



DS5002

Centralines'

Default Price Quality Path

Annual Compliance Statement

2017-2018

For the assessment period ending 31 March 2018

Pursuant to
Electricity Distribution Services Default Price-Quality Path Determination 2015

Data Classification: Public
Published Date: 31/05/2018

DS5002 Centralines' Default Price Quality-Path Annual Compliance Statement 2016-2017

Overview

Document status
Draft ☐In Service ☒Under Review ☐Archived ☐
Document purpose

Regulatory disclosure demonstrating Centralines' compliance with the Default Price-Quality Path for the 2017-18 disclosure year.

Intended audience

Publically disclosed.

Document contributors

Contributors	Name and Position Title	Approval Date
Creator	Roanna Vining Senior Regulatory Affairs Advisor	29/05/2018
Authoriser	Nathan Strong General Manager – Business Assurance	31/05/2018
Approver	Nathan Strong General Manager – Business Assurance	31/05/2018

Disclaimer

The information presented in this Annual Compliance Statement has been prepared solely for the purpose of complying with the requirements of the Electricity Distribution Services Default Price-Quality Path Determination 2015. This statement has not been prepared for any other purpose and Centralines Limited expressly disclaims any liability to any other party who may rely on this statement for any other purpose.

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Overview, Continued

Certification of Annual Compliance Statement



DIRECTORS' CERTIFICATE ON ANNUAL COMPLIANCE STATEMENT

We, Wendie Nicola Harvey and Derek Neil Walker, being directors of Centralines Limited certify that, having made all reasonable enquiry, to the best of our knowledge and belief, the attached Annual Compliance Statement of Centralines Limited, and related information, prepared for the purposes of the *Electricity Distribution Services Default Price Quality Path Determination 2015* are true and accurate.



Wendie Harvey, Acting Chair

Date: 30 May 2018



Derek Walker, Audit and Risk Committee Chairman

Date: 30 May 2018

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Overview, Continued

Key dates	Published Date	31/05/2018
Related references	Legislation	Electricity Distribution Services Default Price-Quality Path Determination 2015 (the Determination)
Clarification	<p>Clarification of any matter referred to in this document should be directed to:</p> <p>General Manager Business Assurance Unison Networks Ltd PO Box 555 1101 Omaha Rd Hastings Ph. (06) 873 9300 Fax (06) 873 9311</p>	
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1. Statement of Compliance

1.1 Compliance with 11.2(a)

As required by 11.2(a) of the Determination, this statement confirms Centralines' compliance with the price path in clause 8 and quality standards in clause 9 in respect of the assessment period ending 31 March 2018.

1.2 Compliance with 11.2(d)

As required by clause 11.2(d) of the Determination, this statement confirms that the following clauses did not apply in respect of the assessment period ending 31 March 2018:

- 8.8 – Restructuring of prices during an assessment period
 - 10.1-10.4 – Qualifying amalgamation, merger, or major transaction for notification to Commission
 - 10.6 – Purchase of transmission assets from (or to) Transpower that become System Fixed Assets
-

2. Compliance with the Price Path

2.1 Compliance with price path (clause 8.3)

Under clause 8.3 of the Determination an EDB's notional revenue must not exceed the allowable notional revenue during the current assessment period. In this section Centralines demonstrates that it has complied with the price path requirements of the Determination.

$$NR \leq ANR$$

$$\$ 10,296,661 \leq \$ 11,948,454$$

2.2 Allowable notional revenue (clause 8.4)

Allowable notional revenue for the 2018 assessment period:

$$ANR_t = \left(\sum_i DP_{i,t-1} Q_{i,t-2} + (ANR_{t-1} - NR_{t-1})(1 + \Delta CPI_t)(1 - X) \right)$$

$$ANR_{2018} = \$ 11,948,454$$

2.3 Notional revenue (clause 8.5)

Notional revenue for the 2018 assessment period:

$$\sum_i DP_{i,t} Q_{i,t-2}$$

$$\sum DP_{2018} Q_{2016} = \$10,296,661$$

2.4 Pass- through balance for the 2018 assessment period (clause 8.6)

The pass-through balance is the difference between the pass-through price, which is the portion of the price set to recover forecast pass-through costs and recoverable costs, multiplied by actual quantities, less the amount of actual pass-through and recoverable costs incurred. A positive amount denotes that an EDB has over-recovered its pass-through and recoverable costs.

$$PTB_t = \sum PTP_{i,t} Q_{i,t} - K_t - V_t + PTB_{t-1} (1 + r)$$

$$PTB_t = \$ 132,227$$

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Compliance with Price Path, Continued

2.5 Supporting evidence

- Appendix B – Price Path Compliance Calculations
 - Appendix C – Price and Quantity Schedules
 - Appendix D – Price Apportionment to Distribution Prices and Pass-through Prices
 - Appendix E – Methodology Used to Calculate Distribution Prices and Pass-through Prices
 - Appendix F – Pass-through Prices and Quantities for 2018 and 2017 Assessment Period
 - Appendix G – Pass-through Costs and Recoverable Costs – Actual and Forecast
 - Appendix H – Explanatory Note – Recalculation of Pass-through and Recoverable Cost Balance
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3. Compliance with the Quality Standards

3.1 Compliance with quality standards (clause 9)

Under clause 9 of the Determination an EDB's assessed reliability values must either:

- not exceed the reliability limits for the current assessment period, or
- not have exceeded the reliability limit for either of the two immediately preceding extant assessment periods.

In this section Centralines demonstrates that it has complied with the quality standards of the Determination.

3.2 Reliability assessment (9.1(a))

Clause 9.1(a) requires compliance with clause 9.2: A non-exempt EDB's assessed values for an assessment period must not exceed its reliability limits for that assessment period.

Compliance is demonstrated in the following tables. The first table demonstrates compliance with the SAIDI limit and the second table demonstrates compliance with the SAIFI limit.

Test:	$\frac{SAIDI_{Assess\ 2018}}{SAIDI_{Limit}} \leq 1$	
SAIDI _{Assess 2018}	131.669	
SAIDI _{Limit}	139.348	
Result:	0.945	< 1
Result:	Does not Exceed Limit	

Test:	$\frac{SAIFI_{Assess\ 2018}}{SAIFI_{Limit}} \leq 1$	
SAIFI _{Assess 2018}	2.230	
SAIFI _{Limit}	4.203	
Result:	0.531	< 1
Result:	Does not Exceed Limit	

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Compliance with the Quality Standards, Continued

3.3 Prior period reliability assessment (9.1(b))

Clause 9.1(b) requires compliance with annual reliability assessments for the two immediately preceding assessment periods.

SAIDI Assess 2017	92.07	SAIFI Assess 2017	1.668
SAIDI Limit	139.35	SAIFI Limit	4.203
0.66	< 1	0.40	< 1
Does not Exceed Limit		Does not Exceed Limit	

SAIDI Assess 2016	72.67	SAIFI Assess 2016	1.410
SAIDI Limit	139.35	SAIFI Limit	4.203
0.52	< 1	0.34	< 1
Does not Exceed Limit		Does not Exceed Limit	

3.4 Compliance summary

Clause 9.1 - A non-exempt EDB, in respect of each assessment period, must either:

- comply with the annual reliability assessment specified in clause 9.2, or
- have complied with those annual reliability assessments for the two immediately preceding assessments periods.

	SAIDI	SAIFI	Compliance
Compliance with 9.1(a)	Does not Exceed Limit	Does not Exceed Limit	<i>Complies</i>
or			
Compliance with 9.1(b)	Does not Exceed Limit	Does not Exceed Limit	<i>Complies</i>
Clause 9.1 Result:	Complies with Quality Standard		

3.5 Supporting evidence

- Appendix I – Quality Standard Compliance Calculations (Clause 11.5(c))
- Appendix J – Quality Incentive Adjustment Clause 11.5(c) and Schedule 5B
- Appendix K – Policies and Procedures for Recording SAIDI and SAIFI (Clause 11.5(c))
- Appendix L – Cause of Each Major Event Day (Clause 11.5(f))

Appendix A – Independent Auditor's Report



Independent Assurance Report

To the Directors of Centralines Limited and to the Commerce Commission for the year ended 31 March 2018

The Auditor-General is the auditor of Centralines Limited (the company). The Auditor-General has appointed me, Julian Tan, using the staff and resources of Audit New Zealand, to provide an opinion, on his behalf, on whether the Annual Compliance Statement for the year ended on 31 March 2018 on pages 5 to 37 and pages 39 to 47 has been prepared, in all material respects, with the Electricity Distribution Services Default Price-Quality Path Determination 2015 (the Determination).

Directors' responsibilities for the Annual Compliance Statement

The directors of the company are responsible for the preparation of the Annual Compliance Statement in accordance with the Determination, and for such internal control as the directors determine is necessary to enable the preparation of the Annual Compliance Statement that is free from material misstatement.

Our responsibility for the Annual Compliance Statement

Our responsibility is to express an opinion on whether the Annual Compliance Statement has been prepared, in all material respects, in accordance with the Determination.

Basis of opinion

We conducted our engagement in accordance with the International Standard on Assurance Engagements (New Zealand) 3000 (Revised): *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information* and the Standard on Assurance Engagements 3100: *Compliance Engagements* issued by the External Reporting Board. Copies of these standards are available on the External Reporting Board's website.

These standards require that we comply with ethical requirements and plan and perform our assurance engagement to provide reasonable assurance about whether the Annual Compliance Statement has been prepared in all material respects in accordance with the Determination.

We have performed procedures to obtain evidence about the amounts and disclosures in the Annual Compliance Statement. The procedures selected depend on our judgement, including the assessment of the risks of material misstatement of the Annual Compliance Statement, whether due to fraud or error or non-compliance with the Determination. In making those risk assessments, we considered internal control relevant to the company's preparation of the Annual Compliance Statement in order to design procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company's internal control.

In assessing the disclosures about compliance with the price path in clause 8 of the Determination for the assessment period ended on 31 March 2018, our assurance engagement included examination,

Continued on next page

Appendix A – Independent Auditor's Report, Continued

on a test basis, of evidence relevant to the amounts and disclosures contained on page 6 and pages 13 to 37 of the Annual Compliance Statement.

In assessing the disclosures about compliance with the quality standards in clause 9 of the Determination for the assessment period ended on 31 March 2018, our assurance engagement included examination, on a test basis, of evidence relevant to the amounts and disclosures contained on pages 8 to 9 and 39 to 47 of the Annual Compliance Statement.

Our assurance engagement also included assessment of the significant estimates and judgements, if any, made by the company in the preparation of the Annual Compliance Statement.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Use of this report

This independent assurance report has been prepared solely for the directors of the company and for the Commerce Commission for the purpose of providing those parties with reasonable assurance about whether the Annual Compliance Statement has been prepared, in all material respects, in accordance with the Determination. We disclaim any assumption of responsibility for any reliance on this report to any person other than the directors of the company or the Commerce Commission, or for any other purpose than that for which it was prepared.

