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DS5002
Centralines' Default Price Quality Path Annual Compliance Statement

For the assessment period ending 31 March 2016

Pursuant to

Electricity Distribution Services Default Price-Quality Path Determination 2015

Data Classification: Public

Published Date: 13/06/2016

DS5002 Centralines' Default Price Quality-Path Annual Compliance Statement 2015-2016

Overview

Document status

Draft ☐ **In Service** ☒ Under Review ☐ Archived ☐

Document purpose

Regulatory disclosure demonstrating Centralines' compliance with the Default Price-Quality Path for the 2015-16 disclosure year.

Intended audience

Publically disclosed.

Document contributors

Contributors	Name and Position Title	Approval Date
Creator	Amanda Watson Regulatory Affairs Analyst	05/05/2016
Authoriser	Nathan Strong General Manager – Business Assurance	27/05/2016
Approver	Nathan Strong General Manager – Business Assurance	13/06/2016

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

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DIRECTORS' CERTIFICATE ON ANNUAL COMPLIANCE STATEMENT

We, Jon Edmond Nichols and Nicholas Matthew Story, 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.

Director Date: 23 May 2016

Director Date: 23 May 2016

Continued on next page

Overview, Continued

Key dates

Published Date 13/06/2016

Related references

Legislation
Electricity Distribution Services Default Price-Quality Path Determination 2015 (the Determination)

Clarification

Clarification of any matter referred to in this document should be directed to:

General Manager Business Assurance
Unison Networks Ltd
PO Box 555
1101 Omahu Rd
Hastings
Ph. (06) 873 9300
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Content

This document contains the following topics:

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 2016.

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 2016:

- 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.

$$\mathrm{NR} \leq \mathrm{ANR}$$

$$\$\ 10{,}024{,}483 \leq \$\ 10{,}110{,}391$$

2.2 Allowable notional revenue (clause 8.4)

Allowable notional revenue for the 2016 assessment period:

$$ANR_{\mathrm{t}} = \frac{MAR_{\mathrm{t}}}{\Delta D}$$

$$\$\ 10{,}110{,}391 = \frac{\$\ 9{,}983{,}000}{0.9874}$$

2.3 Notional revenue (clause 8.5)

Notional revenue for the 2016 assessment period:

$$\sum_{i} DP_{\mathrm{i,t}}\, Q_{\mathrm{i,t\text{-}2}}$$

$$\sum \mathrm{DP}_{2016}\mathrm{Q}_{2014} = \$\ 10{,}024{,}483$$

2.4 Pass-through balance for the 2016 assessment period (clause 8.6)

At the end of the first year of the regulatory period, the pass-through balance is the difference between the pass-through price, which is that 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.

$$PTB_{\mathrm{t}} = \sum PTP_{\mathrm{i,t}} Q_{\mathrm{i,t}} - K_{\mathrm{t}} - V_{\mathrm{t}} + PTB_{\mathrm{t\text{-}1}}\,(1 + r)$$

$$-\$\ 808{,}574 = \$2{,}678{,}675 - \$\ 85{,}944 - \$\ 3{,}401{,}305$$

Continued on next page

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 2016 Assessment Period
- Appendix G – Pass-through Costs and Recoverable Costs – Actual and Forecast

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 either:

- must not exceed the reliability limits for the current assessment period, or
- must 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: $\frac{SAIDI_{Assess\ 2016}}{SAIDI_{Limit}} \leq 1$

SAIDI $_{Assess\ 2016}$		72.670
SAIDI $_{Limit}$		139.348
Result:	0.52	< 1
Result:	***Does not Exceed Limit***	

Test: $\frac{SAIFI_{Assess\ 2016}}{SAIFI_{Limit}} \leq 1$

SAIFI $_{Assess\ 2016}$		1.410
SAIFI $_{Limit}$		4.203
Result:	0.34	< 1
Result:	***Does not Exceed Limit***	

Continued on next page

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 extant assessment periods.

SAIDI $_{\text{Assess 2015}}$		141.37	SAIFI $_{\text{Assess 2015}}$		2.401
SAIDI $_{\text{Limit}}$		197.55	SAIFI $_{\text{Limit}}$		4.254
	0.72	< 1		0.56	< 1
	Does not Exceeds Limit			***Does not Exceed Limit***	

SAIDI $_{\text{Assess 2014}}$		163.01	SAIFI $_{\text{Assess 2014}}$		3.315
SAIDI $_{\text{Limit}}$		197.55	SAIFI $_{\text{Limit}}$		4.254
	0.83	< 1		0.78	< 1
	Does not Exceeds Limit			***Does not Exceed Limit***	

3.4 Compliance summary

Clause 9.1 - A non-exempt EDB must, in respect of each assessment period, 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 extant assessments periods.

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

3.5 Supporting evidence

- Appendix H – Quality Standard Compliance Calculations
- Appendix I – Policies and Procedures for Recording SAIDI and SAIFI
- Appendix J – Cause of each Major Event Day

Appendix A – Independent Auditor's Report

AUDIT NEW ZEALAND
Mana Arotake Aotearoa

Independent Assurance Report

To the directors of Centralines Limited and to the Commerce Commission

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 her behalf, on whether the Annual Compliance Statement for the year ended on 31 March 2016 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 an 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 issued by the External Reporting Board 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 2016, our assurance engagement included examination, on a test basis, of evidence relevant to the amounts and disclosures contained on page 6 of the Annual Compliance Statement.

Continued on next page

Appendix A – Independent Auditor's Report, Continued

In assessing the disclosures about compliance with the quality standards in clause 9 of the Determination for the assessment period ended on 31 March 2016, our assurance engagement included examination, on a test basis, of evidence relevant to the amounts and disclosures contained on pages 8 to 9 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 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.

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, in addition to this engagement, we have carried out the following engagements for the company which are compatible with those independence requirements:

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Continued on next page

Appendix A – Independent Auditor's Report, Continued

- the audit of the company's annual financial statements;
- an assurance engagement with respect to the company's compliance in connection with to the issuing of certificates pursuant to the Electricity Distribution (Information Disclosure) Requirements 2012 for the regulatory period ended 31 March 2015;and
- an agreed upon procedures review in connection with the Price $_{2015/2016}$ and Quantity $_{2014/15}$ disclosure schedule for the assessment period ending 31 March 2016.

