DS5001
Default Price Quality Path
Annual Compliance Statement

For the assessment period ending 31 March 2014

Pursuant to

Electricity Distribution Services Default Price-Quality Path Determination 2012

NZCC 35

Data Classification: Public

Published Date: 09/06/2014

DS5001 Default Price Quality Path
Annual Compliance Statement 2013-2014

Overview

Document status

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

Document purpose

Regulatory disclosure demonstrating Unison's compliance with the Default Price Quality Path for the 2013-14 disclosure year.

Intended audience

Publically disclosed.

Document contributors

Contributors	Name and Position Title	Approval Date
Creator	Grant Sargison Pricing Analyst	16/05/2014
Authoriser	Nathan Strong General Manager – Business Assurance	22/05/2014
Approver	Nathan Strong General Manager – Business Assurance	27/05/2014

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 2012. This statement has not been prepared for any other purpose and Unison Networks 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

unison
The Powerlines People

DIRECTORS' CERTIFICATE ON ANNUAL COMPLIANCE STATEMENT

We, Kevin Atkinson and Paul Connell, being directors of Unison Networks Limited certify that, having made all reasonable enquiry, to the best of our knowledge and belief, the attached Annual Compliance Statement of Unison Networks Limited, and related information, prepared for the purposes of the *Electricity Distribution Services Default Price Quality Path Determination 2012* are true and accurate.

Director *Date: 23nd May 2014*

Director *Date: 23nd May 2014*

Continued on next page

Overview, Continued

Key dates

Published Date 09/06/2014

Related references

Legislation
Electricity Distribution Services Default Price-Quality Path Determination 2012

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
Fax (06) 873 9311

Content

This document contains the following topics:

1. Compliance with the Price Path

1.1 Compliance with the price path

Clause 11.2 (a)
Unison complies with the price path at the assessment date, 31 March 2014, as specified in the Electricity Distribution Services Default Price-Quality Path Determination 2012 NZCC 35.

Clause 11.3 (f) and (j)
Unison confirms that the following clauses of the Electricity Distribution Services Default Price-Quality Path Determination 2012 NZCC did not apply during the assessment period:

- 8.5 - Restructuring of prices during an assessment period
- 8.6 - Alternative compliance following restructuring of prices
- 10.1 - Transactions resulting in an amalgamation or merger
- 10.3 - Alternative compliance provisions following a transaction
- 10.4 - Requirement to notify the Commission of large transactions

Clause 10.2 (c)
Adjustment of Allowable Notional and Notional Revenue for the Fourth Assessment Period was adjusted using the process outlined in Schedule 1F and Unison complied with this requirement.

1.2 Allowable notional revenue (clause 8.4)

The notional revenue (NR_t) of a Non-exempt EDB at any time during the Assessment Period must not exceed the allowable notional revenue (R_t) for the Assessment Period.

Compliance is demonstrated in the following tables. The first table demonstrates that notional revenue derived using posted price at the end of the Assessment Period is less than the allowable notional revenue. The second table demonstrates that the maximum notional revenue during the Assessment Period does not exceed the allowable notional revenue illustrating that at no time during the Assessment Period is the price path breached.

Test:	$\frac{NR_{2014}}{R_{2014}} \leq 1$	
NR_{2014}:	$	91,222,763
R_{2014}:	$	91,508,463
Result:	0.9969	< 1
Result:	***Price Path has not been breached***	

Continued on next page

1. Compliance with the Price Path, Continued

1.2 Allowable notional revenue (clause 8.4) (cont)

Test: $\frac{NR_{Max}}{R_{2014}} \leq 1$

NR_{Max}:	$	91,222,763
R_{2014}:	$	91,508,463
Result:		0.9969 < 1
Result:		***Price Path has not been breached***

Supporting evidence is provided in Appendices B, C and D.

2. Assessment with the Quality Standards

2.1 Compliance with quality standards (clause 11.2 (a))

Unison complies with all requirements of the quality standards at the assessment date 31 March 2014, as specified in the Electricity Distribution Services Default Price-Quality Path Determination 2012.

2.2 2013 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: $\frac{SAIDI_{Assess\ 2014}}{SAIDI_{Limit}} \leq 1$

SAIDI $_{Assess\ 2014}$	112.82
SAIDI $_{Limit}$	148.09
Result:	0.76 < 1
Result:	***Does not Exceed Limit***

Test: $\frac{SAIFI_{Assess\ 2014}}{SAIFI_{Limit}} \leq 1$

SAIFI $_{Assess\ 2014}$	1.77
SAIFI $_{Limit}$	2.72
Result:	0.65 < 1
Result:	***Does not Exceed Limit***

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Assessment with the Quality Standards, Continued

2.3 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.

$SAIDI_{Assess\ 2012}$	160.67		$SAIFI_{Assess\ 2012}$	2.62	
$SAIDI_{Limit}$	148.09		$SAIFI_{Limit}$	2.72	
1.08	> 1		0.96	< 1	
	Exceeds Limit			***Does not Exceed Limit***	

$SAIDI_{Assess\ 2013}$	89.24		$SAIFI_{Assess\ 2013}$	1.64	
$SAIDI_{Limit}$	148.09		$SAIFI_{Limit}$	2.72	
0.60	< 1		0.60	< 1	
	Does not Exceed Limit			***Does not Exceed Limit***	

2.4 Compliance summary

Clause 9.1 - A Non-exempt EDB must, in respect of each Assessment Period, either:

a) comply with the annual reliability assessment specified in clause 9.2, or

b) 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)	Exceeds Limit	Does not Exceed Limit	*Does not Comply*
Clause 9.1 Result:	***Complies with Quality Standard***		

Appendix A – Independent Auditor's Report

AUDIT NEW ZEALAND
Mana Arotake Aotearoa

Independent Auditor's Report

To the directors of Unison Network Limited and to the Commerce Commission

The Auditor-General is the auditor of Unison Network Limited (the company). The Auditor-General has appointed me, John Mackey, 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 2014 on pages 5 to 8 and pages 10 to 24 complies, in all material respects, with the Electricity Distribution Services Default Price-Quality Path Determination 2012 NZCC 35 (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.