Scope and inherent limitations

Because of the inherent limitations of a reasonable assurance engagement, and the test basis of the procedures performed, it is possible that fraud, error or non-compliance may occur and not be detected.

We did not examine every transaction, adjustment or event underlying the Annual Compliance Statement nor do we guarantee complete accuracy of the Annual Compliance Statement. Also we did not evaluate the security and controls over the electronic publication of the Annual Compliance Statement.

The opinion expressed in this independent assurance report has been formed on the above basis.

Independence and quality control

When carrying out the engagement, 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 (Revised) 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.

We also complied with the independent auditor requirements specified in the Determination.

Appendix A – Independent Auditor's Report, Continued

The Auditor-General, and her employees and Audit New Zealand and its employees, may deal with the company on normal terms within the ordinary course of trading activities of the company. Other than any dealings on normal terms within the ordinary course of business, the audit of the company's disclosure information prepared under the Electricity Distribution Information Disclosure Determination 2012 and the annual audit of the company's financial statements, we have no relationship with or interests in the company.

Opinion

In our opinion:

- as far as appears from an examination, the information used in the preparation of the Annual Compliance Statement has been properly extracted from the company's accounting and other records, and has been sourced, where appropriate, from its financial and non-financial systems; and
- the Annual Compliance Statement of company for the year ended on 31 March 2018, has been prepared, in all material respects, in accordance with the Determination.

In forming our opinion, we have obtained sufficient recorded evidence and all the information and explanations we have required.



Julian Tan
Audit New Zealand
On behalf of the Auditor-General
Palmerston North, New Zealand
31 May 2018

Appendix B – Price Path Compliance Calculations (Clauses 11.4(c), (g) and (k))

Allowable Notional Revenue 2018		
$ANR_t = \left(\sum_i DP_{i,t-1} Q_{i,t-2} + (ANR_{t-1} - NR_{t-1}) \right) (1 + \Delta CPI_t) (1 - X)$		
Term	Description	Value
ANR_{2018}	Allowable Notional Revenue 2018	\$ 11,948,454
$DP_{2017} Q_{2016}$	2017 Distribution Prices x 2016 Quantities	\$ 11,105,226
ANR_{2017}	Allowable Notional Revenue 2017	\$ 11,064,901
NR_{2017}	Notional Revenue 2017	\$ 11,040,477
CPI_{2017}	Consumer Price Index 2017	0.33%
X	Annual Rate of Change	-7.0%

Notional Revenue for the year ending March 2018		
$\sum_i DP_{i,t} Q_{i,t-2}$		
Term	Description	Value \$
$DP_{2018} * Q_{2016}$	Prices at 31 March 2018 multiplied by 31 March 2016 Base Quantities	\$10,296,661

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Appendix B – Price Path Compliance Calculations (Clauses 11.4(c), (g) and (k)), Continued

Pass-through Costs and Recoverable Costs for the year ending 31 March 2018		
$PTB_t = \sum PTP_{i,t} Q_{i,t} - K_t - V_t + PTB_{t-1} (1 + r)$		
Term	Description	Value \$
PTB_{2018}	Pass-through Balance for the year ending 31 March 2018	132,227
$PTP_{i,2018} Q_{i,2018}$	Denotes 2018 Prices multiplied by 2018 Quantities	3,954,754
K_{2018}	Rates for year ending 31 March 2018	42,079
	Electricity Authority Levies for year ending 31 March 2018	22,731
	Commerce Act Levies for year ending 31 March 2018	19,874
	Utilities Disputes (formerly Electricity and Gas Complaints Commissioner) Levies for year ending 31 March 2018	4,368
V_{2018}	Transmission Charges for year ending 31 March 2018	3,050,464
	Avoided Transmission Charges	0
	Transpower New Investment Contract Charges for year ending 31 March 2018	0
	Distributed Generation Allowance	0
	Claw-back	447,000
	Capex Wash-up	-74,000
	NPV Wash-up	259,000
	Quality Incentive Adjustment	112,368
PTB_{2017}	Pass-through Balance 2017	57,835
r	Cost of Debt	6.09%

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Appendix B – Price Path Compliance Calculations (Clauses 11.4(c) and (g)), Continued

Pass-through Balance Reconciliation (reconciliation to previously published balance)	
Variable	Value (\$)
<i>PTP (2017) (as published in 2016/17 DPP Compliance Statement)</i>	-2,037,098
<i>Correction (see Appendix H for explanation)</i>	2,094,933
<i>Revised PTP (2017)</i>	57,835

Pass-through Balance Reconciliation (recalculated balance)				
Assessment Year Two (2017)		Assessment Year Three (2018)		Difference
	$P_{2017} Q_{2017}$		$P_{2018} Q_{2018}$	
$\sum PTP_{t-1} Q_{t-1}$	3,599,862	$\sum PTP_t Q_t$	3,954,754	354,892
K_{t-1}	88,594	K_t	89,053	459
V_{t-1}	3,511,268	V_t	3,794,831	283,563
				-
<i>PTB 1st assessment = 0 (2016)</i>	120,522	<i>PTB_{t-1} (2017)</i>	57,835	-62,687
<i>R = cost of debt</i>	6.09%	<i>R = cost of debt</i>	6.09%	
<i>PTP_{t-1} (2017)</i>	57,835	<i>PTP_t (2018)</i>	132,227	74,392

ΔCPI_{2018}			
Numerator		Denominator	
$\text{CPI}_{\text{Dec2015}}$	1198	$\text{CPI}_{\text{Dec2014}}$	1197
$\text{CPI}_{\text{Mar2016}}$	1200	$\text{CPI}_{\text{Mar2015}}$	1195
$\text{CPI}_{\text{Jun2016}}$	1205	$\text{CPI}_{\text{Jun2015}}$	1200
$\text{CPI}_{\text{Sep2016}}$	1209	$\text{CPI}_{\text{Sep2015}}$	1204
Total	4812	Total	4796
$\Delta \text{CPI}_{2018} \quad 0.33\%$			

Appendix C – Price and Quantity Schedules (Clause 11.4(c))

PRICE CODE	2015-16 Qty Q ₂₀₁₆	2017-18 Dist Price DP ₂₀₁₈	Distribution Revenue DP ₂₀₁₈ x Q ₂₀₁₆	Unit of Measure
E-C-CH10-DEFT	-	0.0400	\$0.00	kWh
E-C-CH10-DMND	-	3.5000	\$0.00	kW
E-C-CH10-KVAR	-	0.0000	\$0.00	kVAR
E-C-CH10-SOPD	-	8.5000	\$0.00	kWh
E-C-CH10-TAIC	-	0.0000	\$0.00	kWh
E-C-CH10-WOPD	-	8.5000	\$0.00	kWh
E-C-CH11-DEFT	-	0.0250	\$0.00	kWh
E-C-CH11-DMND	14,405.0	3.5000	\$50,417.50	kW
E-C-CH11-KVAR	382.2	0.0000	\$0.00	kVAR
E-C-CH11-SOPD	13,439.8	8.5000	\$114,238.30	kWh
E-C-CH11-TAIC	6,918,564.0	0.0000	\$0.00	kWh
E-C-CH11-WOPD	-	8.5000	\$0.00	kWh
E-C-CH1-24UC	3,948,897.1	0.1640	\$647,619.12	kWh
E-C-CH12-DEFT	-	0.0250	\$0.00	kWh
E-C-CH12-DMND	47,696.3	3.5000	\$166,937.12	kW
E-C-CH12-KVAR	16,172.0	0.0000	\$0.00	kVAR
E-C-CH12-SOPD	46,538.6	8.5000	\$395,577.76	kWh
E-C-CH12-TAIC	21,663,289.0	0.0000	\$0.00	kWh
E-C-CH12-WOPD	-	8.5000	\$0.00	kWh
E-C-CH13-DMND	-	3.5000	\$0.00	kWh
E-C-CH13-KVAR	-	0.0000	\$0.00	kVAR
E-C-CH13-SOPD	-	8.5000	\$0.00	kWh
E-C-CH13-TAIC	-	0.0000	\$0.00	kWh
E-C-CH13-WOPD	-	8.5000	\$0.00	kWh
E-C-CH1-AICO	7,862,710.0	0.1400	\$1,100,779.40	kWh
E-C-CH1-CTRL	503,412.0	0.1100	\$55,375.32	kWh
E-C-CH1-CTUD	309,130.0	0.2000	\$61,826.00	kWh
E-C-CH1-DGEN	64,992.0	0.0000	\$0.00	kWh
E-C-CH1G-24UC	-	0.1640	\$0.00	kWh
E-C-CH1G-AICO	-	0.1400	\$0.00	kWh
E-C-CH1G-CTRL	-	0.1100	\$0.00	kWh
E-C-CH1G-CTUD	-	0.2000	\$0.00	kWh
E-C-CH1G-DGEN	-	0.0000	\$0.00	kWh
E-C-CH1G-NITE	-	0.0700	\$0.00	kWh
E-C-CH1-NITE	132,432.0	0.0700	\$9,270.24	kWh
E-C-CH1-PROJ	-	0.1640	\$0.00	kWh
E-C-CH1T-CTRL	-	0.0935	\$0.00	kWh
E-C-CH1T-DGEN	-	0.0000	\$0.00	kWh

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Appendix C – Price and Quantity Schedules (Clause 11.4(c)),