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 2016, 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
23 May 2016

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

Allowable Notional Revenue 2016		
$ANR_{\mathrm{t}} = \frac{MAR_{\mathrm{t}}}{\Delta D}$		
Term	**Description**	**Value**
ANR_t	Allowable Notional Revenue	$10,110,391
MAR_{2016}	Allowable Revenue for the first Assessment Period	$9,983,000
ΔD	Change in constant price revenue	0.9874

Notional Revenue for the year ending March 2016		
$\sum_i DP_{\mathrm{i,t}}\, Q_{\mathrm{i,t\text{-}2}}$		
Term	**Description**	**Value $**
DP_{2016}*Q_{2014}	Prices at 31 March 2016 multiplied by 31 March 2014 Base Quantities	10,024,483

Continued on next page

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

Pass-through Costs and Recoverable Costs for the year ending March 2016		
$PTB_{\mathrm{t}} = \sum PTP_{\mathrm{i,t}} Q_{\mathrm{i,t}} - K_{\mathrm{t}} - V_{\mathrm{t}} + PTB_{\mathrm{t\text{-}1}}\,(1 + r)$		
Term	**Description**	**Value $**
PTB_{2016}	Pass-through Balance for the year ending 31 March 2016	- 808,574
$PTP_{i,t}\,Q_{i,t}$	Denotes 2016 Pass-through Prices multiplied by 2016 Quantities	2,678,675
K_{2016}	Rates for year ending 31 March 2016	40,880
	Electricity Authority Levies for year ending 31 March 2016	24,786
	Commerce Act Levies for year ending 31 March 2016	16,757
	Electricity and Gas Complaints Commissioner Levies for year ending 31 March 2016	3,521
V_{2016}	Transmission Charges for year ending 31 March 2016	2,773,305
	Avoided Transmission Charges	0
	Transpower New Investment Contract Charges for year ending 31 March 2016	0
	Distributed Generation Allowance	0
	Claw-back	397,000
	Wash-up	231,000
PTB_{2015}	Pass-through Balance nil in the first Assessment Period	0
r	Cost of Debt	6.09 %

Continued on next page

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

ΔCPI_{2016}			
Numerator		**Denominator**	
$CPI_{Dec2013}$	1188	$CPI_{Dec2012}$	1169
$CPI_{Mar2014}$	1192	$CPI_{Mar2013}$	1174
$CPI_{Jun2014}$	1195	$CPI_{Jun2013}$	1176
$CPI_{Sep2014}$	1199	$CPI_{Sep2013}$	1187
Total	4774	**Total**	4706
ΔCPI_{2016} 1.44%			

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

Price Codes	2013-14 Quantities Q_{2014}	Distribution Price DP_{2016}	Distribution Revenue $DP_{2016} \times Q_{2014}$	Unit of Measure
E-C-CH10-DMND	-0.00	3.0000	-0.00	$/kW/month
E-C-CH10-KVAR	0.00	0.0000	0.00	$/kVAr/month
E-C-CH10-SOPD	-0.00	7.9500	-0.00	$/kW/month
E-C-CH10-TAIC	0.00	0.0000	0.00	$/kWh
E-C-CH11-DMND	12,238.78	3.0000	36,716.34	$/kW/month
E-C-CH11-KVAR	387.84	0.0000	0.00	$/kVAr/month
E-C-CH11-SOPD	11,559.96	7.9500	91,901.68	$/kW/month
E-C-CH11-TAIC	5,587,482.00	0.0000	0.00	$/kWh
E-C-CH1-24UC	2,833,266.00	0.1270	359,824.78	$/kWh
E-C-CH12-DMND	45,251.20	3.0000	135,753.60	$/kW/month
E-C-CH12-KVAR	14,641.33	0.0000	0.00	$/kVAr/month
E-C-CH12-SOPD	44,842.80	7.9500	356,500.26	$/kW/month
E-C-CH12-TAIC	20,725,117.00	0.0000	0.00	$/kWh
E-C-CH13-DMND	-0.00	3.0000	-0.00	$/kW/month
E-C-CH13-KVAR	-0.00	0.0000	0.00	$/kVAr/month
E-C-CH13-SOPD	-0.00	7.9500	-0.00	$/kW/month
E-C-CH13-TAIC	0.00	0.0000	0.00	$/kWh
E-C-CH1-AICO	6,634,250.00	0.0980	650,156.50	$/kWh
E-C-CH1-CTRL	351,343.00	0.0760	26,702.07	$/kWh
E-C-CH1-CTUD	241,830.00	0.1670	40,385.61	$/kWh
E-C-CH1-DGEN	-2,270.00	0.0000	0.00	$/kWh
E-C-CH1-DGNS	-138.00	0.0000	0.00	$/kWh
E-C-CH1-DGNU	0.00	0.0000	0.00	$/kWh
E-C-CH1-NITE	115,355.00	0.0310	3,576.01	$/kWh
E-C-CH1-PROJ	0.00	0.1270	0.00	$/kWh
E-C-CH2-24UC	0.00	0.0000	0.00	$/kWh
E-C-CH2-AICO	0.00	0.0000	0.00	$/kWh
E-C-CH2-CTRL	0.00	0.0000	0.00	$/kWh
E-C-CH2-CTUD	0.00	0.0000	0.00	$/kWh
E-C-CH2-DGEN	0.00	0.0000	0.00	$/kWh
E-C-CH2H-24UC	7,403,867.20	0.0880	651,540.31	$/kWh
E-C-CH2H-AICO	1,246,556.00	0.0720	89,752.03	$/kWh
E-C-CH2H-CTRL	81,739.00	0.0500	4,086.95	$/kWh
E-C-CH2H-CTUD	685,206.00	0.1160	79,483.90	$/kWh
E-C-CH2H-NITE	309,911.00	0.0220	6,818.04	$/kWh
E-C-CH2H-PROJ	0.00	0.0880	0.00	$/kWh
E-C-CH2H-TAIC	0.00	0.0880	0.00	$/kWh
E-C-CH2I-24UC	2,133,600.00	0.0550	117,348.00	$/kWh
E-C-CH2I-CTRL	123,512.00	0.0400	4,940.48	$/kWh
E-C-CH2I-CTUD	2,197,370.00	0.0730	160,408.01	$/kWh
E-C-CH2I-NITE	1,475,373.00	0.0145	21,392.91	$/kWh
E-C-CH2I-PROJ	0.00	0.0550	0.00	$/kWh