Auditor's 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: 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.

These standards require that we comply with ethical requirements and plan and perform our audit to provide reasonable assurance (which is also referred to as 'audit' assurance) about whether the Annual Compliance Statement has been prepared in all material respects in accordance with the Determination.

An audit involves performing procedures to obtain evidence about the amounts and disclosures in the Annual Compliance Statement. The procedures selected depend on the auditor's 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, the auditor considers internal control relevant to the company's preparation of the Annual Compliance Statement in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company's internal control.

Continued on next page

Appendix A – Independent Auditor's Report, Continued

In relation to the price path set out in clause 8 of the Determination, our audit included examination, on a test basis, of evidence relevant to the amounts and disclosures contained in Section 1 on page 5 to 6 and page 10 to 20 of the Annual Compliance Statement.

In relation to the SAIDI and SAIFI statistics for the Reference Period and the Assessment Period ended on 31 March 2014, including the calculation of the Reliability Limits and the Assessed Values, which are relevant to the quality standards set out in clause 9 of the Determination, our audit included examination, on a test basis, of evidence relevant to the amounts and disclosures contained in Section 2 on page 7 to 8 and pages 21 to 24 of the Annual Compliance Statement.

Our audit 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 audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Use of this report

This independent auditor's report has been prepared for the directors of the company and for the Commerce Commission for the purpose of providing those parties with independent audit 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 an audit 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 auditor's report has been formed on the above basis.

Independence

When carrying out the engagement we followed the independence requirements of the Auditor-General, which incorporate the independence requirements of the External Reporting 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, this engagement, Information Disclosures audit, notice audit, agreed upon procedures, six-month review engagements and the annual audit of the company's financial statements, we have no relationship with or interests in the company.

Continued on next page

Appendix A – Independent Auditor's Report, Continued

Opinion

In our opinion, the Annual Compliance Statement of Unison Network Limited for the year ended on 31 March 2014, has been prepared, in all material respects, in accordance with the Determination.

Our audit was completed on 23 May 2014 and our opinion is expressed as at that date.

John Mackey
Audit New Zealand
On behalf of the Auditor-General
Christchurch, New Zealand

Appendix B – Price Path Compliance Calculations (Clause11.3(a))

Clause 8.4

Notional Revenue for the year ending March 2014		
Term	**Description**	**Value $**
$P_{2014}*Q_{2012}$	Prices at 31 March 2014 multiplied by 31 March 2012 Base Quantities	127,778,170
V_{2014}	Transmission Charges for year ending 31 March 2014	29,085,614
	Avoided Transmission Charges for year ending 31 March 2014	6,279,282
K_{2014}	Rates for year ending 31 March 2014	648,387
	Electricity Authority Levies for year ending 31 March 2014	220,285
	Commerce Act Levies for year ending 31 March 2014 + 1/5 of Commerce Act Levies for year ending 31 March 2010	280,302
	Electricity and Gas Complaints Commissioner Levies for year ending 31 March 2014	41,537
NR_{2014}	Notional Revenue for the year ending 31 March 2014	91,222,763

Maximum Notional Revenue for the year ending March 2014		
Term	**Description**	**Value $**
$P_{Max}*Q_{2012}$	Maximum Prices between 1 April 2013 and 31 March 2014 multiplied by 31 March 2012 Base Quantities	127,778,170
V_{2014}	Transmission Charges for year ending 31 March 2014	29,085,614
	Avoided Transmission Charges for year ending 31 March 2014	6,279,282
K_{2014}	Rates for year ending 31 March 2014	648,387
	Electricity Authority Levies for year ending 31 March 2014	220,285
	Commerce Act Levies for year ending 31 March 2014 + 1/5 of Commerce Act Levies for year ending 31 March 2010	280,302
	Electricity and Gas Complaints Commissioner Levies for year ending 31 March 2014	41,537
NR_{Max}	Notional Revenue for the year ending 31 March 2014	91,222,763

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Price Path Compliance Calculations (Clause 11.3(a)), Continued

Clause 8.5

Allowable Notional Revenue 2014		
Term	**Description**	**Value $**
$MAR_{2013/14}$	Maximum allowable revenue for the fourth assessment period as specified in DPP Determination.	91,594,000
V_{2014}	Transmission Charges for year ending 31 March 2014	29,085,614
	Avoided Transmission Charges for year ending 31 March 2014	6,279,282
K_{2014}	Rates for year ending 31 March 2014	648,387
	Electricity Authority Levies for year ending 31 March 2014	220,285
	Commerce Act Levies for year ending 31 March 2014 + 1/5 of Commerce Act Levies for year ending 31 March 2010	280,302
	Electricity and Gas Complaints Commissioner Levies for year ending 31 March 2014	41,537
ΔD	Change in constant price revenue for the period 1 April 2012 to 31 March 2014	1.001
Adjustments to Allowable Notional Revenue and Notional Revenue Resulting from a Transaction		
Term	**Description**	**Value $**
$P_{2012} * Q_{2012}$	WEL prices at the time of purchase (Oct 12) multiplied by 31 March 2012 Base Quantities	41,946
ΔCPI_{2014}	CPI adjustment	1.28%
$R_{2013/14}^{adj}$	Adjustment to Allowable Notional Revenue for the year ending 31 March 2014, i.e. the fourth assessment period	42,484
Allowable Notional Revenue		
Term	**Description**	**Value $**
$R_{2013/14}$	Allowable Notional Revenue for the year ending 31 March 2014, i.e. the fourth assessment period	91,508,463

ΔCPI_{2014}			
Numerator		**Denominator**	
$CPI_{Dec2011}$	1158	$CPI_{Dec2010}$	1137
$CPI_{Mar2012}$	1164	$CPI_{Mar2011}$	1146
$CPI_{Jun2012}$	1168	$CPI_{Jun2011}$	1157
$CPI_{Sep2012}$	1171	$CPI_{Sep2011}$	1162
Total	4661	Total	4602
ΔCPI_{2014}	1.28%		