Continued

PRICE CODE	2015-16 Qty Q ₂₀₁₆	2017-18 Dist Price DP ₂₀₁₈	Distribution Revenue DP ₂₀₁₈ x Q ₂₀₁₆	Unit of Measure
E-C-CH1T-KVAR	-	0.0000	\$0.00	kVAR
E-C-CH1T-OFPK	-	0.0935	\$0.00	kWh
E-C-CH1T-ONPK	-	0.2465	\$0.00	kWh
E-C-CH2G-24UC	-	0.1100	\$0.00	kWh
E-C-CH2G-AICO	-	0.0750	\$0.00	kWh
E-C-CH2G-CTRL	-	0.0500	\$0.00	kWh
E-C-CH2G-CTUD	-	0.1300	\$0.00	kWh
E-C-CH2G-DGEN	-	0.0000	\$0.00	kWh
E-C-CH2G-NITE	-	0.0400	\$0.00	kWh
E-C-CH2H-24UC	8,657,815.7	0.1000	\$865,781.57	kWh
E-C-CH2H-AICO	-	0.0000	\$0.00	kWh
E-C-CH2H-CTRL	182,815.1	0.0600	\$10,968.91	kWh
E-C-CH2H-CTUD	992,791.7	0.1300	\$129,062.92	kWh
E-C-CH2H-DGEN	-	0.0000	\$0.00	kWh
E-C-CH2H-NITE	435,808.1	0.0400	\$17,432.32	kWh
E-C-CH2H-PROJ	-	0.1000	\$0.00	kWh
E-C-CH2H-TAIC	-	0.0000	\$0.00	kWh
E-C-CH2I-24UC	2,417,377.0	0.0920	\$222,398.68	kWh
E-C-CH2I-CTRL	20,197.0	0.0640	\$1,292.61	kWh
E-C-CH2I-CTUD	2,613,367.0	0.1200	\$313,604.04	kWh
E-C-CH2I-DGEN	-	0.0000	\$0.00	kWh
E-C-CH2I-DMND	-	5.5000	\$0.00	kW
E-C-CH2I-KVAR	-	0.0000	\$0.00	kVAR
E-C-CH2I-NITE	1,286,727.0	0.0360	\$46,322.17	kWh
E-C-CH2I-PROJ	-	0.0920	\$0.00	kWh
E-C-CH2I-SOPD	-	8.5000	\$0.00	kWh
E-C-CH2I-TAIC	-	0.0000	\$0.00	kWh
E-C-CH2I-WOPD	-	8.5000	\$0.00	kWh
E-C-CH2L-24UC	2,556,040.1	0.0900	\$230,043.61	kWh
E-C-CH2L-AICO	-	0.0000	\$0.00	kWh
E-C-CH2L-CTRL	43,169.8	0.0600	\$2,590.19	kWh
E-C-CH2L-CTUD	66,456.0	0.1300	\$8,639.28	kWh
E-C-CH2L-DGEN	-	0.0000	\$0.00	kWh
E-C-CH2L-NITE	25,333.0	0.0400	\$1,013.32	kWh
E-C-CH2L-PROJ	-	0.1000	\$0.00	kWh
E-C-CH2L-TAIC	-	0.0000	\$0.00	kWh
E-C-CH2R-24UC	11,041,160.8	0.0548	\$605,055.61	kWh
E-C-CH2R-AICO	13,482,344.8	0.0362	\$488,060.88	kWh

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Appendix C – Price and Quantity Schedules (Clause 11.4(c)),

Continued

Price Codes	2015-16 Qty Q ₂₀₁₆	2017-18 Dist Price DP ₂₀₁₈	Distribution Revenue DP ₂₀₁₈ x Q ₂₀₁₆	Unit of Measure
E-C-CH2R-CTRL	1,161,871.5	0.0149	\$17,311.89	kWh
E-C-CH2R-CTUD	715,384.0	0.0422	\$30,189.20	kWh
E-C-CH2R-DGEN	73,992.0	0.0000	\$0.00	kWh
E-C-CH2R-NITE	314,236.0	0.0088	\$2,765.28	kWh
E-C-CH2R-PROJ	-	0.0548	\$0.00	kWh
E-C-CH2T-CTRL	-	0.0510	\$0.00	kWh
E-C-CH2T-DGEN	-	0.0000	\$0.00	kWh
E-C-CH2T-KVAR	-	0.0000	\$0.00	kVAR
E-C-CH2T-OFPK	-	0.0510	\$0.00	kWh
E-C-CH2T-ONPK	-	0.1955	\$0.00	kWh
E-C-CH3-24UC	3,571,140.9	0.1100	\$392,825.50	kWh
E-C-CH3-CTRL	33,640.0	0.0800	\$2,691.20	kWh
E-C-CH3-CTUD	942,881.8	0.1350	\$127,289.04	kWh
E-C-CH3-DGEN	-	0.0000	\$0.00	kWh
E-C-CH3-DMND	1,493.9	5.5000	\$8,216.23	kW
E-C-CH3-KVAR	419.9	0.0000	\$0.00	kVAR
E-C-CH3-NITE	407,977.3	0.0417	\$16,992.25	kWh
E-C-CH3-PROJ	-	0.1100	\$0.00	kWh
E-C-CH3-SOPD	1,438.6	8.5000	\$12,228.44	kWh
E-C-CH3-TAIC	406,266.0	0.0000	\$0.00	kWh
E-C-CH3-WOPD	-	8.5000	\$0.00	kWh
E-C-CH4-24UC	2,548,663.0	0.0600	\$152,919.78	kWh
E-C-CH4-CTRL	-	0.0430	\$0.00	kWh
E-C-CH4-CTUD	1,146,110.0	0.0760	\$87,104.36	kWh
E-C-CH4-DGEN	1,400.0	0.0000	\$0.00	kWh
E-C-CH4-DMND	5,050.7	5.5000	\$27,778.96	kW
E-C-CH4-KVAR	867.5	0.0000	\$0.00	kVAR
E-C-CH4-NITE	428,598.0	0.0250	\$10,714.95	kWh
E-C-CH4-PROJ	-	0.0600	\$0.00	kWh
E-C-CH4-SOPD	4,889.7	8.5000	\$41,562.45	kWh
E-C-CH4-TAIC	1,820,474.0	0.0000	\$0.00	kWh
E-C-CH4-WOPD	-	8.5000	\$0.00	kWh
E-C-CH5-DEFT	-	0.0650	\$0.00	kWh
E-C-CH5-DMND	17,015.3	4.0000	\$68,061.20	kW
E-C-CH5-KVAR	2,338.5	0.0000	\$0.00	kVAR
E-C-CH5-SOPD	16,443.3	8.5000	\$139,767.71	kWh
E-C-CH5-TAIC	5,012,172.0	0.0000	\$0.00	kWh
E-C-CH5-WOPD	-	8.5000	\$0.00	kWh
E-C-CH6-DEFT	-	0.0650	\$0.00	kWh
E-C-CH6-DMND	3,821.4	4.0000	\$15,285.76	kW
E-C-CH6-KVAR	730.3	0.0000	\$0.00	kVAR

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Appendix C – Price and Quantity Schedules (Clause 11.4(c)),

Continued

Price Codes	2015-16 Qty Q ₂₀₁₆	2017-18 Dist Price DP ₂₀₁₈	Distribution Revenue DP ₂₀₁₈ x Q ₂₀₁₆	Unit of Measure
E-C-CH6-SOPD	3,744.0	8.5000	\$31,824.17	kWh
E-C-CH6-TAIC	1,286,456.0	0.0000	\$0.00	kWh
E-C-CH6-WOPD	-	8.5000	\$0.00	kWh
E-C-CH7-DEFT	-	0.0650	\$0.00	kWh
E-C-CH7-DMND	-	4.0000	\$0.00	kW
E-C-CH7-KVAR	-	0.0000	\$0.00	kVAR
E-C-CH7-SOPD	-	8.5000	\$0.00	kWh
E-C-CH7-TAIC	-	0.0000	\$0.00	kWh
E-C-CH7-WOPD	-	8.5000	\$0.00	kWh
E-C-CH8-DEFT	-	0.0400	\$0.00	kWh
E-C-CH8-DMND	1,862.1	3.5000	\$6,517.28	kW
E-C-CH8-KVAR	164.7	0.0000	\$0.00	kVAR
E-C-CH8-SOPD	-	8.5000	\$0.00	kWh
E-C-CH8-TAIC	659,779.0	0.0000	\$0.00	kWh
E-C-CH8-WOPD	1,834.0	8.5000	\$15,589.34	kWh
E-C-CH9-DEFT	-	0.0400	\$0.00	kWh
E-C-CH9-DMND	-	3.5000	\$0.00	kW
E-C-CH9-KVAR	-	0.0000	\$0.00	kVAR
E-C-CH9-SOPD	-	8.5000	\$0.00	kWh
E-C-CH9-TAIC	-	0.0000	\$0.00	kWh
E-C-CH9-WOPD	-	8.5000	\$0.00	kWh
E-C-T1P-24UC	3,105.0	0.1000	\$310.50	kWh
E-C-U01	308,645.5	0.1190	\$36,728.82	kWh
E-C-U02	430,335.4	0.1190	\$51,209.91	kWh
E-C-U03	-	0.1148	\$0.00	kWh
F-C-CH1	930,071.0	0.1500	\$139,510.65	\$/Day
F-C-CH10	-	89.5000	\$0.00	\$/Day
F-C-CH11	366.0	89.5000	\$32,757.00	\$/Day
F-C-CH12	366.0	495.0000	\$181,170.00	\$/Day
F-C-CH13	-	89.5000	\$0.00	\$/Day
F-C-CH1G	-	0.1500	\$0.00	\$/Day
F-C-CH1T	-	0.1500	\$0.00	\$/Day
F-C-CH2G	-	1.4000	\$0.00	\$/Day
F-C-CH2H	195,753.0	1.4000	\$274,054.20	\$/Day
F-C-CH2I	26,641.0	5.0000	\$133,205.00	\$/Day
F-C-CH2L	515,826.0	1.4000	\$722,156.40	\$/Day
F-C-CH2R	1,226,482.0	1.1049	\$1,355,139.96	\$/Day
F-C-CH2T	-	1.3000	\$0.00	\$/Day
F-C-CH3	22,576.0	5.0000	\$112,880.00	\$/Day
F-C-CH4	9,210.0	29.0000	\$267,090.00	\$/Day

Continued on next page

Appendix C – Price and Quantity Schedules (Clause 11.4(c)), Continued

Price Codes	2015-16 Qty Q ₂₀₁₆	2017-18 Dist Price DP ₂₀₁₈	Distribution Revenue DP ₂₀₁₈ x Q ₂₀₁₆	Unit of Measure
F-C-CH5	3,294.0	45.0000	\$148,230.00	\$/Day
F-C-CH6	732.0	60.0000	\$43,920.00	\$/Day
F-C-CH7	-	62.5000	\$0.00	\$/Day
F-C-CH8	366.0	79.5000	\$29,097.00	\$/Day
F-C-CH9	-	89.5000	\$0.00	\$/Day
F-C-T1P	519.0	1.5500	\$804.45	\$/Day
F-C-U02	329,112.0	0.0500	\$16,455.60	\$/Day
DP ₂₀₁₈ x Q ₂₀₁₆			\$10,296,661.35	

Appendix D – Price Apportionment to Distribution Prices and Pass-through Prices (Clause 11.4(d))