Price Codes	2013-14 Quantities Q_{2014}	Distribution Price DP_{2016}	Distribution Revenue $DP_{2016} \times Q_{2014}$	Unit of Measure
E-C-CH2L-24UC	2,475,115.00	0.0775	191,821.41	$/kWh
E-C-CH2L-AICO	196,617.00	0.0650	12,780.11	$/kWh
E-C-CH2L-CTRL	62,667.00	0.0420	2,632.01	$/kWh
E-C-CH2L-CTUD	16,921.00	0.1020	1,725.94	$/kWh
E-C-CH2L-NITE	9,660.00	0.0180	173.88	$/kWh
E-C-CH2L-PROJ	0.00	0.0775	0.00	$/kWh
E-C-CH2-NITE	0.00	0.0000	0.00	$/kWh
E-C-CH2-PROJ	0.00	0.0000	0.00	$/kWh
E-C-CH2R-24UC	11,338,295.00	0.0814	922,937.21	$/kWh
E-C-CH2R-AICO	14,684,511.00	0.0630	925,124.19	$/kWh
E-C-CH2R-CTRL	1,271,970.00	0.0340	43,246.98	$/kWh
E-C-CH2R-CTUD	780,558.00	0.1100	85,861.38	$/kWh
E-C-CH2R-DGNS	-12,278.00	0.0000	0.00	$/kWh
E-C-CH2R-NITE	428,984.00	0.0206	8,837.07	$/kWh
E-C-CH2R-PROJ	13.00	0.0814	1.06	$/kWh
E-C-CH3-24UC	3,096,270.00	0.0760	235,316.52	$/kWh
E-C-CH3-AICO	163,740.00	0.0000	0.00	$/kWh
E-C-CH3-CTRL	9,302.00	0.0500	465.10	$/kWh
E-C-CH3-CTUD	1,117,326.00	0.1000	111,732.60	$/kWh
E-C-CH3-DMND	914.46	4.4000	4,023.62	$/kW/month
E-C-CH3-KVAR	186.37	0.0000	0.00	$/kVAr/month
E-C-CH3-NITE	438,373.00	0.0195	8,548.27	$/kWh
E-C-CH3-SOPD	881.78	7.9500	7,010.15	$/kW/month
E-C-CH3-TAIC	391,751.00	0.0000	0.00	$/kWh
E-C-CH4-24UC	2,402,780.00	0.0450	108,125.10	$/kWh
E-C-CH4-CTUD	1,128,429.00	0.0550	62,063.60	$/kWh
E-C-CH4-DMND	4,428.78	4.4500	19,708.07	$/kW/month
E-C-CH4-KVAR	685.73	0.0000	0.00	$/kVAr/month
E-C-CH4-NITE	565,571.00	0.0110	6,221.28	$/kWh
E-C-CH4-PROJ	0.00	0.0450	0.00	$/kWh
E-C-CH4-SOPD	4,255.28	7.9500	33,829.48	$/kW/month
E-C-CH4-TAIC	1,349,476.00	0.0000	0.00	$/kWh
E-C-CH5-24UC	0.00	0.0000	0.00	$/kWh
E-C-CH5-CTUD	0.00	0.0000	0.00	$/kWh
E-C-CH5-DMND	16,962.34	3.0000	50,887.02	$/kW/month
E-C-CH5-KVAR	2,215.37	0.0000	0.00	$/kVAr/month
E-C-CH5-NITE	0.00	0.0000	0.00	$/kWh
E-C-CH5-SOPD	11,082.42	7.9500	88,105.24	$/kW/month
E-C-CH5-TAIC	4,818,574.00	0.0000	0.00	$/kWh
E-C-CH5-WOPD	5,324.00	7.9500	42,325.80	$/kW/month
E-C-CH6-DMND	4,042.70	3.0000	12,128.10	$/kW/month
E-C-CH6-KVAR	391.78	0.0000	0.00	$/kVAr/month
E-C-CH6-SOPD	3,976.44	7.9500	31,612.70	$/kW/month
E-C-CH6-TAIC	1,470,003.00	0.0000	0.00	$/kWh