Appendix C – Price and Quantity Schedules (Clause 11.3(a))

Tariff Code	Quantity	Weighted Ave 2012-13 Price	2013-14 Price	2012-13 Revenue	2013-14 Revenue
E-H-DNR-24UC	100,132.00	0.0640	0.0708	6,408.45	7,089.35
E-H-DNR-AICO	154,196.00	0.0517	0.0572	7,971.93	8,820.01
E-H-DNR-CTRL	20,859.00	0.0333	0.0369	694.60	769.70
E-H-DNR-PROJ	0.00			0.00	0.00
E-H-I60-DMND	307,278.56	0.0000	0.0000	0.00	0.00
E-H-I60-KVAR	28,350.75	7.2000	7.2922	204,125.42	206,739.36
E-H-I60-RKVAR	1,720.93	-7.2000	-7.2922	-12,390.72	-12,549.39
E-H-I60-TAIC	124,143,738.00	0.0000	0.0000	0.00	0.00
E-H-L40-24UC	0.00			0.00	0.00
E-H-L40-DMND	348,640.40	2.2725	2.4935	792,285.31	869,334.84
E-H-L40-KVAR	29,684.25	7.2000	7.2922	213,726.62	216,463.51
E-H-L40-SOPD	192,372.96	2.7000	2.9626	519,406.99	569,924.13
E-H-L40-TAIC	121,999,941.00	0.0000	0.0000	0.00	0.00
E-H-L40-WOPD	142,429.26	9.0000	9.8753	1,281,863.34	1,406,531.67
E-H-M11-24UC	14,955,647.85	0.1120	0.1226	1,675,032.56	1,833,562.43
E-H-M11-AICO	72,055,306.65	0.0932	0.0990	6,715,554.58	7,133,475.36
E-H-M11-CTRL	3,790,266.81	0.0582	0.0637	220,593.53	241,440.00
E-H-M11-CTUD	269.00	0.1300	0.1495	34.97	40.22
E-H-M11-NITE	252,542.00	0.0269	0.0294	6,793.38	7,424.73
E-H-M11-PROJ	1,230.00	0.1120	0.1226	137.76	150.80
E-H-M12-24UC	54,570,070.88	0.0794	0.0904	4,332,863.63	4,933,134.41
E-H-M12-AICO	233,250,598.87	0.0655	0.0702	15,277,914.23	16,374,192.04
E-H-M12-CTRL	9,265,340.24	0.0373	0.0373	345,597.19	345,597.19
E-H-M12-CTUD	122,999.00	0.0961	0.1120	11,820.20	13,775.89
E-H-M12-CTUN	91,963.30	0.0130	0.0130	1,195.52	1,195.52
E-H-M12-NITE	1,092,549.00	0.0130	0.0130	14,203.14	14,203.14
E-H-M12-PROJ	63,466.00	0.0794	0.0904	5,039.20	5,737.33
E-H-MC-24UC	90,021,834.93	0.0670	0.0735	6,031,462.94	6,616,604.87
E-H-MC-CTRL	-363,256.00	0.0335	0.0368	-12,169.08	-13,367.82
E-H-MC-CTUD	2,950,361.00	0.0690	0.0758	203,574.91	223,637.36
E-H-MC-CTUN	1,782,368.00	0.0151	0.0166	26,913.76	29,587.31
E-H-MC-DEFT	6,132,996.00	0.0771	0.0845	472,853.99	518,238.16
E-H-MC-DMND	350,845.68	2.2562	2.4935	791,576.83	874,833.70
E-H-MC-KVAR	42,134.45	7.2000	7.2922	303,368.01	307,252.81
E-H-MC-NITE	-182,236.00	0.0151	0.0166	-2,751.76	-3,025.12
E-H-MC-PROJ	556,921.00	0.0670	0.0735	37,313.71	40,933.69
E-H-MC-SOPD	185,972.78	2.6853	2.9626	499,398.59	550,962.96
E-H-MC-TAIC	102,356,284.00	0.0000	0.0000	0.00	0.00

Tariff Code	Quantity	Weighted Ave 2012-13 Price	2013-14 Price	2012-13 Revenue	2013-14 Revenue
E-H-MC-WOPD	144,815.46	8.9543	9.8753	1,296,721.80	1,430,096.11
E-H-NDH-24UC	21,629,398.91	0.0787	0.0878	1,703,209.68	1,899,061.22
E-H-NDH-AICO	25,512,954.24	0.0647	0.0752	1,650,915.12	1,918,574.16
E-H-NDH-CTRL	241,222.00	0.0371	0.0410	8,944.10	9,890.10
E-H-NDH-CTUD	508,852.00	0.0951	0.1000	48,391.13	50,885.20
E-H-NDH-CTUN	150,549.00	0.0130	0.0143	1,952.05	2,152.85
E-H-NDH-NITE	57,298.00	0.0130	0.0143	744.87	819.36
E-H-NDH-PROJ	1,002.00	0.0901	0.0878	90.23	87.98
E-H-NDL-24UC	3,166,465.23	0.0640	0.0650	202,653.77	205,820.24
E-H-NDL-AICO	3,898,372.00	0.0517	0.0524	201,545.83	204,274.69
E-H-NDL-CTRL	24,989.00	0.0333	0.0333	832.13	832.13
E-H-NDL-CTUD	62,095.00	0.0693	0.0797	4,303.18	4,948.97
E-H-NDL-CTUN	50,558.00	0.0121	0.0121	611.75	611.75
E-H-NDL-NITE	-3,964.00	0.0121	0.0121	-47.96	-47.96
E-H-NDL-PROJ	-7.00	0.0640	0.0650	-0.45	-0.45
E-H-S11-PROJ	6.00	0.1120	0.1226	0.67	0.74
E-H-S20-24UC	80,725.00	0.0670	0.0735	5,408.58	5,933.29
E-H-S20-DMND	0.00			0.00	0.00
E-H-S20-PROJ	0.00			0.00	0.00
E-H-S22-24UC	-136,708.00	0.0670	0.0735	-9,159.44	-10,048.04
E-H-S22-DMND	-0.98	2.2725	2.4935	-2.23	-2.44
E-H-S22-KVAR	0.00			0.00	0.00
E-H-S22-SOPD	-0.73	2.7000	2.9626	-1.97	-2.16
E-H-S22-WOPD	1.27	9.0000	9.8753	11.45	12.56
E-H-T1P-24UC	97,186.00	0.0873	0.0966	8,484.34	9,388.17
E-H-T1P-PROJ	-8,749.00	0.0873	0.0966	-763.79	-845.15
E-H-T3P-24UC	51,207.00	0.0737	0.0809	3,773.96	4,142.65
E-H-T3P-PROJ	-364.00	0.0737	0.0809	-26.83	-29.45
E-H-U01-1	614.88	0.1016	0.1126	62.47	69.24
E-H-U01-12	887.69	0.1016	0.1126	90.19	99.95
E-H-U01-13	2,635.20	0.1016	0.1126	267.74	296.72
E-H-U01-UNMT	571,826.59	0.1016	0.1126	58,097.58	64,387.67
E-H-U02-1	3,335,180.75	0.1016	0.1126	338,854.36	375,541.35
E-H-U02-10	3,375.82	0.1016	0.1126	342.98	380.12
E-H-U02-11	3,000.73	0.1016	0.1126	304.87	337.88
E-H-U02-3	126,474.36	0.1016	0.1126	12,849.79	14,241.01
E-H-U02-UNMT	671,173.31	0.1016	0.1126	68,191.21	75,574.12
E-H-U03-TAIC	4,520,224.00	0.1016	0.1126	459,254.76	508,977.22
E-H-UNI-DMND	0.00			0.00	0.00
E-H-UNI-SOPD	0.00			0.00	0.00
E-H-UNI-TAIC	0.00			0.00	0.00
E-H-UNI-WOPD	0.00			0.00	0.00