Price Summary 2017-18			
Price Code	Distribution Price \$	Pass-through Price \$	Total Price \$
F-C-CH1	0.1500	0.0000	0.1500
E-C-CH1-24UC	0.1640	0.0313	0.1953
E-C-CH1-AICO	0.1400	0.0270	0.1670
E-C-CH1-CTRL	0.1100	0.0150	0.1250
E-C-CH1-CTUD	0.2000	0.0460	0.2460
E-C-CH1-DGEN	0.0000	0.0000	0.0000
E-C-CH1-NITE	0.0700	0.0080	0.0780
E-C-CH1-PROJ	0.1640	0.0313	0.1953
F-C-CH1G	0.1500	0.0000	0.1500
E-C-CH1G-24UC	0.1640	0.0626	0.2266
E-C-CH1G-AICO	0.1400	0.0540	0.1940
E-C-CH1G-CTRL	0.1100	0.0350	0.1450
E-C-CH1G-CTUD	0.2000	0.0850	0.2850
E-C-CH1G-DGEN	0.0000	0.0000	0.0000
E-C-CH1G-NITE	0.0700	0.0210	0.0910
F-C-CH1T	0.1500	0.0000	0.1500
E-C-CH1T-ONPK	0.2465	0.0435	0.2900
E-C-CH1T-OFPK	0.0935	0.0165	0.1100
E-C-CH1T-CTRL	0.0935	0.0165	0.1100
E-C-CH1T-KVAR	0.0000	7.7500	7.7500
E-C-CH1T-DGEN	0.0000	0.0000	0.0000
E-C-CH1T-PROJ	0.2465	0.0435	0.2900
F-C-CH2G	1.4000	0.6860	2.0860
E-C-CH2G-24UC	0.1100	0.0283	0.1383
E-C-CH2G-AICO	0.0750	0.0350	0.1100
E-C-CH2G-CTRL	0.0500	0.0180	0.0680
E-C-CH2G-CTUD	0.1300	0.0450	0.1750
E-C-CH2G-DGEN	0.0000	0.0000	0.0000
E-C-CH2G-NITE	0.0400	0.0160	0.0560
E-C-CH2G-PROJ	0.1100	0.0283	0.1383
F-C-CH2R	1.1049	0.2951	1.4000
E-C-CH2R-24UC	0.0548	0.0835	0.1383
E-C-CH2R-AICO	0.0362	0.0738	0.1100
E-C-CH2R-CTRL	0.0149	0.0531	0.0680
E-C-CH2R-CTUD	0.0422	0.1328	0.1750
E-C-CH2R-DGEN	0.0000	0.0000	0.0000
E-C-CH2R-NITE	0.0088	0.0472	0.0560
E-C-CH2R-PROJ	0.0548	0.0835	0.1383

Continued on next page

Appendix D – Price Apportionment to Distribution Prices and Pass-through Prices (Clause 11.4(d)), Continued

Price Summary 2017-18			
Price Code	Distribution Price \$	Pass-through Price \$	Total Price \$
F-C-CH2T	1.3000	0.1000	1.4000
E-C-CH2T-ONPK	0.1955	0.0345	0.2300
E-C-CH2T-OFPK	0.0510	0.0090	0.0600
E-C-CH2T-CTRL	0.0510	0.0090	0.0600
E-C-CH2T-KVAR	0.0000	7.7500	7.7500
E-C-CH2T-DGEN	0.0000	0.0000	0.0000
E-C-CH2T-PROJ	0.1955	0.0345	0.2300
F-C-CH2L	1.4000	0.2500	1.6500
E-C-CH2L-24UC	0.0900	0.0250	0.1150
E-C-CH2L-AICO	0.0000	0.0000	0.0000
E-C-CH2L-CTRL	0.0600	0.0070	0.0670
E-C-CH2L-CTUD	0.1300	0.0150	0.1450
E-C-CH2L-DGEN	0.0000	0.0000	0.0000
E-C-CH2L-NITE	0.0400	0.0060	0.0460
E-C-CH2L-PROJ	0.1000	0.0150	0.1150
E-C-CH2L-TAIC	0.0000	0.0000	0.0000
F-C-CH2H	1.4000	0.0000	1.4000
E-C-CH2H-24UC	0.1000	0.0305	0.1305
E-C-CH2H-AICO	0.0000	0.0000	0.0000
E-C-CH2H-CTRL	0.0600	0.0200	0.0800
E-C-CH2H-CTUD	0.1300	0.0350	0.1650
E-C-CH2H-DGEN	0.0000	0.0000	0.0000
E-C-CH2H-NITE	0.0400	0.0120	0.0520
E-C-CH2H-PROJ	0.1000	0.0305	0.1305
E-C-CH2H-TAIC	0.0000	0.0000	0.0000
F-C-CH2I	5.0000	0.0000	5.0000
E-C-CH2I-24UC	0.0920	0.0180	0.1100
E-C-CH2I-CTRL	0.0640	0.0130	0.0770
E-C-CH2I-CTUD	0.1200	0.0260	0.1460
E-C-CH2I-DGEN	0.0000	0.0000	0.0000
E-C-CH2I-NITE	0.0360	0.0080	0.0440
E-C-CH2I-PROJ	0.0920	0.0180	0.1100
E-C-CH2I-TAIC	0.0000	0.0000	0.0000
E-C-CH2I-KVAR	0.0000	7.7500	7.7500
E-C-CH2I-SOPD	8.5000	2.0000	10.5000
E-C-CH2I-WOPD	8.5000	2.0000	10.5000
E-C-CH2I-DMND	5.5000	1.3000	6.8000

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Appendix D – Price Apportionment to Distribution Prices and Pass-through Prices (Clause 11.4(d)), Continued

Price Summary 2017-18			
Price Code	Distribution Price \$	Pass-through Price \$	Total Price \$
E-C-CH5-WOPD	8.5000	2.0000	10.5000
F-C-CH3	5.0000	0.0000	5.0000
E-C-CH3-24UC	0.1100	0.0130	0.1230
E-C-CH3-CTRL	0.0800	0.0060	0.0860
E-C-CH3-CTUD	0.1350	0.0280	0.1630
E-C-CH3-DGEN	0.0000	0.0000	0.0000
E-C-CH3-NITE	0.0417	0.0074	0.0490
E-C-CH3-PROJ	0.1100	0.0130	0.1230
E-C-CH3-TAIC	0.0000	0.0000	0.0000
E-C-CH3-KVAR	0.0000	7.7500	7.7500
E-C-CH3-SOPD	8.5000	2.0000	10.5000
E-C-CH3-WOPD	8.5000	2.0000	10.5000
E-C-CH3-DMND	5.5000	1.3000	6.8000
F-C-CH4	29.0000	0.0000	29.0000
E-C-CH4-24UC	0.0600	0.0140	0.0740
E-C-CH4-CTRL	0.0430	0.0090	0.0520
E-C-CH4-CTUD	0.0760	0.0220	0.0980
E-C-CH4-DGEN	0.0000	0.0000	0.0000
E-C-CH4-NITE	0.0250	0.0050	0.0300
E-C-CH4-PROJ	0.0600	0.0140	0.0740
E-C-CH4-TAIC	0.0000	0.0000	0.0000
E-C-CH4-KVAR	0.0000	7.7500	7.7500
E-C-CH4-SOPD	8.5000	2.0000	10.5000
E-C-CH4-WOPD	8.5000	2.0000	10.5000
E-C-CH4-DMND	5.5000	1.3000	6.8000
F-C-CH5	45.0000	0.0000	45.0000
E-C-CH5-TAIC	0.0000	0.0000	0.0000
E-C-CH5-KVAR	0.0000	7.7500	7.7500
E-C-CH5-SOPD	8.5000	2.0000	10.5000
E-C-CH5-WOPD	8.5000	2.0000	10.5000
E-C-CH5-DMND	4.0000	0.8000	4.8000
E-C-CH5-DEFT	0.0650	0.0150	0.0800

Continued on next page

Appendix D – Price Apportionment to Distribution Prices and Pass-through Prices (Clause 11.4(d)), Continued

Price Summary 2017-18			
Price Code	Distribution Price \$	Pass-through Price \$	Total Price \$
F-C-CH6	60.0000	0.0000	60.0000
E-C-CH6-TAIC	0.0000	0.0000	0.0000
E-C-CH6-KVAR	0.0000	7.7500	7.7500
E-C-CH6-SOPD	8.5000	2.0000	10.5000
E-C-CH6-WOPD	8.5000	2.0000	10.5000
E-C-CH6-DMND	4.0000	0.8000	4.8000
E-C-CH6-DEFT	0.0650	0.0150	0.0800
F-C-CH7	62.5000	0.0000	62.5000
E-C-CH7-TAIC	0.0000	0.0000	0.0000
E-C-CH7-KVAR	0.0000	7.7500	7.7500
E-C-CH7-SOPD	8.5000	2.0000	10.5000
E-C-CH7-WOPD	8.5000	2.0000	10.5000
E-C-CH7-DMND	4.0000	0.3000	4.3000
E-C-CH7-DEFT	0.0650	0.0150	0.0800
F-C-CH8	79.5000	0.0000	79.5000
E-C-CH8-TAIC	0.0000	0.0000	0.0000
E-C-CH8-KVAR	0.0000	7.7500	7.7500
E-C-CH8-SOPD	8.5000	2.0000	10.5000
E-C-CH8-WOPD	8.5000	2.0000	10.5000
E-C-CH8-DMND	3.5000	0.8000	4.3000
E-C-CH8-DEFT	0.0400	0.0200	0.0600
F-C-CH9	89.5000	0.0000	89.5000
E-C-CH9-TAIC	0.0000	0.0000	0.0000
E-C-CH9-KVAR	0.0000	7.7500	7.7500
E-C-CH9-SOPD	8.5000	2.0000	10.5000
E-C-CH9-WOPD	8.5000	2.0000	10.5000
E-C-CH9-DMND	3.5000	0.8000	4.3000
E-C-CH9-DEFT	0.0400	0.0200	0.0600
F-C-CH10	89.5000	0.0000	89.5000
E-C-CH10-TAIC	0.0000	0.0000	0.0000
E-C-CH10-KVAR	0.0000	7.7500	7.7500
E-C-CH10-SOPD	8.5000	2.0000	10.5000
E-C-CH10-WOPD	8.5000	2.0000	10.5000
E-C-CH10-DMND	3.5000	0.8000	4.3000
E-C-CH10-DEFT	0.0400	0.0200	0.0600
F-C-CH11	89.5000	0.0000	89.5000
E-C-CH11-TAIC	0.0000	0.0000	0.0000
E-C-CH11-KVAR	0.0000	7.7500	7.7500

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Appendix D – Price Apportionment to Distribution Prices and Pass-through Prices (Clause 11.4(d)), Continued

Price Summary 2017-18			
Price Code	Distribution Price \$	Pass-through Price \$	Total Price \$
E-C-CH11-SOPD	8.5000	2.0000	10.5000
E-C-CH11-WOPD	8.5000	2.0000	10.5000
E-C-CH11-DMND	3.5000	0.8000	4.3000
E-C-CH11-DEFT	0.0250	0.0150	0.0400
F-C-CH12	495.0000	0.0000	495.0000
E-C-CH12-TAIC	0.0000	0.0000	0.0000
E-C-CH12-KVAR	0.0000	7.7500	7.7500
E-C-CH12-SOPD	8.5000	2.0000	10.5000
E-C-CH12-WOPD	8.5000	2.0000	10.5000
E-C-CH12-DMND	3.5000	0.8000	4.3000
E-C-CH12-DEFT	0.0250	0.0150	0.0400
F-C-CH13	89.5000	0.0000	89.5000
E-C-CH13-TAIC	0.0000	0.0000	0.0000
E-C-CH13-KVAR	0.0000	7.7500	7.7500
E-C-CH13-SOPD	8.5000	2.0000	10.5000
E-C-CH13-WOPD	8.5000	2.0000	10.5000
E-C-CH13-DMND	3.5000	0.8000	4.3000
F-C-U02	0.0500	0.0000	0.0500
F-C-U03	0.0500	0.0000	0.0500
E-C-U01-UNMT	0.1190	0.0210	0.1400
E-C-U02-UNMT	0.1190	0.0210	0.1400
E-C-U03-UNMT	0.1148	0.0203	0.1350
E-C-T1P-24UC	0.1000	0.0383	0.1383
F-C-T1P	1.5500	0.0000	1.5500

Appendix E – Methodology used to Calculate Distribution Prices and Pass-through Prices (Clause 11.4(e))

The Centralines' Board of Directors established a desired level of overall price increase for the network of 5% due to concerns about rate shock and a desire to smooth price increases to consumers over time.