Price Codes	2013-14 Quantities Q_{2014}	Distribution Price DP_{2016}	Distribution Revenue $DP_{2016} \times Q_{2014}$	Unit of Measure
E-C-CH7-DMND	0.00	3.0000	0.00	$/kW/month
E-C-CH7-KVAR	0.00	0.0000	0.00	$/kVAr/month
E-C-CH7-SOPD	0.00	7.9500	0.00	$/kW/month
E-C-CH7-TAIC	0.00	0.0000	0.00	$/kWh
E-C-CH8-DMND	2,132.60	3.0000	6,397.80	$/kW/month
E-C-CH8-KVAR	43.09	0.0000	0.00	$/kVAr/month
E-C-CH8-TAIC	790,397.00	0.0000	0.00	$/kWh
E-C-CH8-WOPD	2,033.44	7.9500	16,165.85	$/kW/month
E-C-CH9-DMND	0.00	3.0000	0.00	$/kW/month
E-C-CH9-KVAR	0.00	0.0000	0.00	$/kVAr/month
E-C-CH9-TAIC	0.00	0.0000	0.00	$/kWh
E-C-CH9-WOPD	0.00	7.9500	0.00	$/kW/month
E-C-T1P-24UC	208.00	0.0960	19.97	$/kWh
E-C-U01-UNMT	0.00	0.0000	0.00	$/kWh
E-C-U02-1	0.00	0.0000	0.00	$/kWh
E-C-U02-2	0.00	0.0000	0.00	$/kWh
E-C-U02-3	0.00	0.0000	0.00	$/kWh
E-C-U02-4	0.00	0.0000	0.00	$/kWh
E-C-U01	305,329.16	0.1015	30,990.91	$/kWh
E-C-U02	420,968.78	0.1015	42,728.33	$/kWh
E-C-U03	0.00	0.1015	0.00	$/kWh
F-C-CH1	751,738.00	0.1500	112,760.70	$/day
F-C-CH10	0.00	89.5000	0.00	$/day
F-C-CH11	365.00	89.5000	32,667.50	$/day
F-C-CH12	365.00	495.0000	180,675.00	$/day
F-C-CH13	0.00	0.0000	0.00	$/day
F-C-CH2	0.00	0.0000	0.00	$/day
F-C-CH2H	205,651.00	1.3000	267,346.30	$/day
F-C-CH2I	25,550.00	3.0000	76,650.00	$/day
F-C-CH2L	517,875.00	1.5000	776,812.50	$/day
F-C-CH2R	1,361,419.00	1.4300	1,946,829.17	$/day
F-C-CH3	20,935.00	6.5000	136,077.50	$/day
F-C-CH4	9,244.00	32.0000	295,808.00	$/day
F-C-CH5	3,285.00	47.5000	156,037.50	$/day
F-C-CH6	730.00	62.5000	45,625.00	$/day
F-C-CH7	0.00	72.5000	0.00	$/day
F-C-CH8	365.00	79.5000	29,017.50	$/day
F-C-CH9	0.00	89.5000	0.00	$/day
F-C-T1P	1,304.00	1.5020	1,958.61	$/day
F-C-U02	325,580.00	0.0473	15,383.66	$/day
F-C-U02-1	0.00	0.0000	0.00	$/day
F-C-U02-3	0.00	0.0000	0.00	$/day
F-C-U02-4	0.00	0.0000	0.00	$/day
		$DP_{2016} \times Q_{2014}$	**10,024,483.17**	

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

Price Code	Distribution Price	Pass-through Price	Total Price
F-C-CH1	0.1500	0.0000	0.1500
E-C-CH1-24UC	0.1270	0.0450	0.1720
E-C-CH1-AICO	0.0980	0.0472	0.1452
E-C-CH1-CTRL	0.0760	0.0290	0.1050
E-C-CH1-CTUD	0.1670	0.0600	0.2270
E-C-CH1-NITE	0.0310	0.0120	0.0430
E-C-CH1-PROJ	0.1270	0.0450	0.1720
F-C-CH2R	1.4300	0.0000	1.4300
E-C-CH2R-24UC	0.0814	0.0326	0.1140
E-C-CH2R-AICO	0.0630	0.0240	0.0870
E-C-CH2R-CTRL	0.0340	0.0125	0.0465
E-C-CH2R-CTUD	0.1100	0.0400	0.1500
E-C-CH2R-NITE	0.0206	0.0084	0.0290
E-C-CH2R-PROJ	0.0814	0.0326	0.1140
F-C-CH2L	1.5000	0.0000	1.5000
E-C-CH2L-24UC	0.0775	0.0285	0.1060
E-C-CH2L-AICO	0.0650	0.0210	0.0860
E-C-CH2L-CTRL	0.0420	0.0150	0.0570
E-C-CH2L-CTUD	0.1020	0.0380	0.1400
E-C-CH2L-NITE	0.0180	0.0090	0.0270
E-C-CH2L-PROJ	0.0775	0.0285	0.1060
E-C-CH2L-TAIC	0.0775	0.0285	0.1060
F-C-CH2H	1.3000	0.0000	1.3000
E-C-CH2H-24UC	0.0880	0.0300	0.1180
E-C-CH2H-AICO	0.0720	0.0260	0.0980
E-C-CH2H-CTRL	0.0500	0.0190	0.0690
E-C-CH2H-CTUD	0.1160	0.0400	0.1560
E-C-CH2H-NITE	0.0220	0.0080	0.0300
E-C-CH2H-PROJ	0.0880	0.0300	0.1180
E-C-CH2H-TAIC	0.0880	0.0300	0.1180
F-C-CH2I	3.0000	0.0000	3.0000
E-C-CH2I-24UC	0.0550	0.0550	0.1100
E-C-CH2I-CTRL	0.0400	0.0370	0.0770
E-C-CH2I-CTUD	0.0730	0.0720	0.1450
E-C-CH2I-NITE	0.0145	0.0135	0.0280
E-C-CH2I-PROJ	0.0550	0.0550	0.1100
E-C-CH2I-TAIC	0.0550	0.0550	0.1100
E-C-CH2I-KVAR	0.0000	7.7500	7.7500
E-C-CH2I-SOPD	7.9500	2.0000	9.9500
E-C-CH2I-WOPD	7.9500	2.0000	9.9500