Tariff Code	Quantity	Weighted Ave 2012-13 Price	2013-14 Price	2012-13 Revenue	2013-14 Revenue
E-R-DNR-24UC	272,284.00	0.0597	0.0660	16,255.35	17,970.74
E-R-DNR-AICO	368,436.00	0.0490	0.0533	18,053.36	19,637.64
E-R-DNR-CTRL	51,342.00	0.0310	0.0343	1,591.60	1,761.03
E-R-DNR-CTUD	9,606.00	0.0667	0.0737	640.72	707.96
E-R-DNR-CTUN	3,975.00	0.0149	0.0164	59.23	65.19
E-R-DNR-NITE	1,959.00	0.0149	0.0164	29.19	32.13
E-R-DNR-PROJ	9.00	0.0597	0.0660	0.54	0.59
E-R-I60-DMND	97,093.38	0.0000	0.0000	0.00	0.00
E-R-I60-KVAR	11,833.79	7.2000	7.2922	85,203.26	86,294.34
E-R-I60-TAIC	46,208,235.00	0.0000	0.0000	0.00	0.00
E-R-L40-24UC	0.00			0.00	0.00
E-R-L40-DMND	299,206.32	1.8700	1.9908	559,515.82	595,659.94
E-R-L40-KVAR	33,794.28	7.2000	7.2922	243,318.81	246,434.65
E-R-L40-SOPD	162,473.42	3.1000	3.3003	503,667.60	536,211.03
E-R-L40-TAIC	96,184,066.00	0.0000	0.0000	0.00	0.00
E-R-L40-WOPD	121,998.36	11.0000	11.7107	1,341,981.96	1,428,686.19
E-R-M11-24UC	14,346,217.42	0.1122	0.1167	1,609,645.59	1,674,203.57
E-R-M11-AICO	36,465,387.32	0.0934	0.0947	3,405,867.18	3,453,272.18
E-R-M11-CTRL	3,332,976.75	0.0583	0.0618	194,312.54	205,977.96
E-R-M11-CTUD	685,007.00	0.1231	0.1416	84,324.36	96,996.99
E-R-M11-CTUN	351,300.20	0.0275	0.0280	9,660.76	9,836.41
E-R-M11-NITE	603,111.48	0.0275	0.0280	16,585.57	16,887.12
E-R-M11-PROJ	5,364.00	0.1122	0.1167	601.84	625.98
E-R-M12-24UC	73,661,958.14	0.0708	0.0799	5,215,266.64	5,885,590.46
E-R-M12-AICO	124,319,470.46	0.0613	0.0613	7,620,783.54	7,620,783.54
E-R-M12-CTRL	18,536,360.73	0.0399	0.0399	739,600.79	739,600.79
E-R-M12-CTUD	5,054,956.00	0.0791	0.0931	399,847.02	470,616.40
E-R-M12-CTUN	2,486,453.00	0.0228	0.0262	56,691.13	65,194.80
E-R-M12-NITE	3,469,488.81	0.0228	0.0262	79,104.34	90,970.00
E-R-M12-PROJ	14,036.54	0.0708	0.0799	993.79	1,121.52
E-R-MC-24UC	102,179,029.25	0.0598	0.0634	6,110,305.95	6,478,150.45
E-R-MC-CTRL	2,777,988.10	0.0299	0.0316	83,061.84	87,784.42
E-R-MC-CTUD	11,905,841.27	0.0633	0.0728	753,639.75	866,745.24
E-R-MC-CTUN	6,853,939.59	0.0138	0.0150	94,584.37	102,809.09
E-R-MC-DEFT	6,016,075.00	0.0688	0.0729	413,905.96	438,571.87
E-R-MC-DMND	94,658.38	1.8700	1.9908	177,011.17	188,445.90
E-R-MC-KVAR	12,639.55	7.2000	7.2922	91,004.78	92,170.15
E-R-MC-NITE	894,749.06	0.0138	0.0150	12,347.54	13,421.24
E-R-MC-PROJ	77,444.00	0.0598	0.0634	4,631.15	4,909.95
E-R-MC-SOPD	52,860.94	3.1000	3.3003	163,868.91	174,456.96
E-R-MC-TAIC	36,854,884.00	0.0000	0.0000	0.00	0.00
E-R-MC-WOPD	40,006.56	11.0000	11.7107	440,072.16	468,504.82