To achieve this, distribution prices were set to under-achieve the Allowable Notional Revenue, while simultaneously seeking to ensure that forecast pass-through revenue would fully recover forecast pass-through and recoverable costs in the year they are incurred. This approach was used subsequent to the Commission providing interpretation guidance to Centralines that the DPP Determination does not allow for under-recovery of pass-through and recoverable costs. Further information on this is provided in *Appendix H*.

As a general principle, price codes that had a higher proportion allocated to the distribution component, where the price code:

- delivered more predictable revenue flows, and
- had less opportunity for fluctuation due to outside influences.

By setting price codes in this way, it served to:

- protect Centralines from excessive fluctuation of revenue from one year to the next in order to be able to cover distribution costs, and
- reduce individual price fluctuations for consumers from one year to the next for the same reason.

As a result of the above, Centralines has significantly under-recovered the Allowable Notional Revenue for the year, with a slight over-recovery of pass through and recoverable costs, primarily because actual billed volumes have exceeded forecast billed volumes.

Appendix F – Pass-through Prices and Quantities for 2018 and 2017 Assessment Periods (Clause 11.4(f))

Price Code	Quantity Q ₂₀₁₈	Pass-through Price \$ PTP ₂₀₁₈	Total Pass-through Revenue \$ PTP ₂₀₁₈ x Q ₂₀₁₈
F-C-CH1	954,901.00	0.0000	0.00
E-C-CH1-24UC	4,225,009.62	0.0313	132,242.80
E-C-CH1-AICO	8,234,206.94	0.0270	222,323.59
E-C-CH1-CTRL	536,302.67	0.0150	8,044.54
E-C-CH1-CTUD	318,312.11	0.0460	14,642.36
E-C-CH1-DGEN	69,678.00	0.0000	0.00
E-C-CH1-NITE	143,249.57	0.0080	1,146.00
E-C-CH1-PROJ	5,194.00	0.0313	162.57
F-C-CH1G	1,617.00	0.0000	0.00
E-C-CH1G-24UC	12,697.00	0.0626	794.83
E-C-CH1G-AICO	1,872.00	0.0540	101.09
E-C-CH1G-CTRL	0.00	0.0350	0.00
E-C-CH1G-CTUD	0.00	0.0850	0.00
E-C-CH1G-DGEN	10,755.00	0.0000	0.00
E-C-CH1G-NITE	0.00	0.0210	0.00
F-C-CH1T	10,228.00	0.0000	0.00
E-C-CH1T-ONPK	43,485.42	0.0435	1,891.62
E-C-CH1T-OFPK	95,849.02	0.0165	1,581.51
E-C-CH1T-CTRL	4,330.84	0.0165	71.46
E-C-CH1T-KVAR	0.00	7.7500	0.00
E-C-CH1T-DGEN	0.00	0.0000	0.00
E-C-CH1T-PROJ	1,837.20	0.0435	79.92
F-C-CH2G	5,540.00	0.6860	3,800.44
E-C-CH2G-24UC	63,876.00	0.0283	1,807.69
E-C-CH2G-AICO	46,550.00	0.0350	1,629.25
E-C-CH2G-CTRL	0.00	0.0180	0.00
E-C-CH2G-CTUD	0.00	0.0450	0.00
E-C-CH2G-DGEN	46,288.00	0.0000	0.00
E-C-CH2G-NITE	0.00	0.0160	0.00
E-C-CH2G-PROJ	-1,341.00	0.0283	-37.95
F-C-CH2R	1,216,040.00	0.2951	358,853.40
E-C-CH2R-24UC	10,754,375.07	0.0835	897,990.32
E-C-CH2R-AICO	13,618,385.05	0.0738	1,005,036.82
E-C-CH2R-CTRL	1,080,345.03	0.0531	57,366.32
E-C-CH2R-CTUD	667,044.23	0.1328	88,583.47
E-C-CH2R-DGEN	87,849.00	0.0000	0.00

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Appendix F – Pass-through Prices and Quantities for 2018 and 2017 Assessment Periods (Clause 11.4(f)), Continued

Price Code	Quantity Q ₂₀₁₈	Pass-through Price \$ PTP ₂₀₁₈	Total Pass-through Revenue \$ PTP ₂₀₁₈ x Q ₂₀₁₈
E-C-CH2R-NITE	311,326.07	0.0472	14,694.59
E-C-CH2R-PROJ	19,899.00	0.0835	1,661.57
F-C-CH2T	2,797.00	0.1000	279.70
E-C-CH2T-ONPK	19,320.70	0.0345	666.56
E-C-CH2T-OFPK	41,658.16	0.0090	374.92
E-C-CH2T-CTRL	486.78	0.0090	4.38
E-C-CH2T-KVAR	0.00	7.7500	0.00
E-C-CH2T-DGEN	0.00	0.0000	0.00
E-C-CH2T-PROJ	31.21	0.0345	1.08
F-C-CH2L	497,143.00	0.2500	124,285.75
E-C-CH2L-24UC	2,608,962.55	0.0250	65,224.06
E-C-CH2L-AICO	0.00	0.0000	0.00
E-C-CH2L-CTRL	25,415.00	0.0070	177.91
E-C-CH2L-CTUD	61,522.00	0.0150	922.83
E-C-CH2L-DGEN	0.00	0.0000	0.00
E-C-CH2L-NITE	27,803.00	0.0060	166.82
E-C-CH2L-PROJ	5,086.00	0.0150	76.29
E-C-CH2L-TAIC	0.00	0.0000	0.00
F-C-CH2H	189,164.00	0.0000	0.00
E-C-CH2H-24UC	8,173,238.87	0.0305	249,283.79
E-C-CH2H-AICO	-70,309.20	0.0000	0.00
E-C-CH2H-CTRL	100,252.00	0.0200	2,005.04
E-C-CH2H-CTUD	878,464.35	0.0350	30,746.25
E-C-CH2H-DGEN	0.00	0.0000	0.00
E-C-CH2H-NITE	324,834.99	0.0120	3,898.02
E-C-CH2H-PROJ	189,557.36	0.0305	5,781.50
E-C-CH2H-TAIC	0.00	0.0000	0.00
F-C-CH2I	27,375.00	0.0000	0.00
E-C-CH2I-24UC	2,330,717.00	0.0180	41,952.91
E-C-CH2I-CTRL	221.00	0.0130	2.87
E-C-CH2I-CTUD	2,053,478.00	0.0260	53,390.43
E-C-CH2I-DGEN	0.00	0.0000	0.00
E-C-CH2I-NITE	975,416.00	0.0080	7,803.33
E-C-CH2I-PROJ	0.00	0.0180	0.00
E-C-CH2I-TAIC	0.00	0.0000	0.00
E-C-CH2I-KVAR	0.00	7.7500	0.00

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Appendix F – Pass-through Prices and Quantities for 2018 and 2017 Assessment Periods (Clause 11.4(f)), Continued

Price Code	Quantity Q ₂₀₁₈	Pass-through Price \$ PTP ₂₀₁₈	Total Pass-through Revenue \$ PTP ₂₀₁₈ x Q ₂₀₁₈
E-C-CH2I-SOPD	0.00	2.0000	0.00
E-C-CH2I-WOPD	0.00	2.0000	0.00
E-C-CH2I-DMND	0.00	1.3000	0.00
F-C-CH3	26,102.00	0.0000	0.00
E-C-CH3-24UC	3,831,778.74	0.0130	49,813.12
E-C-CH3-CTRL	27,691.00	0.0060	166.15
E-C-CH3-CTUD	902,068.27	0.0280	25,257.91
E-C-CH3-DGEN	1,711.00	0.0000	0.00
E-C-CH3-NITE	366,076.23	0.0074	2,690.66
E-C-CH3-PROJ	0.00	0.0130	0.00
E-C-CH3-TAIC	671,131.00	0.0000	0.00
E-C-CH3-KVAR	489.54	7.7500	3,793.94
E-C-CH3-SOPD	1,915.16	2.0000	3,830.32
E-C-CH3-WOPD	0.00	2.0000	0.00
E-C-CH3-DMND	1,994.02	1.3000	2,592.23
F-C-CH4	9,166.00	0.0000	0.00
E-C-CH4-24UC	2,356,020.54	0.0140	32,984.29
E-C-CH4-CTRL	0.00	0.0090	0.00
E-C-CH4-CTUD	1,124,531.15	0.0220	24,739.69
E-C-CH4-DGEN	1,600.00	0.0000	0.00
E-C-CH4-NITE	354,810.86	0.0050	1,774.05
E-C-CH4-PROJ	0.00	0.0140	0.00
E-C-CH4-TAIC	1,908,381.00	0.0000	0.00
E-C-CH4-KVAR	922.48	7.7500	7,149.22
E-C-CH4-SOPD	5,129.02	2.0000	10,258.04
E-C-CH4-WOPD	0.00	2.0000	0.00
E-C-CH4-DMND	5,412.94	1.3000	7,036.82
F-C-CH5	2,925.00	0.0000	0.00
E-C-CH5-TAIC	4,760,476.00	0.0000	0.00
E-C-CH5-KVAR	2,041.19	7.7500	15,819.20
E-C-CH5-SOPD	13,878.16	2.0000	27,756.32
E-C-CH5-WOPD	0.00	2.0000	0.00
E-C-CH5-DMND	14,285.82	0.8000	11,428.66
E-C-CH5-DEFT	0.00	0.0150	0.00

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Appendix F – Pass-through Prices and Quantities for 2018 and 2017 Assessment Periods (Clause 11.4(f)), Continued

