI Boundary Value; 4.13
- (viii) Location; Bann Street, Bluff
- (ix) Equipment; 11 kV insulator on ABS 961, pole # 37298
- (x) Response; Mobilise, locate fault, back feed, isolate & replace insulator
- (xi) Mitigating factors; Distance from main depot and time to mobilise the faultman
- (xii) Proposed mitigation. Routine ABS insulator checks on whole fleet, in progress.

Table 22

| ORS # 37332 | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIDI unplanned boundary value | Half hour commencing | Sum SAIDI (half-hour) | Sum SAIDI (previous 24-hour) | Max SAIDI (rolling 24-hour) | SAIDI assessed value |
| 0.086 | 1/05/2020 2:30 | 0 | 0 | 7.690809 | 0 |
| 0.086 | 1/05/2020 3:00 | 0 | 0 | 7.690809 | 0 |
| 0.086 | 1/05/2020 3:30 | 0 | 0 | 7.690809 | 0 |
| 0.086 | 1/05/2020 4:00 | 0 | 0 | 7.690809 | 0 |
| 0.086 | 1/05/2020 4:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 5:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 5:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 6:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 6:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 7:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 7:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 8:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 8:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 9:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 9:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 10:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 10:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 11:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 11:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 12:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 12:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 13:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 13:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 14:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 14:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 15:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 15:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 16:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 16:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 17:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 17:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 18:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 18:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 19:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 19:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 20:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 20:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 21:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 21:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 22:00 | 0 | 0 | 9.165353 | 0 |

| ORS # 37332 continued | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIDI unplanned boundary value | Half hour commencing | Sum SAIDI (half-hour) | Sum SAIDI (previous 24-hour) | Max SAIDI (rolling 24-hour) | SAIDI assessed value |
| 0.086 | 1/05/2020 22:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 23:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 1/05/2020 23:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 2/05/2020 0:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 2/05/2020 0:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 2/05/2020 1:00 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 2/05/2020 1:30 | 0 | 0 | 9.165353 | 0 |
| 0.086 | 2/05/2020 2:00 | 7.690809 | 7.690809 | 9.165353 | 0.0860417 |
| 0.086 | 2/05/2020 2:30 | 0 | 7.690809 | 9.165353 | 0 |
| 0.086 | 2/05/2020 3:00 | 0 | 7.690809 | 9.165353 | 0 |
| 0.086 | 2/05/2020 3:30 | 0 | 7.690809 | 9.165353 | 0 |
| 0.086 | 2/05/2020 4:00 | 1.474544 | 9.165353 | 9.165353 | 0.0860417 |
| 0.086 | 2/05/2020 4:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 5:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 5:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 6:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 6:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 7:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 7:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 8:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 8:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 9:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 9:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 10:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 10:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 11:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 11:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 12:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 12:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 13:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 13:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 14:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 14:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 15:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 15:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 16:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 16:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 17:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 17:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 18:00 | 0 | 9.165353 | 9.165353 | 0 |

| ORS # 37332 continued | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIDI unplanned boundary value | Half hour commencing | Sum SAIDI (half-hour) | Sum SAIDI (previous 24-hour) | Max SAIDI (rolling 24-hour) | SAIDI assessed value |
| 0.086 | 2/05/2020 18:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 19:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 19:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 20:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 20:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 21:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 21:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 22:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 22:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 23:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 2/05/2020 23:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 3/05/2020 0:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 3/05/2020 0:30 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 3/05/2020 1:00 | 0 | 9.165353 | 9.165353 | 0 |
| 0.086 | 3/05/2020 1:30 | 0 | 9.165353 | 9.165353 | 0 |
| TOTAL | | | 9.165353 | | 0.1720833 |