Price Code	Distribution Price	Pass-through Price	Total Price
E-C-CH2I-DMND	4.4000	1.3500	5.7500
F-C-CH3	6.5000	0.0000	6.5000
E-C-CH3-24UC	0.0760	0.0300	0.1060
E-C-CH3-CTRL	0.0500	0.0210	0.0710
E-C-CH3-CTUD	0.1000	0.0450	0.1450
E-C-CH3-NITE	0.0195	0.0075	0.0270
E-C-CH3-PROJ	0.0760	0.0300	0.1060
E-C-CH3-TAIC	0.0000	0.0000	0.0000
E-C-CH3-KVAR	0.0000	7.7500	7.7500
E-C-CH3-SOPD	7.9500	2.0000	9.9500
E-C-CH3-WOPD	7.9500	2.0000	9.9500
E-C-CH3-DMND	4.4000	1.3500	5.7500
F-C-CH4	32.0000	0.0000	32.0000
E-C-CH4-24UC	0.0450	0.0130	0.0580
E-C-CH4-CTRL	0.0170	0.0060	0.0230
E-C-CH4-CTUD	0.0550	0.0210	0.0760
E-C-CH4-NITE	0.0110	0.0040	0.0150
E-C-CH4-PROJ	0.0450	0.0130	0.0580
E-C-CH4-TAIC	0.0000	0.0000	0.0000
E-C-CH4-KVAR	0.0000	7.7500	7.7500
E-C-CH4-SOPD	7.9500	2.0000	9.9500
E-C-CH4-WOPD	7.9500	2.0000	9.9500
E-C-CH4-DMND	4.4500	1.3000	5.7500
F-C-CH5	47.5000	0.0000	47.5000
E-C-CH5-TAIC	0.0000	0.0000	0.0000
E-C-CH5-KVAR	0.0000	7.7500	7.7500
E-C-CH5-SOPD	7.9500	2.0000	9.9500
E-C-CH5-WOPD	7.9500	2.0000	9.9500
E-C-CH5-DMND	3.0000	1.0500	4.0500
E-C-CH5-DEFT	0.0550	0.0210	0.0760
F-C-CH6	62.5000	0.0000	62.5000
E-C-CH6-TAIC	0.0000	0.0000	0.0000
E-C-CH6-KVAR	0.0000	7.7500	7.7500
E-C-CH6-SOPD	7.9500	2.0000	9.9500
E-C-CH6-WOPD	7.9500	2.0000	9.9500
E-C-CH6-DMND	3.0000	1.0500	4.0500
E-C-CH6-DEFT	0.0550	0.0210	0.0760
F-C-CH7	72.5000	0.0000	72.5000
E-C-CH7-TAIC	0.0000	0.0000	0.0000
E-C-CH7-KVAR	0.0000	7.7500	7.7500
E-C-CH7-SOPD	7.9500	2.0000	9.9500
E-C-CH7-WOPD	7.9500	2.0000	9.9500
E-C-CH7-DMND	3.0000	1.0500	4.0500
E-C-CH7-DEFT	0.0550	0.0210	0.0760

Price Code	Distribution Price	Pass-through Price	Total Price
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	7.9500	2.0000	9.9500
E-C-CH8-WOPD	7.9500	2.0000	9.9500
E-C-CH8-DMND	3.0000	1.0500	4.0500
E-C-CH8-DEFT	0.0550	0.0210	0.0760
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	7.9500	2.0000	9.9500
E-C-CH9-WOPD	7.9500	2.0000	9.9500
E-C-CH9-DMND	3.0000	1.0500	4.0500
E-C-CH9-DEFT	0.0550	0.0210	0.0760
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	7.9500	2.0000	9.9500
E-C-CH10-WOPD	7.9500	2.0000	9.9500
E-C-CH10-DMND	3.0000	1.0500	4.0500
E-C-CH10-DEFT	0.0550	0.0210	0.0760
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
E-C-CH11-SOPD	7.9500	2.0000	9.9500
E-C-CH11-WOPD	7.9500	2.0000	9.9500
E-C-CH11-DMND	3.0000	1.0500	4.0500
E-C-CH11-DEFT	0.0550	0.0210	0.0760
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	7.9500	2.0000	9.9500
E-C-CH12-WOPD	7.9500	2.0000	9.9500
E-C-CH12-DMND	3.0000	1.0500	4.0500
E-C-CH12-DEFT	0.0550	0.0210	0.0760
F-C-CH13	0.0000	0.0000	0.0000
E-C-CH13-TAIC	0.0000	0.0000	0.0000
E-C-CH13-KVAR	0.0000	7.7500	7.7500
E-C-CH13-SOPD	7.9500	2.0000	9.9500
E-C-CH13-WOPD	7.9500	2.0000	9.9500
E-C-CH13-DMND	3.0000	1.0500	4.0500
F-C-U02	0.0473	0.0000	0.0473
E-C-U01	0.1015	0.0285	0.1300
E-C-U02	0.1015	0.0285	0.1300

Price Code	Distribution Price	Pass-through Price	Total Price
E-C-U03	0.1015	0.0285	0.1300
E-C-T1P-24UC	0.0960	0.0320	0.1280
F-C-T1P	1.5020	0.0000	1.5020

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

Prices were set to achieve the Allowable Notional Revenue available to Centralines with a small buffer built in to allow for unforeseen calculation inaccuracies. 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 in relation to the proportion of prices to be allocated to Distribution and Pass-through prices, the Distribution components were set to achieve the maximum available Distribution revenue less a nominal compliance buffer. A calculation was performed to define the amount of Pass-through revenue that would need to be obtained to achieve the 5% overall price change limit. Pass-through prices were then set to achieve this level of revenue.

The setting of the distribution/pass-through components was established with those price codes that delivered more predictable revenue flows, with less opportunity for fluctuation due to outside influences, having a higher proportion allocated to the distribution component. This serves to protect Centralines from excessive fluctuation of revenue from one year to the next in order to be able to cover distribution costs. This also serves to reduce individual price fluctuations for consumers from one year to the next for the same reason.

With Centralines electing not to take the full allowance of revenue and this under-recovery of costs being allocated to pass-through pricing this has resulted in a pass-through balance showing costs exceeding revenue, and therefore there is the ability to recover foregone revenues over time.