Price Code	Quantity Q ₂₀₁₈	Pass-through Price \$ PTP ₂₀₁₈	Total Pass-through Revenue \$ PTP ₂₀₁₈ x Q ₂₀₁₈
E-C-CH2I-SOPD	0.00	2.0000	0.00
F-C-CH6	725.00	0.0000	0.00
E-C-CH6-TAIC	834,123.00	0.0000	0.00
E-C-CH6-KVAR	514.59	7.7500	3,988.05
E-C-CH6-SOPD	4,256.34	2.0000	8,512.68
E-C-CH6-WOPD	0.00	2.0000	0.00
E-C-CH6-DMND	4,357.46	0.8000	3,485.97
E-C-CH6-DEFT	0.00	0.0150	0.00
F-C-CH7	0.00	0.0000	0.00
E-C-CH7-TAIC	0.00	0.0000	0.00
E-C-CH7-KVAR	0.00	7.7500	0.00
E-C-CH7-SOPD	0.00	2.0000	0.00
E-C-CH7-WOPD	0.00	2.0000	0.00
E-C-CH7-DMND	0.00	0.3000	0.00
E-C-CH7-DEFT	0.00	0.0150	0.00
F-C-CH8	365.00	0.0000	0.00
E-C-CH8-TAIC	716,334.00	0.0000	0.00
E-C-CH8-KVAR	55.97	7.7500	433.79
E-C-CH8-SOPD	0.00	2.0000	0.00
E-C-CH8-WOPD	2,140.04	2.0000	4,280.08
E-C-CH8-DMND	2,186.48	0.8000	1,749.18
E-C-CH8-DEFT	0.00	0.0200	0.00
F-C-CH9	0.00	0.0000	0.00
E-C-CH9-TAIC	0.00	0.0000	0.00
E-C-CH9-KVAR	0.00	7.7500	0.00
E-C-CH9-SOPD	0.00	2.0000	0.00
E-C-CH9-WOPD	0.00	2.0000	0.00
E-C-CH9-DMND	0.00	0.8000	0.00
E-C-CH9-DEFT	0.00	0.0200	0.00
F-C-CH10	0.00	0.0000	0.00
E-C-CH10-TAIC	0.00	0.0000	0.00
E-C-CH10-KVAR	0.00	7.7500	0.00
E-C-CH10-SOPD	0.00	2.0000	0.00
E-C-CH10-WOPD	0.00	2.0000	0.00
E-C-CH10-DMND	0.00	0.8000	0.00
E-C-CH10-DEFT	0.00	0.0200	0.00

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Appendix F – Pass-through Prices and Quantities for 2018 and 2017 Assessment Periods (Clause 11.4(f)), Continued

Price Code	Quantity Q ₂₀₁₈	Pass-through Price \$ PTP ₂₀₁₈	Total Pass-through Revenue \$ PTP ₂₀₁₈ x Q ₂₀₁₈
F-C-CH11	365.00	0.0000	0.00
E-C-CH11-TAIC	6,575,009.00	0.0000	0.00
E-C-CH11-KVAR	516.40	7.7500	4,002.10
E-C-CH11-SOPD	13,646.40	2.0000	27,292.80
E-C-CH11-WOPD	0.00	2.0000	0.00
E-C-CH11-DMND	14,355.00	0.8000	11,484.00
E-C-CH11-DEFT	0.00	0.0150	0.00
F-C-CH12	365.00	0.0000	0.00
E-C-CH12-TAIC	22,128,059.00	0.0000	0.00
E-C-CH12-KVAR	14,137.02	7.7500	109,561.91
E-C-CH12-SOPD	47,578.20	2.0000	95,156.40
E-C-CH12-WOPD	0.00	2.0000	0.00
E-C-CH12-DMND	47,892.76	0.8000	38,314.21
E-C-CH12-DEFT	0.00	0.0150	0.00
F-C-CH13	0.00	0.0000	0.00
E-C-CH13-TAIC	0.00	0.0000	0.00
E-C-CH13-KVAR	0.00	7.7500	0.00
E-C-CH13-SOPD	0.00	2.0000	0.00
E-C-CH13-WOPD	0.00	2.0000	0.00
E-C-CH13-DMND	0.00	0.8000	0.00
F-C-U02	373,760.00	0.0000	0.00
F-C-U03	0.00	0.0000	0.00
E-C-U01-UNMT	318,409.77	0.0210	6,686.61
E-C-U02-UNMT	532,169.10	0.0210	11,175.55
E-C-U03-UNMT	0.00	0.0203	0.00
E-C-T1P-24UC	713.00	0.0383	27.31
F-C-T1P	998.00	0.0000	0.00
		PTP₂₀₁₈ x Q₂₀₁₈	\$3,954,753.87

The methodology for calculating Distribution and Pass-through Prices uses the disclosure year prices and quantities. The Centralines' Pricing Policy, consistent with Part 15 of the Electricity Participation Code 2010, however allows for revision of metering data back 14 months. Centralines' billing system therefore applies the rate prevailing for that time-period for any revision of electricity consumption. Due to any revisions, a minor variation can occur when comparing the total line revenue to a calculation of the current price rate and the submitted electricity consumption during the relevant disclosure year. Comparative tables showing the equivalent values to the above for the previous financial year (2016-17) can be found in the following tables. Note, these are the previously published pass-through prices, and have subsequently been recalculated in compliance with clause 8.6b(i).

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Appendix F – Pass-through Prices and Quantities for 2018 and 2017 Assessment Periods (Clause 11.4(f)), Continued

Price Code	Quantity Q ₂₀₁₇	Pass-through Price \$ PTP ₂₀₁₇	Total Pass-through Revenue \$ PTP ₂₀₁₇ x Q ₂₀₁₇
E-C-CH11-DMND	14,428.80	0.9000	12,985.92
E-C-CH11-KVAR	438.60	7.7500	3,399.15
E-C-CH11-SOPD	13,959.60	2.0000	27,919.20
E-C-CH11-TAIC	6,892,900.00	0.0000	0.00
E-C-CH1-24UC	3,980,278.79	0.0460	183,092.82
E-C-CH12-DMND	47,554.58	0.9000	42,799.12
E-C-CH12-KVAR	16,444.34	7.7500	127,443.63
E-C-CH12-SOPD	47,014.40	2.0000	94,028.80
E-C-CH12-TAIC	21,616,164.00	0.0000	0.00
E-C-CH1-AICO	7,825,767.71	0.0450	352,159.55
E-C-CH1-CTRL	523,917.11	0.0430	22,528.44
E-C-CH1-CTUD	291,963.00	0.0580	16,933.85
E-C-CH1-DGEN	75,852.00	0.0000	0.00
E-C-CH1-DGNS	-379.00	0.0000	0.00
E-C-CH1G-24UC	2,322.00	0.0460	106.81
E-C-CH1G-AICO	766.00	0.0450	34.47
E-C-CH1G-DGEN	1,212.00	0.0000	0.00
E-C-CH1-NITE	134,199.50	0.0080	1,073.60
E-C-CH1-PROJ	2,020.00	0.0460	92.92
E-C-CH2G-24UC	14,136.00	0.0000	0.00
E-C-CH2G-AICO	10,100.00	0.0000	0.00
E-C-CH2G-DGEN	4,864.00	0.0000	0.00
E-C-CH2G-PROJ	1,644.00	0.0000	0.00
E-C-CH2H-24UC	7,591,458.32	0.0035	26,570.10
E-C-CH2H-AICO	791,019.60	0.0035	2,768.57
E-C-CH2H-CTRL	107,258.00	0.0180	1,930.64
E-C-CH2H-CTUD	759,849.41	0.0390	29,634.13
E-C-CH2H-NITE	368,389.00	0.0020	736.78
E-C-CH2H-PROJ	794.00	0.0035	2.78
E-C-CH2I-24UC	3,330,016.00	0.0080	26,640.13
E-C-CH2I-CTRL	-123,250.00	0.0290	-3,574.25
E-C-CH2I-CTUD	2,813,266.00	0.0180	50,638.79
E-C-CH2I-NITE	1,496,138.00	0.0040	5,984.55
E-C-CH2L-24UC	2,335,742.09	0.0080	18,685.94
E-C-CH2L-AICO	252,186.00	0.0080	2,017.49

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Appendix F – Pass-through Prices and Quantities for 2018 and 2017 Assessment Periods (Clause 11.4(f)), Continued

Price Code	Quantity Q ₂₀₁₇	Pass-through Price \$ PTP ₂₀₁₇	Total Pass-through Revenue \$ PTP ₂₀₁₇ X Q ₂₀₁₇
E-C-CH2L-CTRL	28,522.00	0.0120	342.26
E-C-CH2L-CTUD	90,129.00	0.0300	2,703.87
E-C-CH2L-NITE	45,971.00	0.0060	275.83
E-C-CH2L-PROJ	425.00	0.0080	3.40
E-C-CH2R-24UC	10,128,935.41	0.0000	0.00
E-C-CH2R-AICO	13,023,663.65	0.0000	0.00
E-C-CH2R-CTRL	1,124,036.64	0.0000	0.00
E-C-CH2R-CTUD	698,073.00	0.0000	0.00
E-C-CH2R-DGEN	95,321.00	0.0000	0.00
E-C-CH2R-NITE	324,187.12	0.0000	0.00
E-C-CH2R-PROJ	7,600.00	0.0000	0.00
E-C-CH3-24UC	3,730,385.58	0.0190	70,877.33
E-C-CH3-CTRL	31,999.00	0.0090	287.99
E-C-CH3-CTUD	918,975.64	0.0330	30,326.20
E-C-CH3-DGEN	1,936.00	0.0000	0.00
E-C-CH3-DMND	1,840.16	0.8000	1,472.13
E-C-CH3-KVAR	545.09	7.7500	4,224.47
E-C-CH3-NITE	389,278.33	0.0070	2,724.95
E-C-CH3-PROJ	4,701.00	0.0190	89.32
E-C-CH3-SOPD	1,772.02	2.0000	3,544.04
E-C-CH3-TAIC	599,247.00	0.0000	0.00
E-C-CH4-24UC	2,129,107.83	0.0040	8,516.43
E-C-CH4-CTUD	1,176,360.85	0.0150	17,645.41
E-C-CH4-DGEN	1,900.00	0.0000	0.00
E-C-CH4-DMND	5,341.80	2.0000	10,683.60
E-C-CH4-KVAR	963.79	7.7500	7,469.40
E-C-CH4-NITE	360,579.14	0.0030	1,081.74
E-C-CH4-SOPD	5,210.80	2.0000	10,421.60
E-C-CH4-TAIC	2,039,493.00	0.0000	0.00
E-C-CH5-DMND	15,374.86	0.7500	11,531.15
E-C-CH5-KVAR	2,286.89	7.7500	17,723.42
E-C-CH5-SOPD	14,851.00	2.0000	29,702.00
E-C-CH5-TAIC	4,802,608.00	0.0000	0.00
E-C-CH6-DMND	4,315.70	0.7500	3,236.78
E-C-CH6-KVAR	744.83	7.7500	5,772.46
E-C-CH6-SOPD	4,201.96	2.0000	8,403.92
E-C-CH6-TAIC	909,173.00	0.0000	0.00

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Appendix F – Pass-through Prices and Quantities for 2018 and 2017 Assessment Periods (Clause 11.4(f)), Continued