ORS # 37332

- (i) Cause; Defective equipment, cable deterioration
- (ii) Start date; 2/5/20
- (iii) Start time; 02:06
- (iv) End date; 2/5/20
- (v) End time; 04:30
- (vi) SAIDI before; 9.165353
- (vii) SAIDI Boundary Value; 4.13
- (viii) Location; Scandrett & Ness Streets, Invercargill
- (ix) Equipment; 11 kV 95mm 3 Core AL PLHDPE cable
- (x) Response; Locate faulty cable, isolate, back feed & repair cable fault
- (xi) Mitigating factors; Complex large UG network with some switchgear operating restrictions
- (xii) Proposed mitigation. Progressive rollout of online partial discharge testing of high voltage cables

| RS # 37536 | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIDI unplanned boundary value | Half hour commencing | Sum SAIDI (half-hour) | Sum SAIDI (previous 24-hour) | Max SAIDI (rolling 24-hour) | SAIDI assessed value |
| 0.086 | 3/06/2020 2:00 | 0 | 0 | 5.363635 | 0 |
| 0.086 | 3/06/2020 2:30 | 0 | 0 | 5.363635 | 0 |
| 0.086 | 3/06/2020 3:00 | 0 | 0 | 5.363635 | 0 |
| 0.086 | 3/06/2020 3:30 | 0 | 0 | 5.363635 | 0 |
| 0.086 | 3/06/2020 4:00 | 0 | 0 | 5.363635 | 0 |
| 0.086 | 3/06/2020 4:30 | 0 | 0 | 5.363635 | 0 |
| 0.086 | 3/06/2020 5:00 | 0 | 0 | 5.363635 | 0 |
| 0.086 | 3/06/2020 5:30 | 0 | 0 | 5.363635 | 0 |
| 0.086 | 3/06/2020 6:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 6:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 7:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 7:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 8:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 8:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 9:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 9:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 10:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 10:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 11:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 11:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 12:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 12:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 13:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 13:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 14:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 14:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 15:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 15:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 16:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 16:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 17:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 17:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 18:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 18:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 19:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 19:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 20:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 20:30 | 0 | 0 | 5.752309 | 0 |

ORS # 37536 continued

| 1/48th of the SAIDI unplanned boundary value | Half hour commencing | Sum SAIDI (half-hour) | Sum SAIDI (previous 24-hour) | Max SAIDI (rolling 24-hour) | SAIDI assessed value |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 0.086 | 3/06/2020 21:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 21:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 22:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 22:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 23:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 3/06/2020 23:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 4/06/2020 0:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 4/06/2020 0:30 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 4/06/2020 1:00 | 0 | 0 | 5.752309 | 0 |
| 0.086 | 4/06/2020 1:30 | 5.363635 | 5.363635 | 5.752309 | 0.0860417 |
| 0.086 | 4/06/2020 2:00 | 0 | 5.363635 | 5.752309 | 0 |
| 0.086 | 4/06/2020 2:30 | 0 | 5.363635 | 5.752309 | 0 |
| 0.086 | 4/06/2020 3:00 | 0 | 5.363635 | 5.752309 | 0 |
| 0.086 | 4/06/2020 3:30 | 0 | 5.363635 | 5.752309 | 0 |
| 0.086 | 4/06/2020 4:00 | 0 | 5.363635 | 5.752309 | 0 |
| 0.086 | 4/06/2020 4:30 | 0 | 5.363635 | 5.752309 | 0 |
| 0.086 | 4/06/2020 5:00 | 0 | 5.363635 | 5.752309 | 0 |
| 0.086 | 4/06/2020 5:30 | 0.388674 | 5.752309 | 5.752309 | 0.0860417 |
| 0.086 | 4/06/2020 6:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 6:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 7:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 7:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 8:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 8:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 9:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 9:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 10:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 10:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 11:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 11:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 12:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 12:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 13:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 13:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 14:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 14:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 15:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 15:30 | 0 | 5.752309 | 5.752309 | 0 |

| ORS # 37536 continued | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIDI unplanned boundary value | Half hour commencing | Sum SAIDI (half-hour) | Sum SAIDI (previous 24-hour) | Max SAIDI (rolling 24-hour) | SAIDI assessed value |
| 0.086 | 4/06/2020 16:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 16:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 17:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 17:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 18:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 18:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 19:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 19:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 20:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 20:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 21:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 21:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 22:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 22:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 23:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 4/06/2020 23:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 5/06/2020 0:00 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 5/06/2020 0:30 | 0 | 5.752309 | 5.752309 | 0 |
| 0.086 | 5/06/2020 1:00 | 0 | 5.752309 | 5.752309 | 0 |
| TOTAL | | | 5.752309 | | 0.1720833 |