Tariff Code	Quantity	Weighted Ave 2012-13 Price	2013-14 Price	2012-13 Revenue	2013-14 Revenue
E-R-NDH-24UC	11,890,117.31	0.0701	0.0752	833,021.24	894,136.82
E-R-NDH-AICO	1,000,588.00	0.0605	0.0664	60,552.12	66,439.04
E-R-NDH-CTRL	604,483.42	0.0395	0.0425	23,872.07	25,690.55
E-R-NDH-CTUD	788,861.00	0.0790	0.0886	62,341.29	69,893.08
E-R-NDH-CTUN	414,303.00	0.0228	0.0262	9,427.80	10,854.74
E-R-NDH-NITE	74,193.25	0.0225	0.0262	1,672.80	1,943.86
E-R-NDH-PROJ	6,035.00	0.0708	0.0752	427.28	453.83
E-R-NDH-TAIC	5,854.00	0.0000	0.0752	0.00	440.22
E-R-NDL-24UC	2,345,022.01	0.0597	0.0600	139,997.81	140,701.32
E-R-NDL-AICO	220,554.00	0.0490	0.0512	10,807.15	11,292.36
E-R-NDL-CTRL	61,613.00	0.0310	0.0316	1,910.00	1,946.97
E-R-NDL-CTUD	11,993.00	0.0667	0.0767	799.93	919.86
E-R-NDL-CTUN	11,227.00	0.0149	0.0149	167.28	167.28
E-R-NDL-NITE	90.00	0.0149	0.0149	1.34	1.34
E-R-NDL-PROJ	-190.00	0.0597	0.0600	-11.34	-11.40
E-R-RPL	0.00			0.00	0.00
E-R-S11-24UC	0.00			0.00	0.00
E-R-S11-CTUD	-94.00	0.1231	0.1416	-11.57	-13.31
E-R-S11-NITE	8.00	0.0275	0.0280	0.22	0.22
E-R-S11-PROJ	0.00			0.00	0.00
E-R-S20-24UC	-247,911.00	0.0598	0.0634	-14,825.08	-15,717.56
E-R-S20-CTRL	-763.00	0.0299	0.0316	-22.81	-24.11
E-R-S20-CTUD	5,432.00	0.0633	0.0728	343.85	395.45
E-R-S20-CTUN	1,371.00	0.0138	0.0150	18.92	20.57
E-R-S20-DMND	0.00			0.00	0.00
E-R-S20-PROJ	986.00	0.0598	0.0634	58.96	62.51
E-R-S22-24UC	315,838.00	0.0598	0.0634	18,887.11	20,024.13
E-R-S22-CTRL	-264,016.00	0.0299	0.0316	-7,894.08	-8,342.91
E-R-S22-DMND	0.09	1.8700	1.9908	0.18	0.19
E-R-S22-KVAR	0.00			0.00	0.00
E-R-S22-NITE	0.00			0.00	0.00
E-R-S22-PROJ	61,200.00	0.0598	0.0634	3,659.76	3,880.08
E-R-S22-SOPD	0.09	3.1000	3.3003	0.29	0.31
E-R-S22-WOPD	0.09	11.0000	11.7107	1.03	1.10
E-R-S24-24UC	84,631.00	0.0688	0.0729	5,822.61	6,169.60
E-R-S24-PROJ	94,657.00	0.0688	0.0729	6,512.40	6,900.50
E-R-T1P-24UC	88,103.00	0.0708	0.0827	6,237.69	7,286.12
E-R-T1P-PROJ	2,424.00	0.0708	0.0827	171.62	200.46
E-R-T3P-24UC	273,779.00	0.0598	0.0697	16,371.98	19,082.40

Tariff Code	Quantity	Weighted Ave 2012-13 Price	2013-14 Price	2012-13 Revenue	2013-14 Revenue
E-R-U01-10	32,044.03	0.1155	0.1253	3,701.09	4,015.12
E-R-U01-11	42,057.79	0.1155	0.1253	4,857.67	5,269.84
E-R-U01-12	12,016.51	0.1155	0.1253	1,387.91	1,505.67
E-R-U01-13	8,011.01	0.1155	0.1253	925.27	1,003.78
E-R-U01-14	491.90	0.1155	0.1253	56.81	61.64
E-R-U01-15	8,011.01	0.1155	0.1253	925.27	1,003.78
E-R-U01-17	2,002.75	0.1155	0.1253	231.32	250.94
E-R-U01-18	47,343.23	0.1155	0.1253	5,468.14	5,932.11
E-R-U01-23	15,249.02	0.1155	0.1253	1,761.26	1,910.70
E-R-U01-24	70,096.32	0.1155	0.1253	8,096.12	8,783.07
E-R-U01-5	9,277.18	0.1155	0.1253	1,071.51	1,162.43
E-R-U01-6	4,919.04	0.1155	0.1253	568.15	616.36
E-R-U01-7	18,200.45	0.1155	0.1253	2,102.15	2,280.52
E-R-U01-8	2,951.42	0.1155	0.1253	340.89	369.81
E-R-U01-9	1,475.71	0.1155	0.1253	170.44	184.91
E-R-U01-UNMT	50,601.84	0.1155	0.1253	5,844.51	6,340.41
E-R-U02-18	42,145.05	0.1155	0.1253	4,867.75	5,280.77
E-R-U02-19	451.24	0.1155	0.1253	52.12	56.54
E-R-U02-2	1,340.23	0.1155	0.1253	154.80	167.93
E-R-U02-21	1,260,514.49	0.1155	0.1253	145,589.42	157,942.47
E-R-U02-22	12,183.92	0.1155	0.1253	1,407.24	1,526.65
E-R-U02-25	821.54	0.1155	0.1253	94.89	102.94
E-R-U02-UNMT	126,474.89	0.1155	0.1253	14,607.85	15,847.30
E-R-U03-TAIC	3,592,300.00	0.1155	0.1253	414,910.65	450,115.19
E-R-UNISON	163,154.00	0.0000	0.0000	0.00	0.00
F-H-DNR	16,177.00	1.1000	1.2187	17,794.70	19,714.91
F-H-I60-007	366.00	377.8800	434.5600	138,304.08	159,048.96
F-H-I60-008	366.00	522.5800	558.4900	191,264.28	204,407.34
F-H-I60-009	366.00	520.9500	599.0900	190,667.70	219,266.94
F-H-I60-010	366.00	595.9400	621.1000	218,114.04	227,322.60
F-H-I60-011	366.00	382.8000	386.0100	140,104.80	141,279.66
F-H-I60-012	366.00	678.6000	780.3900	248,367.60	285,622.74
F-H-I60-013	366.00	1,099.1000	1,390.9700	402,270.60	509,095.02
F-H-I60-014	366.00	1,195.8300	1,312.9200	437,673.78	480,528.72
F-H-I60-015	366.00	724.7800	833.5000	265,269.48	305,061.00
F-H-I60-016	366.00	509.6900	711.1700	186,546.54	260,288.22
F-H-I60-017	366.00	1,266.3600	1,390.3500	463,487.76	508,868.10
F-H-I60-021	366.00	297.8500	327.0100	109,013.10	119,685.66
F-H-I60-022	366.00	0.0000	321.4700	0.00	117,658.02
F-H-I60-023	366.00	0.0000	280.6500	0.00	102,717.90
F-H-I60-024	366.00	0.0000	197.6900	0.00	72,354.54