Appendix F – Pass-through Prices and Quantities for 2016 Assessment Period (Clause 11.4(f))

Price Code	Quantity Q_{2016}	Pass-through Price PTP_{2016}	Total Pass-through Revenue $PTP_{2016} \times Q_{2016}$
E-C-CH11-DMND	14,405.00	1.0500	15,125.25
E-C-CH11-KVAR	382.21	7.7500	2,962.10
E-C-CH11-SOPD	13,439.80	2.0000	26,879.60
E-C-CH11-TAIC	6,918,564.00	0.0000	0.00
E-C-CH1-24UC	3,948,897.07	0.0450	177,700.37
E-C-CH12-DMND	47,696.32	1.0500	50,081.14
E-C-CH12-KVAR	16,172.01	7.7500	125,333.05
E-C-CH12-SOPD	46,538.56	2.0000	93,077.12
E-C-CH12-TAIC	21,663,289.00	0.0000	0.00
E-C-CH1-AICO	7,862,710.00	0.0472	371,119.91
E-C-CH1-CTRL	503,412.00	0.0290	14,598.95
E-C-CH1-CTUD	309,130.00	0.0600	18,547.80
E-C-CH1-DGEN	812.00	0.0000	0.00
E-C-CH1-DGNS	34,654.00	0.0000	0.00
E-C-CH1-DGNU	29,526.00	0.0000	0.00
E-C-CH1-NITE	132,432.00	0.0120	1,589.18
E-C-CH2H-24UC	7,614,493.39	0.0300	228,434.80
E-C-CH2H-AICO	1,108,705.39	0.0260	28,826.34
E-C-CH2H-CTRL	117,432.00	0.0190	2,231.21
E-C-CH2H-CTUD	992,791.70	0.0400	39,711.67
E-C-CH2H-NITE	435,808.09	0.0080	3,486.46
E-C-CH2I-24UC	2,417,377.00	0.0550	132,955.74
E-C-CH2I-CTRL	20,197.00	0.0370	747.29
E-C-CH2I-CTUD	2,613,367.00	0.0720	188,162.42
E-C-CH2I-NITE	1,286,727.00	0.0135	17,370.81
E-C-CH2L-24UC	2,322,685.50	0.0285	66,196.54
E-C-CH2L-AICO	235,699.36	0.0210	4,949.69
E-C-CH2L-CTRL	40,825.00	0.0150	612.38
E-C-CH2L-CTUD	66,456.00	0.0380	2,525.33
E-C-CH2L-NITE	25,333.00	0.0090	228.00
E-C-CH2R-24UC	11,041,160.79	0.0326	359,941.84
E-C-CH2R-AICO	13,482,344.79	0.0240	323,576.27
E-C-CH2R-CTRL	1,161,871.54	0.0125	14,523.39
E-C-CH2R-CTUD	715,384.00	0.0400	28,615.36
E-C-CH2R-DGNS	29,415.00	0.0000	0.00
E-C-CH2R-DGNU	44,577.00	0.0000	0.00
E-C-CH2R-NITE	314,236.00	0.0084	2,639.58

Price Code	Quantity Q_{2016}	Pass-through Price PTP_{2016}	Total Pass-through Revenue $PTP_{2016} \times Q_{2016}$
E-C-CH3-24UC	3,571,140.94	0.0300	107,134.23
E-C-CH3-CTRL	33,640.00	0.0210	706.44
E-C-CH3-CTUD	942,881.77	0.0450	42,429.68
E-C-CH3-DMND	1,493.86	1.3500	2,016.71
E-C-CH3-KVAR	419.92	7.7500	3,254.38
E-C-CH3-NITE	407,977.30	0.0075	3,059.83
E-C-CH3-SOPD	1,438.64	2.0000	2,877.28
E-C-CH3-TAIC	406,266.00	0.0000	0.00
E-C-CH4-24UC	2,504,575.00	0.0130	32,559.48
E-C-CH4-CTUD	1,146,110.00	0.0210	24,068.31
E-C-CH4-DGNS	1,400.00	0.0000	0.00
E-C-CH4-DMND	5,050.72	1.3000	6,565.94
E-C-CH4-KVAR	867.53	7.7500	6,723.33
E-C-CH4-NITE	428,598.00	0.0040	1,714.39
E-C-CH4-SOPD	4,889.70	2.0000	9,779.40
E-C-CH4-TAIC	1,820,474.00	0.0000	0.00
E-C-CH5-24UC	44,088.00	0.0000	0.00
E-C-CH5-DMND	17,015.30	1.0500	17,866.07
E-C-CH5-KVAR	2,338.49	7.7500	18,123.27
E-C-CH5-SOPD	16,443.26	2.0000	32,886.52
E-C-CH5-TAIC	5,012,172.00	0.0000	0.00
E-C-CH6-DMND	3,821.44	1.0500	4,012.51
E-C-CH6-KVAR	730.33	7.7500	5,660.08
E-C-CH6-SOPD	3,744.02	2.0000	7,488.04
E-C-CH6-TAIC	1,286,456.00	0.0000	0.00
E-C-CH8-DMND	1,862.08	1.0500	1,955.18
E-C-CH8-KVAR	164.71	7.7500	1,276.48
E-C-CH8-TAIC	659,779.00	0.0000	0.00
E-C-CH8-WOPD	1,834.04	2.0000	3,668.08
E-C-T1P-24UC	3,105.00	0.0320	99.36
E-C-U01-UNMT	308,645.51	0.0000	0.00
E-C-U02-1	353,423.24	0.0000	0.00
E-C-U02-2	29,781.01	0.0000	0.00
E-C-U02-3	45,003.78	0.0000	0.00
E-C-U02-4	2,127.33	0.0000	0.00
F-C-CH1	930,071.00	0.0000	0.00
F-C-CH11	366.00	0.0000	0.00
F-C-CH12	366.00	0.0000	0.00
F-C-CH2H	195,753.00	0.0000	0.00
F-C-CH2I	26,641.00	0.0000	0.00
F-C-CH2L	515,826.00	0.0000	0.00

Price Code	Quantity Q_{2016}	Pass-through Price PTP_{2016}	Total Pass-through Revenue $PTP_{2016} \times Q_{2016}$
F-C-CH2R	1,226,482.00	0.0000	0.00
F-C-CH3	22,576.00	0.0000	0.00
F-C-CH4	9,210.00	0.0000	0.00
F-C-CH5	3,294.00	0.0000	0.00
F-C-CH6	732.00	0.0000	0.00
F-C-CH8	366.00	0.0000	0.00
F-C-T1P	519.00	0.0000	0.00
F-C-U02-1	310,080.00	0.0000	0.00
F-C-U02-3	16,836.00	0.0000	0.00
F-C-U02-4	2,196.00	0.0000	0.00
	$PTP_{2016} \times Q_{2016}$		**$ 2,678,674.58**

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

Table The table below shows the pass-through costs and recoverable costs for the year ending March 2016.