ORS # 37536

- (i) Cause; Defective equipment, failed insulator
- (ii) Start date; 4/6/20
- (iii) Start time; 01:41
- (iv) End date; 4/6/20
- (v) End time; 06:21
- (vi) SAIDI before; 5.752309;
- (vii) SAIDI Boundary Value; 4.13
- (viii) Location; Slaney Street, Bluff;
- (ix) Equipment; 11k V strain insulator
- (x) Response; Mobilise, back feed, isolate and replace insulator
- (xi) Mitigating factors; Distance from main depot and time to mobilise faultman
- (xii) Proposed mitigation. Routine line inspections and testing.

| ORS # 39734 | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIDI unplanned boundary value | Half hour commencing | Sum SAIDI (half-hour) | Sum SAIDI (previous 24-hour) | Max SAIDI (rolling 24-hour) | SAIDI assessed value |
| 0.086 | 28/02/2021 16:00 | 0 | 0 | 6.984035 | 0 |
| 0.086 | 28/02/2021 16:30 | 0 | 0 | 6.984035 | 0 |
| 0.086 | 28/02/2021 17:00 | 0 | 0 | 6.984035 | 0 |
| 0.086 | 28/02/2021 17:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 28/02/2021 18:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 28/02/2021 18:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 28/02/2021 19:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 28/02/2021 19:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 28/02/2021 20:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 28/02/2021 20:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 28/02/2021 21:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 28/02/2021 21:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 28/02/2021 22:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 28/02/2021 22:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 28/02/2021 23:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 28/02/2021 23:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 0:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 0:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 1:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 1:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 2:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 2:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 3:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 3:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 4:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 4:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 5:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 5:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 6:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 6:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 7:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 7:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 8:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 8:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 9:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 9:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 10:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 10:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 11:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 11:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 12:00 | 0 | 0 | 6.996436 | 0 |

| ORS # 39734 continued | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIDI unplanned boundary value | Half hour commencing | Sum SAIDI (half-hour) | Sum SAIDI (previous 24-hour) | Max SAIDI (rolling 24-hour) | SAIDI assessed value |
| 0.086 | 1/03/2021 12:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 13:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 13:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 14:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 14:30 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 15:00 | 0 | 0 | 6.996436 | 0 |
| 0.086 | 1/03/2021 15:30 | 6.984035 | 6.984035 | 6.996436 | 0.0860417 |
| 0.086 | 1/03/2021 16:00 | 0 | 6.984035 | 6.996436 | 0 |
| 0.086 | 1/03/2021 16:30 | 0 | 6.984035 | 6.996436 | 0 |
| 0.086 | 1/03/2021 17:00 | 0.012401 | 6.996436 | 6.996436 | 0.012401 |
| 0.086 | 1/03/2021 17:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 1/03/2021 18:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 1/03/2021 18:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 1/03/2021 19:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 1/03/2021 19:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 1/03/2021 20:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 1/03/2021 20:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 1/03/2021 21:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 1/03/2021 21:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 1/03/2021 22:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 1/03/2021 22:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 1/03/2021 23:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 1/03/2021 23:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 0:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 0:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 1:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 1:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 2:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 2:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 3:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 3:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 4:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 4:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 5:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 5:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 6:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 6:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 7:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 7:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 8:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 8:30 | 0 | 6.996436 | 6.996436 | 0 |

| ORS # 39734 continued | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIDI unplanned boundary value | Half hour commencing | Sum SAIDI (half-hour) | Sum SAIDI (previous 24-hour) | Max SAIDI (rolling 24-hour) | SAIDI assessed value |
| 0.086 | 2/03/2021 9:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 9:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 10:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 10:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 11:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 11:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 12:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 12:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 13:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 13:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 14:00 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 14:30 | 0 | 6.996436 | 6.996436 | 0 |
| 0.086 | 2/03/2021 15:00 | 0 | 6.996436 | 6.996436 | 0 |
| TOTAL | | | 6.996436 | | 0.0984427 |