Tariff Code	Quantity	Weighted Ave 2012-13 Price	2013-14 Price	2012-13 Revenue	2013-14 Revenue
F-H-I60-050	366.00	434.4000	457.1400	158,990.40	167,313.24
F-H-I60-051	366.00	433.9100	457.1400	158,811.06	167,313.24
F-H-I60-052	366.00	0.0000	4.1900	0.00	1,533.54
F-H-I60-053	366.00	0.0000	11.3500	0.00	4,154.10
F-H-L40	0.00			0.00	0.00
F-H-L40-T020	366.00	5.7500	5.8236	2,104.50	2,131.44
F-H-L40-T030	1,464.00	6.7500	6.8364	9,882.00	10,008.49
F-H-L40-T050	15,616.00	8.7500	8.8620	136,640.00	138,388.99
F-H-L40-T075	10,126.00	10.5000	10.6344	106,323.00	107,683.93
F-H-L40-T100	4,714.00	11.5000	11.6472	54,211.00	54,904.90
F-H-L40-T150	1,464.00	15.0000	15.1920	21,960.00	22,241.09
F-H-M11	6,344,191.00	0.1500	0.1500	951,628.65	951,628.65
F-H-M12	12,811,136.00	0.7623	0.8570	9,765,928.97	10,979,143.55
F-H-MC1	729,291.00	2.2868	2.5107	1,667,742.66	1,831,030.91
F-H-MC2	89,038.00	7.4068	8.1319	659,486.66	724,048.11
F-H-MC3	80,428.00	14.7816	16.2289	1,188,854.52	1,305,257.97
F-H-MC4	0.00			-0.00	-0.00
F-H-MC5	15,692.00	20.3236	22.3136	318,917.93	350,145.01
F-H-MC6	11,194.00	19.6591	22.8136	220,063.94	255,375.44
F-H-MC7	3,363.00	20.3236	23.3136	68,348.27	78,403.64
F-H-MC8	5,124.00	20.3236	23.8136	104,138.13	122,020.89
F-H-MC9	4,714.00	20.3236	24.3136	95,805.45	114,614.31
F-H-MC-COAD	730.00	-1.9000	-1.9000	-1,387.00	-1,387.00
F-H-MC-T020	20,252.00	5.7500	5.8236	116,449.00	117,939.55
F-H-MC-T030	13,176.00	6.7500	6.8364	88,938.00	90,076.41
F-H-MC-T050	1,098.00	8.7500	8.8620	9,607.50	9,730.48
F-H-MC-T075	366.00	10.5000	10.6344	3,843.00	3,892.19
F-H-MC-T100	0.00			0.00	0.00
F-H-MC-T150	0.00			0.00	0.00
F-H-NDH	1,044,365.00	0.8072	0.8446	842,980.72	882,070.68
F-H-NDL	1,137,667.00	1.1000	1.2187	1,251,433.70	1,386,474.77
F-H-S20	1,090.00	2.2868	2.5107	2,492.61	2,736.66
F-H-S22	23.00	7.4068	8.1319	170.36	187.03
F-H-T1P	38,177.00	0.8385	0.9291	32,011.41	35,470.25
F-H-T3P	2,871.00	2.5155	2.7618	7,222.00	7,929.13
F-R-DNR	56,043.00	1.1000	1.1711	61,647.30	65,631.96
F-R-I60-001	366.00	926.0200	937.9300	338,923.32	343,282.38
F-R-I60-002	366.00	947.6700	1,026.7700	346,847.22	375,797.82
F-R-I60-003	366.00	775.9200	808.9800	283,986.72	296,086.68
F-R-I60-004	0.00			0.00	0.00
F-R-I60-005	0.00			0.00	0.00