Pass-through and Recoverable Costs for year ending March 2016				
V_{2016}	**Actual ($)**	**Forecast ($)**	**Variance ($)**	**Variance (%)**
Transmission	2,773,305	2,773,305	0	0.0
Avoided Transmission	0	0	0	0.0
Transpower New Investment Contract Charges	0	0	0	0.0
Distributed Generation Allowance	0	0	0	0.0
Claw-back	397,000	397,000	0	0.0
NPV Wash-up Allowance	231,000	231,000	0	0.0
Capex Wash-up Adjustment	0	0	0	0.0
K_{2016}	**Actual ($)**	**Forecast ($)**	**Variance ($)**	**Variance (%)**
Local Authority Rates	40,880	39,891	989	2.5
Electricity Authority Levies	24,786	30,427	-5,641	-18.5
Commerce Act Levies	16,757	27,723	-10,966	-39.6
Electricity and Gas Complaints Commissioner Levies	3,521	3,008	513	17.0
Total Pass-through and Recoverable Costs	**$3,487,249**	**$3,271,354**	**$215,895**	**6.6%**

Continued on next page

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 – The Registry and Consumer portion of the EA Levy reduced by approximately $3,000 for the nine month period July 2015 to March 2016. A wash-up of -$1,457 was processed in February 2016.
- Commerce Act Levies Variance – The forecast was set at a CPI increase, 1.44%, on the previous year's rates. A wash-up that had been in place over the previous five year DPP period ceased in March 2015, reducing the annual levy by $5,855 per annum.
- Electricity and Gas Complaints Commissioner Levies – The forecast was based on the previous year's levies.

Appendix H – 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
2016	69.195	38.073	72.670	0.303	1.258	1.410

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

$SAIDI_{Boundary}$	8.517	SAIDI Unplanned Boundary value: 23rd highest daily unplanned SAIDI value in the reference dataset.
$Daily_{planned}$	560.897	The sum of all daily planned SAIDI values in the Reference Dataset.
$Daily_{unplanned}$	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.
$SAIDI_{Target}$	119.072	$((Daily_{planned} * 0.5) + Daily_{unplanned}) / 10$
$SAIDI_{deviation}$	1.061	The standard deviation of the daily SAIDI assessed values (daily planned value * 0.5 + normalised daily unplanned value).
$SAIDI_{Limit}/SAIDI_{Cap}$	139.348	$SAIDI_{target} + (SAIDI_{deviation} \times \sqrt{365})$
$SAIDI_{Collar}$	98.796	$SAIDI_{target} - (SAIDI_{deviation} \times \sqrt{365})$

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

SAIFI Quality Measures

$SAIFI_{Boundary}$	0.294	SAIFI Unplanned Boundary value: 23rd highest daily unplanned SAIDI value in the reference dataset.
$Daily_{planned}$	2.549	The sum of all daily planned SAIDI values in the Reference Dataset.
$Daily_{unplanned}$	33.939	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.
$SAIFI_{Target}$	3.521	$((Daily_{planned} * 0.5) + Daily_{unplanned}) / 10$
$SAIFI_{deviation}$	0.036	The standard deviation of the daily SAIFI assessed values (daily planned value * 0.5 + normalised daily unplanned value).
$SAIFI_{Limit}/SAIFI_{Cap}$	4.203	$SAIFI_{target} + (SAIFI_{deviation} \times \sqrt{365})$
$SAIFI_{Collar}$	2.840	$SAIFI_{target} - (SAIFI_{deviation} \times \sqrt{365})$

Continued on next page

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

Reliability Assessment Calculations (2015/16 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
		-

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
		-

Calculation of the 2016 SAIDI Assessed Value

$SAIDI_{assess} = (0.5 \times SAIDI_B) + SAIDI_C$
$= (0.5 \times 69.195) + 38.073$
$= 72.670$

Assessed SAIDI Value 2016

$SAIDI_{2016}$	72.670	The sum of daily SAIDI Values in the 1 April 2015 - 31 March 2016 Normalised Assessment Dataset.

Continued on next page

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

Calculation of the 2016 SAIFI Assessed Value

$SAIFI_{assess} = (0.5 \times SAIFI_B) + SAIFI_C$
$= (0.5 \times 0.303) + 1.258$
$= 1.410$

Assessed SAIFI Value 2016

$SAIFI_{2016}$	1.410	The sum of daily SAIFI Values in the 1 April 2015 - 31 March 2016 Normalised Assessment Dataset.

Prior Period Assessed Values

Assessed SAIDI Value

$SAIDI_{2015}$	141.37	The sum of daily SAIDI Values in the 1 April 2014 - 31 March 2015 Normalised Assessment Dataset.

Assessed SAIFI Value

$SAIFI_{2015}$	2.40	The sum of daily SAIFI Values in the 1 April 2014 - 31 March 2015 Normalised Assessment Dataset.

Assessed SAIDI Value

$SAIDI_{2014}$	163.01	The sum of daily SAIDI Values in the 1 April 2013 - 31 March 2014 Normalised Assessment Dataset.

Assessed SAIFI Value

$SAIFI_{2014}$	3.315	The sum of daily SAIFI Values in the 1 April 2013 - 31 March 2014 Normalised Assessment Dataset.

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

Outage Data Capture process

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	RealFlex Scada

The data from SCADA is accurate within the abilities of operators and field staff to report and record each manual event. The logging of SCADA connected devices is automatic.

SCADA timing

Automatically recorded SCADA data is time stamped at the RTU which are time corrected to the master station each half hour.

RealFlex SCADA

Centralines SCADA is part of Unison's Taupo-Rotorua SCADA system, with all zone substation 33kV and 11kV circuit breakers linked by RTUs. These report automatically and time stamp all changes of state devices directly to the SCADA Daily log file.