ORS # 39734

- (i) Cause; Defective equipment
- (ii) Start date; 1/3/21
- (iii) Start time; 15:55
- (iv) End date; 1/3/2021
- (v) End time; 20:52
- (vi) SAIDI before; 6.996436
- (vii) SAIDI Boundary Value; 4.13
- (viii) Location; Victoria Ave & Etrick Street, Invercargill
- (ix) Equipment; RMU 162 (Halo) & RMU 483 (ABB)
- (x) Response; Mobilise, back feed and isolate faulty RMU's
- (xi) Mitigating factors; Three Leven St. feeders with simultaneous related faults and complex switching to back feed around operating limitations.
- (xii) Proposed mitigation. TBA after failure Investigation underway with manufacturers

| Normalisation of unplanned SAIFI major events RY21 | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| SAIFI unplanned boundary value | | | | | 0.0804 |
| ORS # 37332 | | | | | |
| 1/48th of the SAIFI unplanned boundary value | Half hour commencing | Sum SAIFI (half-hour) | Sum SAIFI (previous 24-hour) | Max SAIFI (rolling 24-hour) | SAIFI assessed value |
| 0.001675 | 1/05/2020 2:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 3:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 3:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 4:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 4:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 5:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 5:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 6:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 6:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 7:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 7:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 8:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 8:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 9:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 9:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 10:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 10:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 11:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 11:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 12:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 12:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 13:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 13:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 14:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 14:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 15:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 15:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 16:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 16:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 17:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 17:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 18:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 18:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 19:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 19:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 20:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 20:30 | 0 | 0 | 0.190954 | 0 |

| ORS # 37332 continued | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIPI unplanned boundary value | Half hour commencing | Sum SAIPI (half-hour) | Sum SAIPI (previous 24-hour) | Max SAIPI (rolling 24-hour) | SAIFI assessed value |
| 0.001675 | 1/05/2020 21:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 21:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 22:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 22:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 23:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 1/05/2020 23:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 0:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 0:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 1:00 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 1:30 | 0 | 0 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 2:00 | 0.190954 | 0.190954 | 0.190954 | 0.001675 |
| 0.001675 | 2/05/2020 2:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 3:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 3:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 4:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 4:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 5:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 5:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 6:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 6:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 7:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 7:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 8:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 8:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 9:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 9:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 10:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 10:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 11:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 11:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 12:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 12:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 13:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 13:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 14:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 14:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 15:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 15:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 16:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 16:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 17:00 | 0 | 0.190954 | 0.190954 | 0 |

| ORS # 37332 continued | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIFI unplanned boundary value | Half hour commencing | Sum SAIFI (half-hour) | Sum SAIFI (previous 24-hour) | Max SAIFI (rolling 24-hour) | SAIFI assessed value |
| 0.001675 | 2/05/2020 17:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 18:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 18:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 19:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 19:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 20:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 20:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 21:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 21:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 22:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 22:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 23:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 2/05/2020 23:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 3/05/2020 0:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 3/05/2020 0:30 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 3/05/2020 1:00 | 0 | 0.190954 | 0.190954 | 0 |
| 0.001675 | 3/05/2020 1:30 | 0 | 0.190954 | 0.190954 | 0 |
| TOTAL | | | 0.190954 | | 0.001675 |

ORS # 37332

- (i) Cause; Defective equipment, cable deterioration
- (ii) Start date; 2/5/20
- (iii) Start time; 02:06
- (iv) End date; 2/5/20
- (v) End time; 04:30
- (vi) SAIFI before; 0.190954
- (vii) SAIFI Boundary Value; 0.0804
- (viii) Location; Scandrett & Ness Streets, Invercargill
- (ix) Equipment; 11 kV 95mm 3 Core AL PLHDPE cable
- (x) Response; Locate faulty cable, isolate, back feed & repair cable fault
- (xi) Mitigating factors; Complex large UG network with some switchgear operating restrictions
- (xii) Proposed mitigation. Progressive rollout of online partial discharge testing of High Voltage cables