Tariff Code	Quantity	Weighted Ave 2012-13 Price	2013-14 Price	2012-13 Revenue	2013-14 Revenue
F-R-I60-006	366.00	0.0000	92.2500	0.00	33,763.50
F-R-I60-007	366.00	0.0000	58.2400	0.00	21,315.84
F-R-I60-008	366.00	0.0000	155.1200	0.00	56,773.92
F-R-I60-009	366.00	0.0000	720.4700	0.00	263,692.02
F-R-I60-010	366.00	0.0000	645.5000	0.00	236,253.00
F-R-I60-011	366.00	0.0000	378.2500	0.00	138,439.50
F-R-I60-012	366.00	0.0000	331.5200	0.00	121,336.32
F-R-I60-013	366.00	0.0000	221.1500	0.00	80,940.90
F-R-I60-014	366.00	0.0000	238.2100	0.00	87,184.86
F-R-I60-015	366.00	0.0000	266.1400	0.00	97,407.24
F-R-L40	0.00			-0.00	-0.00
F-R-L40-T020	1,830.00	5.7500	5.8236	10,522.50	10,657.19
F-R-L40-T030	3,660.00	6.7500	6.8364	24,705.00	25,021.22
F-R-L40-T050	18,252.00	8.7500	8.8620	159,705.00	161,749.22
F-R-L40-T075	3,660.00	10.5000	10.6344	38,430.00	38,921.90
F-R-L40-T100	1,830.00	11.5000	11.6472	21,045.00	21,314.38
F-R-M11	3,643,702.00	0.1500	0.1500	546,555.30	546,555.30
F-R-M12	10,852,853.00	0.8568	0.9582	9,298,724.45	10,399,203.74
F-R-MC1	1,349,114.00	2.2400	2.3847	3,022,015.36	3,217,232.16
F-R-MC2	78,425.00	8.7865	9.3542	689,081.26	733,603.14
F-R-MC3	43,027.00	17.5730	18.7085	756,113.47	804,970.63
F-R-MC4	0.00			-0.00	0.00
F-R-MC5	19,125.00	26.1000	27.7865	499,162.50	531,416.81
F-R-MC6	5,384.00	26.1000	28.2865	140,522.40	152,294.52
F-R-MC7	0.00			0.00	0.00
F-R-MC8	3,264.00	26.1000	29.2865	85,190.40	95,591.14
F-R-MC9	2,562.00	26.1000	29.7865	66,868.20	76,313.01
F-R-MC-COAD	1,825.00	-1.9000	-1.9000	-3,467.50	-3,467.50
F-R-MC-T020	6,222.00	5.7500	5.8236	35,776.50	36,234.44
F-R-MC-T030	6,222.00	6.7500	6.8364	41,998.50	42,536.08
F-R-MC-T050	366.00	8.7500	8.8620	3,202.50	3,243.49
F-R-MC-T075	366.00	10.5000	10.6344	3,843.00	3,892.19
F-R-MC-T100	0.00			0.00	0.00
F-R-NDH	323,981.00	0.8922	0.9207	289,066.20	298,289.31
F-R-NDL	390,787.00	1.1000	1.1711	429,865.70	457,650.66
F-R-RPL	0.00			0.00	0.00

Tariff Code	Quantity	Weighted Ave 2012-13 Price	2013-14 Price	2012-13 Revenue	2013-14 Revenue
F-R-S20	-2,190.00	2.2400	2.3847	-4,905.60	-5,222.49
F-R-S22	589.00	8.7865	9.3542	5,175.25	5,509.62
F-R-S24	435.00	17.5730	18.7085	7,644.26	8,138.20
F-R-T1P	21,798.00	0.8568	1.0128	18,676.53	22,077.01
F-R-T3P	1,658.00	2.2400	2.6232	3,713.92	4,349.27
F-T-M11	0.00			0.00	0.00
F-T-M12	0.00			0.00	0.00
N/A	53,882,350.38	0.0287	0.0000	1,545,317.22	0.00
Unknown	0.00			0.00	0.00
			Total Revenue	**$118,205,299.72**	**$127,778,170.20**

Appendix D – Recoverable and Pass Through Costs (Clause 11.3(b) and (c))

Table The table below shows the Recoverable and Pass Through Costs for the year ending March 2014.

Recoverable and Pass Through Costs for year ending March 2014				
V_{2014} and K_{2014}	**Actual ($)**	**Forecast ($)**	**Variance ($)**	**Variance (%)**
Transmission	29,085,614	29,085,617	(3)	(0.0%)
Avoided Transmission	6,279,282	6,207,515	71,767	1.2%
Rates	648,387	593,453	54,934	9.3%
Electricity Authority Levies	220,285	261,477	(41,192)	(15.8%)
Commerce Act Levies	280,302	183,868	96,434	52.4%
Electricity and Gas Complaints Commissioner Levies	41,537	40,796	741	1.8%
Total Recoverable and Pass Through Costs	36,555,407	36,372,726	182,681	0.5%

Explanations for variances Listed below are explanations for variances.

- Transmission – Minor variance from forecast due to mid-year commissioning of assets.
- Avoided Transmission – Avoided transmission payments were not confirmed at the time of setting tariffs but were estimated.
- Rates – The rates to be paid were not known at the time of setting tariffs so were estimated based on a 2% increase. Rates payable were significantly higher than forecast due to the Rotorua District Council and Taupo District Council both moving to capital value based rating systems which significantly increased the rates payable by Unison.
- EA Levies – 2013-14 Electricity Authority levies were not known at the time of setting tariffs so were estimated based on the previous year.
- Commerce Act Levies – 2013-14 Commerce Act levies were not known at the time of setting tariffs so were estimated based on the previous year.
- EGCC Levies – 2013-14 levies were not known at the time of setting tariffs so were estimated based on previous year.

Appendix E – Quality Standard Compliance Calculations (Clause 11.3(h))

Reliability Data (Before Normalisation)

Year	SAIDI (Interruption Duration)			SAIFI (Interruption Frequency)		
	Class B	Class C	Total	Class B	Class C	Total
2005	25.32	130.05	155.37	0.17	3.05	3.22
2006	26.57	105.44	132.02	0.17	2.65	2.81
2007	33.39	105.73	139.12	0.24	1.95	2.19
2008	39.21	78.64	117.85	0.30	1.74	2.03
2009	51.00	78.92	129.92	0.25	1.83	2.08
	Reference Period Total SAIDI		**674.28**	Reference Period Total SAIFI		**12.34**
	Reference Period Average SAIDI		**134.86**	Reference Period Average SAIFI		**2.47**
2014	32.18	80.64	112.82	0.29	1.47	1.77

Reliability Limit Calculations

SAIDI Boundary Calculations

α_{SAIDI}	-1.98	The average of the natural logarithm (ln) of each daily SAIDI Value in the non-zero data set.
β_{SAIDI}	1.81	The standard deviation of the natural logarithm (ln) of each daily SAIDI Value in the non-zero data set.