Price Code	Quantity Q ₂₀₁₇	Pass-through Price \$ PTP ₂₀₁₇	Total Pass-through Revenue \$ PTP ₂₀₁₇ x Q ₂₀₁₇
E-C-CH8-DMND	2,217.16	0.9000	1,995.44
E-C-CH8-KVAR	85.88	7.7500	665.57
E-C-CH8-TAIC	780,526.00	0.0000	0.00
E-C-CH8-WOPD	2,133.96	2.0000	4,267.92
E-C-T1P-24UC	114.00	0.0240	2.74
E-C-U01-UNMT	312,303.91	0.0200	6,246.08
E-C-U02-1	394,623.86	0.0200	7,892.48
E-C-U02-2	33,521.24	0.0200	670.42
E-C-U02-3	80,039.51	0.0200	1,600.79
E-C-U02-4	2,122.15	0.0200	42.44
F-C-CH1	937,612.00	0.0000	0.00
F-C-CH11	365.00	0.0000	0.00
F-C-CH12	365.00	0.0000	0.00
F-C-CH1G	256.00	0.0000	0.00
F-C-CH2G	1,392.00	0.9000	1,252.80
F-C-CH2H	194,816.00	0.0000	0.00
F-C-CH2I	26,888.00	0.0000	0.00
F-C-CH2L	504,264.00	0.0000	0.00
F-C-CH2R	1,223,514.00	0.9000	1,101,162.60
F-C-CH3	24,738.00	0.0000	0.00
F-C-CH4	9,155.00	0.0000	0.00
F-C-CH5	3,011.00	0.0000	0.00
F-C-CH6	639.00	0.0000	0.00
F-C-CH8	365.00	0.0000	0.00
F-C-T1P	524.00	0.0000	0.00
F-C-U02-1	322,660.00	0.0000	0.00
F-C-U02-3	37,844.00	0.0000	0.00
F-C-U02-4	2,190.00	0.0000	0.00
		PTP₂₀₁₇ x Q₂₀₁₇	\$2,421,492.90

Appendix G – Pass-through Costs and Recoverable Costs – Actual and Forecast (Clauses 8.6(b) and 11.4(g), (h), (i) and (j))

Pass-through and recoverable costs table The table below shows the pass-through costs and recoverable costs for the year ending March 2018.

Pass-through and Recoverable Costs for year ending March 2018				
V ₂₀₁₈	Actual (\$)	Forecast (\$)	Variance (\$)	Variance (%)
Transmission Charges	3,050,464	3,050,464	0	0.0%
Avoided Transmission Charges	-	-	-	0.0%
Transpower New Investment Contract Charges	-	-	-	0.0%
Distributed Generation Allowance	-	-	-	0.0%
Claw Back	447,000	447,000	-	0.0%
NPV Wash-up	259,000	259,000	-	0.0%
Capex Wash-up	-74,000	-74,000	-	0.0%
Quality Incentive Adjustment	112,368	105,917	6,450	6.1%
K ₂₀₁₈	Actual (\$)	Forecast (\$)	Variance (\$)	Variance (%)
Local Authority Rates	42,079	42,000	79	0.2%
Electricity Authority Levies	22,731	21,000	1,731	8.2%
Commerce Act Levies	19,874	24,500	-4,626	-18.9%
Utilities Disputes (formerly Electricity and Gas Complaints Commissioner) Levies	4,368	4,000	368	9.2%
Total Pass-through and Recoverable Costs	\$3,883,884	\$3,879,881	\$4,003	0.10%

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Appendix G – Pass-through Costs and Recoverable Pass-through Costs – Actual and Forecast (Clauses 8.6(b) and 11.4(g), (h), (i) and (j)), Continued

**Explanations
for variances**

None of these costs are fully fixed and variances will naturally occur. Listed below are explanations for variances.

- Transmission – Transmission as forecast.
 - Avoided Transmission – No avoided transmission.
 - Rates – Minimal variation from rates forecasts.
 - Electricity Authority Levies – Minimal variation from forecast.
 - Commerce Act Levies – Lower levies and wash-up invoiced than forecast.
 - Utilities Disputes' (formerly Electricity and Gas Complaints Commission) Levies – Forecast a drop in unit cost from prior year. Actual unit cost increased on prior year.
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Appendix H – Explanatory Note – Recalculation of Pass-through and Recoverable Cost Balance

Explanatory Note

In the 2016, 2017 and 2018 Assessment Periods, Centralines had intended to under-charge customers for pass-through and recoverable costs, while collecting the full amount of distribution revenue allowed under the Allowable Notional Revenue calculation. This was to ensure *total* prices did not increase unduly, as Centralines wanted to smooth its revenue collection over time to mitigate the effects of energy price increases on its consumers.

The Commerce Commission has informed Centralines that this approach would not have been compliant with the requirements of clause 8.6b(i) of the Electricity Distribution Services Default Price-Quality Path Determination 2015. This requires that pass-through prices must be set to recover a demonstrably reasonable forecast of pass-through and recoverable costs, undercharging of pass-through and recoverable prices is not permissible. Centralines had misinterpreted that a demonstrably reasonable forecast could allow for pass-through and recoverable costs to be under-recovered.

As a consequence, Centralines' pass-through prices would have been too low, and this would have resulted in the accumulation of a positive pass-through balance. Accordingly, Centralines has revised its calculation of pass-through prices to lift them to the level required to fully recover forecast pass-through and recoverable costs. The net impact of this change is that Centralines now reports a small pass-through balance, which reflects accumulated variances between forecast and actual pass-through, and recoverable costs and variances between forecast and actual billable quantities.

This approach has been agreed with the Commerce Commission and Centralines is now compliant with clause 8.6b(i).

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Appendix H – Explanatory Note – Recalculation of Pass-through and Recoverable Cost Balance, Continued

**Not part of the
Audited
Compliance
Statement**

As well as adjusting the historical pass-through balance, from 1 April 2018, Centralines has increased its pass-through and recoverable prices to equal its forecast pass-through and recoverable costs. Centralines' customers will continue to enjoy lower prices than the Commerce Commission allows by over \$2 million per annum, as there is no restriction on setting distribution prices lower than the allowable notional revenues.

In recalculating the pass-through balance, Centralines, in good faith, is reliant on the Commerce Commission making a change to the CAPEX IRIS Input Methodology (IM). The CAPEX IRIS mechanism effectively requires an EDB to refund under-spent capital expenditure relative to the forecast used in the 2015 DPP reset less a 15% retention factor.

Through-out this regulatory period Centralines has substantially under-recovered its allowed revenues, but the CAPEX IRIS mechanism does not recognise this under-recovery as it assumes that EDBs will fully recover their allowable notional revenues. As the CAPEX IRIS IM currently stands, Centralines would have to refund money that it has not collected from customers. This is because of the interaction of the CAPEX IRIS and the Commission's requirement that any under-charging must take place through the distribution proportion of prices and not pass-through and recoverable prices. This illogical outcome would not exist under Centralines previous pricing approach. Should the Commerce Commission not make a change to the CAPEX IRIS Input Methodology, Centralines reserves its right to challenge the lawfulness of the DPP Determination, as being inconsistent with the logic of the CAPEX IRIS Input Methodology.

Appendix I – Quality Standard Compliance Calculations (Clause 11.5(c))

Reliability Data (before Normalisation)

Year	SAIDI (Interruption Duration)			SAIFI (Interruption Frequency)		
	Class B	Class C	Total	Class B	Class C	Total
2018	77.013	112.281	150.788	0.356	2.052	2.230

SAIDI and SAIFI Limits, Unplanned Boundary Values, Caps, Collars, and the Targets for the Regulatory Period 1 April 2015 – 31 March 2020

SAIDI Quality Measures

<i>SAIDI_{Boundary}</i>	8.517	SAIDI Unplanned Boundary value: 23 rd highest daily unplanned SAIDI value in the reference dataset.
<i>Daily_{planned}</i>	560.897	The sum of all daily planned SAIDI values in the Reference Dataset.
<i>Daily_{unplanned}</i>	910.270	The sum of all daily unplanned SAIDI values in the Reference Dataset, where any daily unplanned SAIDI Values greater than the SAIDI Unplanned Boundary Value equals that value.
<i>SAIDI_{Target}</i>	119.072	$(\text{Daily}_{\text{planned}} * 0.5) + \text{Daily}_{\text{unplanned}} / 10$
<i>SAIDI_{deviation}</i>	1.061	The standard deviation of the daily SAIDI assessed values (daily planned value * 0.5 + normalised daily unplanned value).
<i>SAIDI_{Limit} / SAIDI_{Cap}</i>	139.348	$\text{SAIDI}_{\text{target}} + (\text{SAIDI}_{\text{deviation}} \times \sqrt{365})$
<i>SAIDI_{Collar}</i>	98.796	$\text{SAIDI}_{\text{target}} - (\text{SAIDI}_{\text{deviation}} \times \sqrt{365})$

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Appendix I – Quality Standard Compliance Calculations (Clause 11.5(c)), Continued

SAIFI Quality Measures

<i>SAIFI_{Boundary}</i>	0.294	SAIFI Unplanned Boundary value: 23 rd highest daily unplanned SAIFI value in the reference dataset.
<i>Daily_{planned}</i>	2.549	The sum of all daily planned SAIFI values in the Reference Dataset.
<i>Daily_{unplanned}</i>	33.939	The sum of all daily unplanned SAIFI values in the Reference Dataset, where any daily unplanned SAIFI Values greater than the SAIFI Unplanned Boundary Value equals that value.
<i>SAIFI_{Target}</i>	3.521	$(\text{Daily}_{\text{planned}} * 0.5) + \text{Daily}_{\text{unplanned}} / 10$
<i>SAIFI_{deviation}</i>	0.036	The standard deviation of the daily SAIFI assessed values (daily planned value * 0.5 + normalised daily unplanned value).
<i>SAIFI_{Limit} / SAIFI_{Cap}</i>	4.203	$\text{SAIFI}_{\text{target}} + (\text{SAIFI}_{\text{deviation}} \times \sqrt{365})$
<i>SAIFI_{Collar}</i>	2.840	$\text{SAIFI}_{\text{target}} - (\text{SAIFI}_{\text{deviation}} \times \sqrt{365})$

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Appendix I – Quality Standard Compliance Calculations (Clause 11.5(c)), Continued

Reliability Assessment Calculations (2017/18 Assessment Period)

Major Event Days, where the Daily SAIDI Value for Class C Interruptions Exceeds the SAIDI Unplanned Boundary Value

Date	Pre-Normalised Class C SAIDI	Normalised Class C SAIDI
13-Apr-17	24.14	8.52
15-Apr-17	8.66	8.52
25-Dec-17	11.86	8.52

Major Event Days, where the Daily SAIFI Value for Class C Interruptions Exceeds the SAIFI Unplanned Boundary Value

Date	Pre-Normalised Class C SAIFI	Normalised Class C SAIFI
		-

Assessed SAIDI Value 2018

SAIDI ₂₀₁₈	131.669	The sum of daily SAIDI Values in the 1 April 2017 - 31 March 2018 Normalised Assessment Dataset
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Assessed SAIFI Value 2018

SAIFI ₂₀₁₈	2.230	The sum of daily SAIFI Values in the 1 April 2017 - 31 March 2018 Normalised Assessment Dataset
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Appendix I – Quality Standard Compliance Calculations (Clause 11.5(c)), Continued