| ORS # 38877 | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIPI unplanned boundary value | Half hour commencing | Sum SAIPI (half-hour) | Sum SAIPI (previous 24-hour) | Max SAIPI (rolling 24-hour) | SAIFI assessed value |
| 0.001675 | 13/11/2020 19:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 13/11/2020 20:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 13/11/2020 20:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 13/11/2020 21:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 13/11/2020 21:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 13/11/2020 22:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 13/11/2020 22:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 13/11/2020 23:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 13/11/2020 23:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 0:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 0:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 1:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 1:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 2:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 2:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 3:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 3:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 4:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 4:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 5:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 5:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 6:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 6:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 7:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 7:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 8:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 8:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 9:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 9:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 10:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 10:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 11:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 11:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 12:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 12:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 13:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 13:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 14:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 14:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 15:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 15:30 | 0 | 0 | 0.106436 | 0 |

| ORS # 38877 continued | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIPI unplanned boundary value | Half hour commencing | Sum SAIPI (half-hour) | Sum SAIPI (previous 24-hour) | Max SAIPI (rolling 24-hour) | SAIFI assessed value |
| 0.001675 | 14/11/2020 16:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 16:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 17:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 17:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 18:00 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 18:30 | 0 | 0 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 19:00 | 0.106436 | 0.106436 | 0.106436 | 0.001675 |
| 0.001675 | 14/11/2020 19:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 20:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 20:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 21:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 21:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 22:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 22:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 23:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 14/11/2020 23:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 0:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 0:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 1:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 1:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 2:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 2:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 3:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 3:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 4:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 4:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 5:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 5:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 6:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 6:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 7:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 7:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 8:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 8:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 9:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 9:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 10:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 10:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 11:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 11:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 12:00 | 0 | 0.106436 | 0.106436 | 0 |

| ORS # 38877 continued | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIFI unplanned boundary value | Half hour commencing | Sum SAIFI (half-hour) | Sum SAIFI (previous 24-hour) | Max SAIFI (rolling 24-hour) | SAIFI assessed value |
| 0.001675 | 15/11/2020 12:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 13:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 13:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 14:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 14:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 15:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 15:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 16:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 16:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 17:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 17:30 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 18:00 | 0 | 0.106436 | 0.106436 | 0 |
| 0.001675 | 15/11/2020 18:30 | 0 | 0.106436 | 0.106436 | 0 |
| TOTAL | | | 0.106436 | | 0.001675 |

ORS # 38877

- (i) Cause; Defective equipment, cable deterioration
- (ii) Start date; 14/11/20
- (iii) Start time; 19:05
- (iv) End date; 15/11/20
- (v) End time; 01:22
- (vi) SAIFI before; 0.106436
- (vii) SAIFI Boundary Value; 0.0804
- (viii) Location; Lindisfarne Street, Invercargill
- (ix) Equipment; 11 kV 35mm 3x1Core AL XLPE or 0.06in 3Core AL PLSTS
- (x) Response; Isolate faulty cable, back feed then locate and repair cable
- (xi) Mitigating factors; Complex large UG network with some switchgear operating restrictions
- (xiii) Proposed mitigation. Progressive rollout of online partial discharge testing of high voltage cables

| ORS # 39734 | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIPI unplanned boundary value | Half hour commencing | Sum SAIPI (half-hour) | Sum SAIPI (previous 24-hour) | Max SAIPI (rolling 24-hour) | SAIFI assessed value |
| 0.001675 | 28/02/2021 16:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 28/02/2021 16:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 28/02/2021 17:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 28/02/2021 17:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 28/02/2021 18:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 28/02/2021 18:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 28/02/2021 19:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 28/02/2021 19:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 28/02/2021 20:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 28/02/2021 20:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 28/02/2021 21:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 28/02/2021 21:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 28/02/2021 22:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 28/02/2021 22:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 28/02/2021 23:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 28/02/2021 23:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 0:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 0:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 1:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 1:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 2:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 2:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 3:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 3:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 4:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 4:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 5:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 5:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 6:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 6:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 7:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 7:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 8:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 8:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 9:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 9:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 10:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 10:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 11:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 11:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 12:00 | 0 | 0 | 0.085893 | 0 |