$B_{SAIDI} = e^{(\alpha SAIDI + 2.5*\beta SAIDI)}$	12.70	SAIDI Boundary Value

SAIFI Boundary Calculations

α_{SAIFI}	-6.16	The average of the natural logarithm (ln) of each daily SAIFI Value in the non-zero data set.
β_{SAIFI}	2.01	The standard deviation of the natural logarithm (ln) of each daily SAIFI Value in the non-zero data set.

$B_{SAIFI} = e^{(\alpha SAIFI + 2.5*\beta SAIFI)}$	0.32	SAIFI Boundary Value

Continued on next page

Appendix E – Quality Standard Compliance Calculations (Clause 11.3(h)), Continued

Event Days exceeding SAIDI Boundary Value within the Reference Dataset

Date	Pre-Normalised SAIDI	Pre-Normalised SAIFI	Normalised SAIDI	Normalised SAIFI
18-Oct-04	21.41	0.07	12.70	0.07
22-Jun-06	13.06	0.03	12.70	0.03
			-	-
			-	-
			-	-
			-	-
			-	-
			-	-
			-	-
			-	-

SAIDI Limit

μ_{SAIDI}	133.05	The average annual SAIDI Value in the Normalised Reference Dataset.
σ_{SAIDI}	15.04	The standard deviation of daily SAIDI Values in the Normalised Reference Dataset multiplied by √365.
$SAIDI_{Limit} = \mu_{SAIDI} + \sigma_{SAIDI}$	148.09	SAIDI Limit Value

SAIFI Limit

μ_{SAIFI}	2.47	The average annual SAIFI Value in the Normalised Reference Dataset.
σ_{SAIFI}	0.25	The standard deviation of daily SAIFI Values in the Normalised Reference Dataset multiplied by √365.
$SAIFI_{Limit} = \mu_{SAIFI} + \sigma_{SAIFI}$	2.72	SAIFI Limit Value

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Appendix E – Quality Standard Compliance Calculations (Clause 11.3(h)), Continued

Reliability Assessment Calculations

Event Days exceeding SAIDI Boundary Value within the 2014 Assessment Dataset

Date	Pre-Normalised SAIDI	Pre-Normalised SAIFI	Normalised SAIDI	Normalised SAIFI
			-	-
			-	-
			-	-
			-	-
			-	-
			-	-
			-	-
			-	-

Assessed SAIDI Value

$SAIDI_{2014}$	112.82	The sum of daily SAIDI Values in the 1 April 2013 - 31 March 2014 Normalised Assessment Dataset.

Assessed SAIFI Value

$SAIFI_{2014}$	1.77	The sum of daily SAIFI Values in the 1 April 2013 - 31 March 2014 Normalised Assessment Dataset.

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Appendix E – Quality Standard Compliance Calculations (Clause 11.3(h)), Continued

Assessed SAIDI Value

$SAIDI_{2013}$	89.24	The sum of daily SAIDI Values in the 1 April 2012 - 31 March 2013 Normalised Assessment Dataset.

Assessed SAIFI Value

$SAIFI_{2013}$	1.64	The sum of daily SAIFI Values in the 1 April 2012 - 31 March 2013 Normalised Assessment Dataset.

Assessed SAIDI Value

$SAIDI_{2012}$	160.67	The sum of daily SAIDI Values in the 1 April 2011 - 31 March 2012 Normalised Assessment Dataset.

Assessed SAIFI Value

$SAIFI_{2012}$	2.62	The sum of daily SAIFI Values in the 1 April 2011 - 31 March 2012 Normalised Assessment Dataset.

Appendix F – Policies and Procedures for Recording SAIDI and SAIFI (Clause 11.3 (i))

Outrage Data Capture process

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

Data	Source
(1) Numbers of ICPs attached to 11kv/400v transformers.	Activa
(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.

Excel spreadsheets

Data from 1 and 2 above are compiled into spreadsheets by Control Centre staff. Each operator is responsible for a number of zone substation feeders.

These are updated automatically via Activa each time a spreadsheet is opened and validated six monthly, using GIS generated maps of each feeder and GIS for lists of ICPs per 11kV/400 substation.

Each zone substation has an Excel work book assigned to it with a separate work sheet for each 11kV feeder and one work sheet for a summation page for the total zone substation.

Each feeder spreadsheet is constructed in a format that allows the summation of kVA and total number of ICPs between isolation points to be calculated in dedicated cells.

These cells are in turn summated outwards from the feeder source so that the total kVA and total ICPs beyond all switches in series is shown.

The grand total for each feeder is linked to the zone substation totals page as a ready source of this information.

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Appendix F – Policies and Procedures for Recording SAIDI and SAIFI (Clause 11.3 (i)), Continued

RealFlex SCADA

Unison's two SCADA systems have been designed to capture real-time data.

In both the Hawke's Bay network ('HBN') and Rotorua/Taupo (Centralines) systems all zone substations 33kV and 11kV circuit breakers are linked by RTUs that report automatically and time stamp all changes of state of devices directly to the SCADA Daily Log File.

The exception is Atiamuri zone substation which has no SCADA link to Unison.

On the SCADA systems, 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 to compile data from the Excel feeder spreadsheets, in preparation for entry into the Faults database.

HBN and Rotorua/ Taupo SCADA

Selected system switching devices in the field have a pseudo point defined in the SCADA database. Each point has an identifier name that closely relates to the real world switch number. It also contains a code that links it to its parent feeder.

As field operators complete operational items, they report this to the Control Centre 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 Daily Log File.

By using the SCADA Events search tool, with appropriate text strings, an extract of all events relating to an unplanned outage can be printed for analysis and for compilation of the an Outage Report.

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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Appendix F – Policies and Procedures for Recording SAIDI and SAIFI (Clause 11.3 (i)), 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 the Excel spreadsheets referred to above.

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 No field of the Datafile record.

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

The details of ICPs restored, are taken from the Excel spreadsheets.

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 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.