Prior Period Assessed Values

Assessed SAIDI Value		
SAIDI ₂₀₁₇	92.07	The sum of daily SAIDI Values in the 1 April 2016 - 31 March 2017 Normalised Assessment Dataset

Assessed SAIFI Value		
SAIFI ₂₀₁₇	1.668	The sum of daily SAIFI Values in the 1 April 2016 - 31 March 2017 Normalised Assessment Dataset

Assessed SAIDI Value		
SAIDI ₂₀₁₆	72.67	The sum of daily SAIDI Values in the 1 April 2015 - 31 March 2016 Normalised Assessment Dataset

Assessed SAIFI Value		
SAIFI ₂₀₁₆	1.410	The sum of daily SAIFI Values in the 1 April 2015 - 31 March 2016 Normalised Assessment Dataset

Appendix J – Quality Incentive Adjustment Clause 11.5(c) and Schedule 5B

SAIDI Quality Incentive Measures for the Regulatory Period 1 April 2015 – 31 March 2020

	SAIDI Target	SAIDI Collar	SAIDI Cap
1 April 2015 – 31 March 2020	119.0718	98.7960	139.3477

SAIFI Quality Incentive Measures for the Regulatory Period 1 April 2015 – 31 March 2020

	SAIFI Target	SAIFI Collar	SAIFI Cap
1 April 2015 – 31 March 2020	3.5214	2.8397	4.2030

Calculation of the Quality Incentive Adjustment

$$S_{TOTAL} = S_{SAIDI} + S_{SAIFI}$$

$$18910.42 = -31,011.90 + 49,922.32$$

$$S_{SAIDI} = SAIDI_{IR} \times (SAIDI_{target} - SAIDI_{assess})$$

$$-31,011.90 = 2461.79 \times (119.0718 - 131.6691)$$

Where $SAIDI_{assess}$ is:

- (i) greater than the $SAIDI_{cap}$, $SAIDI_{assess}$ equals the $SAIDI_{cap}$;
- (ii) less than the $SAIDI_{collar}$, $SAIDI_{assess}$ equals the $SAIDI_{collar}$.

$$SAIDI_{IR} = \frac{0.5 \times REV_{RISK}}{SAIDI_{cap} - SAIDI_{target}}$$

$$2461.79 = \frac{0.5 \times 99,830}{139.3477 - 119.0718}$$

$$S_{SAIFI} = SAIFI_{IR} \times (SAIFI_{target} - SAIFI_{assess})$$

$$49,922.32 = 73,232.10 \times (3.5214 - 2.8397)$$

Where $SAIFI_{assess}$ is:

- (i) greater than the $SAIFI_{cap}$, $SAIFI_{assess}$ equals the $SAIFI_{cap}$;
- (ii) less than the $SAIFI_{collar}$, $SAIFI_{assess}$ equals the $SAIFI_{collar}$.

$$SAIFI_{IR} = \frac{0.5 \times REV_{RISK}}{SAIFI_{cap} - SAIFI_{target}}$$

$$73,232.10 = \frac{0.5 \times 99,830}{4.2030 - 3.5214}$$

Appendix K – Policies and Procedures for Recording SAIDI and SAIFI (Clause 11.5(e))

Centralines Systems for recording SAIDI and SAIFI

Centralines uses ADMS SCADA for recording operations of network switches with timestamped data used for calculation of SAIDI and SAIFI. A detailed explanation of how the ADMS system is used to calculate SAIDI and SAIFI can be found in the 'ADMS – All interruptions' section in this appendix.

SCADA timing

Automatically recorded SCADA data is time stamped at the Remote Terminal Unit (RTU), and the data is time corrected to the master station each half hour.

Centralines' SCADA: Remote devices in ADMS

Centralines' ADMS SCADA system has been designed to capture real-time data.

In Centralines' SCADA, all zone substation 33kV and 11kV circuit breakers are linked by RTUs. The RTUs report automatically and time stamp all changes of state of devices directly to the SCADA ADMS Event Summary.

On the SCADA system, each zone substation and 11kV feeder is represented by a schematic picture and a SCADA tile.

Centralines' SCADA: Non-remote devices in ADMS

Switching devices that have no SCADA link to Centralines have a pseudo point defined in the SCADA database. Each point has an identifier name that relates to the real world switch number.

As Field Operators complete operational items, they report this to the Control Room Operator, who in turn manually sets the field device's pseudo point on the appropriate SCADA tile. This action is automatically recorded and time stamped in the SCADA ADMS Event Summary.

Outage data sources

The capture of outage data uses the following data sources and utilities.

Data	Source
(1) Number of ICPs attached to 11kV/400v transformers	GIS
(2) Transformers connected between Isolation Points	GIS
(3) Real time data	ADMS SCADA

Continued on next page

Appendix K – Policies and Procedures for Recording SAIDI and SAIFI (Clause 11.5(e)), Continued

ADMS – All Interruptions

ADMS is updated with customer numbers and connectivity from GIS daily. Zone (33kV/11kV) substation connectivity is maintained manually by the SCADA team.

The SCADA file is updated by either:

- an operation of a device that is linked via SCADA, or
- a manual update which is a switch status updated by the Control Room Operator.

The software is updated to reflect the real-time physical state of the network, including energisation of customers.

If the switching operation de-energises customers, ADMS will create an 'incident' and 'SDP interruptions'.¹ The 'incident' has a unique identifier for the interruption and contains operational information, for example the cause of the interruption. The 'SDP interruptions' are created in ADMS for each supply disruption to each customer affected. It records the start and end times of the interruption, as well as containing a link to the parent 'incident'.

When all customers are restored, the Control Room Operator updates the relevant general details on the incident and 'archives' it. This removes the incident from the list of current interruptions in ADMS and allows it to be viewed by other systems at Centralines.

Customer Minutes Lost (CML) is calculated for each incident by adding all the minutes from the 'SDP interruptions' associated with that incident. CML is then divided by the number of connected customers to calculate SAIDI for the incident. This task is performed by a Centralines' database script.

SAIFI is calculated for the incident by dividing the number of customers affected by the number of connected customers (the average customers for the disclosure year).

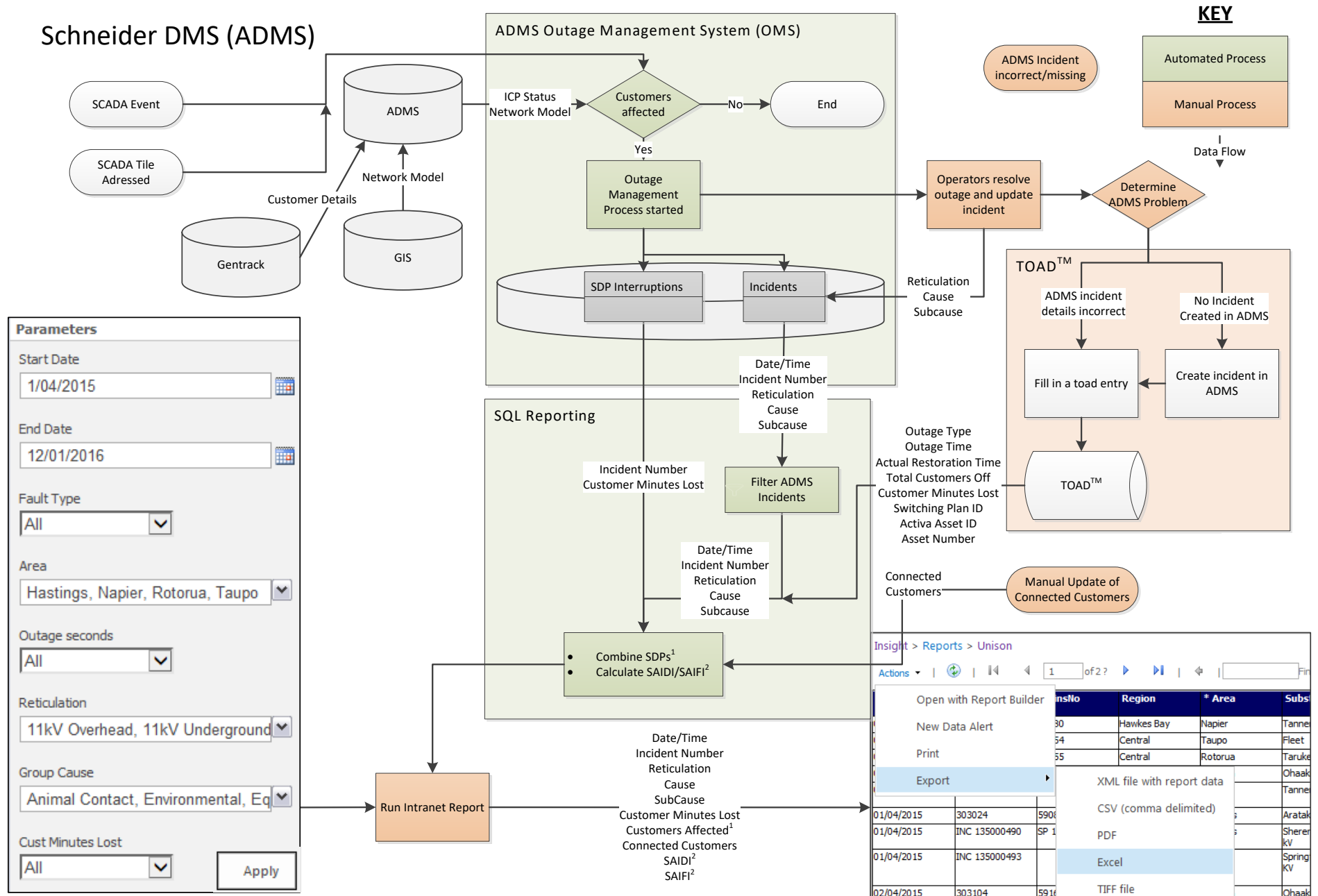
TOAD™

ADMS does not allow manual editing of SAIDI and SAIFI. If there is an error that results in incorrect SAIDI or SAIFI, they must be calculated manually and entered into TOAD. This is then used for reporting SAIDI and SAIFI.

Continued on next page

¹ SDP – Service Delivery Point, the ADMS equivalent of an ICP.

Appendix K – Policies and Procedures for Recording SAIDI and SAIFI (Clause 11.5(e)), Continued



Appendix L – Cause of Each Major Event Day (Clause 11.5(f))

**SAIDI MED
13/04/2017**

Cyclone Cook battered the Hawke's Bay region with winds of up to 154km/h experienced on the network resulting in widespread outages across the region. Most outages were the result of airborne vegetation and debris.

**SAIDI MED
15/04/2017**

Multiple vegetation faults occurred from outside fall distance during high winds. The network was still in an abnormal state following damage from Cyclone Cook two days prior and awaiting repairs, which incurred additional SAIDI because of the additional customers on the affected feeders.

**SAIDI MED
25/12/2017**

A very large tree fell through the lines on Christmas Day in urban Waipawa. All available crew were mobilised for the repair.