| ORS # 39734 continued | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIPI unplanned boundary value | Half hour commencing | Sum SAIPI (half-hour) | Sum SAIPI (previous 24-hour) | Max SAIPI (rolling 24-hour) | SAIFI assessed value |
| 0.001675 | 1/03/2021 12:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 13:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 13:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 14:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 14:30 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 15:00 | 0 | 0 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 15:30 | 0.085893 | 0.085893 | 0.085893 | 0.001675 |
| 0.001675 | 1/03/2021 16:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 16:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 17:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 17:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 18:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 18:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 19:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 19:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 20:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 20:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 21:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 21:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 22:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 22:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 23:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 1/03/2021 23:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 0:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 0:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 1:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 1:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 2:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 2:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 3:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 3:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 4:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 4:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 5:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 5:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 6:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 6:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 7:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 7:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 8:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 8:30 | 0 | 0.085893 | 0.085893 | 0 |

| ORS # 39734 continued | | | | | |
|--|----------------------|-----------------------|------------------------------|-----------------------------|----------------------|
| 1/48th of the SAIFI unplanned boundary value | Half hour commencing | Sum SAIFI (half-hour) | Sum SAIFI (previous 24-hour) | Max SAIFI (rolling 24-hour) | SAIFI assessed value |
| 0.001675 | 2/03/2021 9:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 9:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 10:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 10:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 11:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 11:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 12:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 12:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 13:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 13:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 14:00 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 14:30 | 0 | 0.085893 | 0.085893 | 0 |
| 0.001675 | 2/03/2021 15:00 | 0 | 0.085893 | 0.085893 | 0 |
| TOTAL | | | 0.085893 | | 0.001675 |

ORS # 39734

- (i) Cause; Defective equipment
- (ii) Start date; 1/3/21
- (iii) Start time; 15:55
- (iv) End date; 1/3/2021
- (v) End time; 20:52
- (vi) SAIFI before; 0.085893
- (vii) SAIFI Boundary Value; 0.0804
- (viii) Location; Victoria Ave & Ettrick Street, Invercargill
- (ix) Equipment; RMU 162 (Halo) & RMU 483 (ABB)
- (x) Response; Mobilise, back feed and isolate faulty RMU's
- (xi) Mitigating factors; Three Leven St. feeders with simultaneous related faults and complex switching to back feed around operating limitations.
- (xii) Proposed mitigation. TBA after failure Investigation underway with manufacturers

Appendix E – Director’s certificate

Director Certification (Clause 11.5(d))

I, Thomas Campbell, being director of Electricity Invercargill Limited certify that, having made all reasonable enquiry, to the best of my knowledge and belief, the attached annual compliance statement of Electricity Invercargill Limited, and related information, prepared for the purposes of the *Electricity Distribution Services Default Price-Quality Path Determination 2020* has been prepared in accordance with all the relevant requirements.

A handwritten signature in black ink, appearing to read 'Thomas Campbell', with a circular stamp or mark to the right of the signature.

Thomas Campbell

24 June 2021



Independent Assurance Report

To The Directors Of Electricity Invercargill 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 Electricity Invercargill Limited (the Company). The Auditor-General has appointed me, Nathan Wylie, using the staff and resources of PricewaterhouseCoopers, to undertake a reasonable assurance engagement, on his behalf, on whether the Annual Compliance Statement on pages 4 to 13 and 15 to 46 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').

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 and 15 to 23 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 11 and 24 to 46 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 12 to 13 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 PricewaterhouseCoopers and its partners and 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, an industry update, regulatory advisory services, the assurance engagement on the Information Disclosures and the annual audit of the Company's financial statements, we have no relationship with or interests in the Company.

On behalf of the Auditor-General

A handwritten signature in black ink, appearing to read 'Nathan Wylie', with a large, sweeping flourish extending from the bottom of the signature.

Nathan Wylie
PricewaterhouseCoopers
24 June 2021

Christchurch, New Zealand