Each zone substation and 11kV feeder is represented by a schematic picture, a SCADA tile or series of SCADA tiles if the feeder is extensive in the real world.

The SCADA Event Search tool is used to search and print a report for each unplanned outage.

The resulting report is used with GIS data to compile a report, in preparation for entry into the Faults database.

Faults Access database

All unplanned and planned outages are processed from their initiation to completion using Access modules contained in the Faults database.

Each unplanned or planned outage has a unique identifier, the Sheet Number/Record number.

A summary of general details for each unplanned and planned outage is recorded by the operator.

For planned outages, the Switching Update form is used to collate all relevant data entered on the Switching Instruction.

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

Faults Access database (cont)

Times of power off, power restored and ICPs affected, are entered in the database from the data entered on the Switching Instruction.

All ICP data comes from GIS.

Supply Off and Supply Restored times are annotated on the Switching Instruction in real time.

At the end of the process the calculator checks that the total number of ICPs restored is correct before final calculations are made.

The record cannot be saved until both values are equal.

Only the final, calculated data is held in the table 'Datafile'.

All the incremental step values are held in a common table, 'Outage Calculator'.

Both tables are linked using the Sheet Number field of the Datafile record.

For unplanned outages, the Network Update form is used to collate all relevant data.

The times of restoration or interruption, are taken from an extract of the SCADA Daily Log file.

The operator enters the total number of ICPs affected, calculated from the Excel spreadsheets, time of supply fail, and time of total restoration of supply.

In the case of faults where sequential restorations and further interruptions to supply occur, the elapsed times, interruption times, ICPs and feeder amps restored or interrupted at each step, are entered in a custom built calculator.

At the end of the process the calculator checks that the total number of ICPs restored is correct before final calculations are made.

The record cannot be saved until both values are equal.

Only the final, calculated data is held in the table 'Datafile'. All the incremental step values are held in a common table, 'Outage Calculator'. Both tables are linked using the Sheet Number field of the Datafile record.

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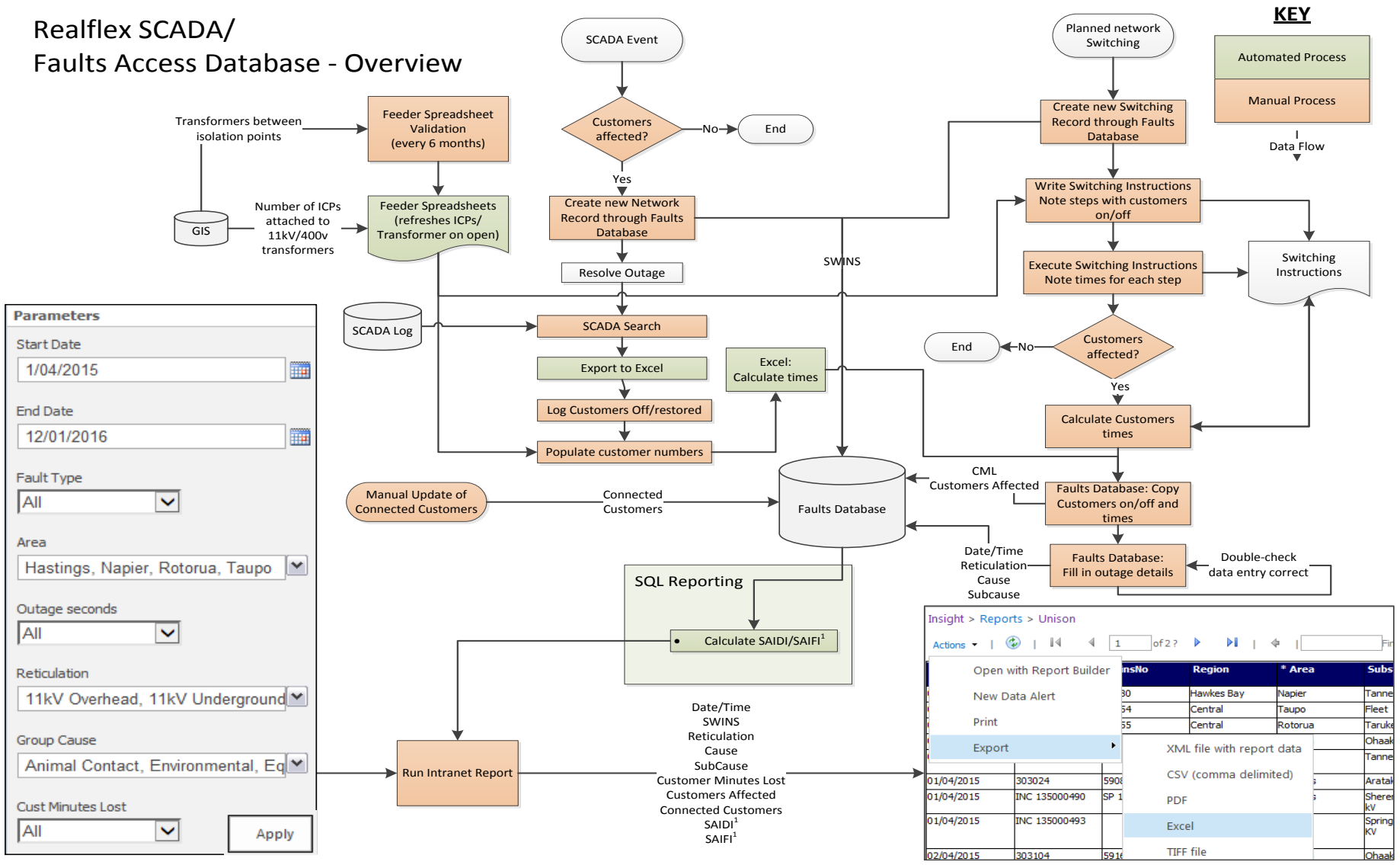
Policies and Procedures for Recording SAIDI and SAIFI (Clause 11.5(e)), Continued



Appendix J – Cause of each Major Event Day (Clause 11.5(f))

No major event days	There were no major event days for the assessment period 1 April 2015 to 31 March 2016.