



**DEFAULT PRICE QUALITY PATH COMPLIANCE STATEMENT  
FOR THE ASSESSMENT DATE 31 MARCH 2018**

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

29 May 2018

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**1) Compliance with the Price Path (Clause 11.2(a))**

Top Energy Limited does comply with the price path in clause 8 at the assessment date 31 March 2018, as specified in the Electricity Distribution Default Price-Quality Path Determination 2015.

**Clause 8.3** - The notional revenue (NR) of a Non-exempt EDB at any time during the Assessment Period must not exceed the allowable notional revenue (ANR) for the Assessment Period.

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

**Commerce Act (Electricity Distribution Default Price-Quality Path)  
Determination 2015  
Commerce Act (Electricity Distribution Default Price-Quality  
for the Assessment Date 31 March 2018  
('\$000)**

Clause 8.3

Test:	<u>NR2018</u>	$\leq$	<u>ANR2018</u>
NR2018:	\$ 39,891		
ANR2018:	\$ 40,210		
Result:	0.9921 $\leq$ 1		
Result:	Price Path has not been breached		

Supporting evidence is presented in Appendices A, B and C.

## 2) Compliance with the Quality Standards (Clause 11.2(a))

Top Energy Ltd complied with the requirements of the quality standards in clause 9 at the assessment date, 31 March 2018, as specified in the Electricity Distribution Default Price-Quality Path Determination 2015.

**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 for that Assessment Period; or
- (b) Have complied with the annual reliability assessment in each of the two preceding Assessment Periods.

**Clause 9.2:** For the purpose of sub-clause 9.1(a), to comply with the annual reliability assessment:

(a) a Non-exempt EDB's SAIDI Assessed Value for the Assessment Period must not exceed the SAIDI Limit specified in Schedule 4A; and

(b) a Non-exempt EDB's SAIFI Assessed Value for the Assessment Period must not exceed the SAIFI Limit specified in Schedule 4A.

Test:	$\frac{SAIDI_{Assess\ 2018}}{SAIDI_{Limit}} \leq 1$
SAIDI <sub>Assess 2018</sub>	483.341
SAIDI <sub>Limit</sub>	516.675
Test:	0.9355 < 1
Result:	SAIDI Limit has not been breached

Test:	$\frac{SAIFI_{Assess\ 2018}}{SAIFI_{Limit}} \leq 1$
SAIFI <sub>Assess 2018</sub>	4.949
SAIFI <sub>Limit</sub>	6.248
Test:	0.7922 < 1
Result:	SAIFI Limit has not been breached

Compliance is demonstrated in the following tables: Supporting evidence is presented in Appendices E and F.

**3) Compliance with the Price and Quality Path (Clause 11.2(d))**

- (i) Top Energy have undertaken a restructure of prices during the assessment period. The 31 March 2016 NTOU consumption has had the restructured ICP count percentages as at 1 April 2016 applied to allocate the actual quantities in 2016 period. The TOU consumption has had 1 April 2016 to 31 January 2017 percentages applied to the actual quantities for 2016.
- (ii) Top Energy have not received a transfer of Transmission Assets from Transpower that become System Fixed Assets or transferred system fixed assets to Transpower in the current or preceding assessment period.
- (iii) Top Energy have not engaged in any Amalgamations or Mergers in the assessment period.
- (iv) Top Energy have not conducted any major transactions in the assessment period.

**4) Director Certification (Clause 11.3)**

We, Euan Richard Krogh and Gregory Mark Steed, being directors of Top Energy Limited certify that, having made all reasonable enquiry, to the best of our knowledge and belief, the attached Annual Compliance Statement of Top Energy Limited, and related information, prepared for the purposes of the Electricity Distribution Default Price-Quality Path Determination 2015 are true and accurate.



**Euan Richard Krogh**



**Gregory Mark Steed**

Date: 29 May 2018



## **INDEPENDENT ASSURANCE REPORT TO THE DIRECTORS OF TOP ENERGY AND TO THE COMMERCE COMMISSION**

The Auditor-General is the auditor of Top Energy Limited (the company). The Auditor-General has appointed me, Andrew Burgess, using the staff and resources of Deloitte Limited, to provide an opinion, on his behalf, on whether the Annual Compliance Statement for the year ended on 31 March 2018 on pages 2 to 4 and 7 to 23 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* 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, on a test basis, of evidence relevant to the amounts and disclosures contained on pages 2, 4 and 7 to 12 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 3, 4 and 13 to 23 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.

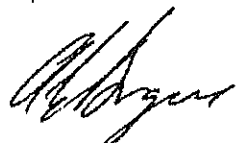
The Auditor-General, and his employees, and Deloitte Limited and its partners and employees may deal with the company and its subsidiaries on normal terms within the ordinary course of trading activities of the company. Other than any dealings on normal terms within the ordinary course of business, this engagement, the regulatory assurance engagement performed 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 and its subsidiaries.

### **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.



Andrew Burgess  
**for Deloitte Limited**  
**On behalf of the Auditor-General**  
Auckland, New Zealand  
29 May 2018



## Appendix A – Price Path Compliance Calculations (Clause 11.4)

Commerce Act (Electricity Distribution Default Price-Quality Path)  
Determination 2016  
Price Path Inputs and Calculations  
for the Assessment Date 31 March 2018  
\$000

### Clause 8.5

Notional Revenue for the year ending March 2018		
Term	Description	Value \$
DP2018*Q2016	Prices at 31 March 2018 multiplied by 31 March 2016 Base Quantities	39,891
NR2018	Notional Revenue for the year ending 31 March 2018	39,891

Supported by P\*Q  
schedules presented in  
Appendix B

### Clause 8.4

Allowable Notional Revenue 2018		
Term	Description	Value \$
DPt-1Qt-2	2017 Price* 2016 Qty	37,186
$(ANRt-1-NRt-1)$	Difference in Notional revenue	268
$(1 + CPI2018)$	Average change in Consumer Price Index	1.00334
$I-X$	<i>Annual rate of Change</i>	1.07
$ANR2018$	Allowable Notional Revenue under for the year ending 31 March 2018	40,210



$SP_{t,2018}^* Q_{t,t-2}$	Prices at 31 March 2018 multiplied by 2018 Base Quantities
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Note:

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Prices at 31 March 2017 multiplied by 31 March 2016 Base Quantities														
Σ P <sub>1,2017</sub> Q <sub>1,2</sub>	Tariff or Fee	Description	Number of ICPS at 31/03/16	kWh or kW or kvarh for 31/03/16	Other Qty for 31/03/16	Line Tariff 1.4.2016 to 31.3.2017 year		Notional Distribution Revenue (\$)		Notional Other Revenue (\$)	Notional Other Revenue (\$)	Total Revenue (\$)		
						\$/Day Distribution		Variable (c/kWh)	Fixed				Variable	Fixed
						Fixed	Variable							
Low User (LR)														
LRF		0 LRF Daily Price												
LUC	UN24	LRF Uncontrolled					0.137		634,203			634,203		
LA	NT18	LRF All inclusive		22,032,797				19,640	4,106,913	-		4,106,913		
LFC	GN20	LRF Controlled 20		44,146,886				6,120	6,665,101	-		6,665,101		
D16		LRF Day		1,873,765				14,320	95,936	-		95,936		
N8		LRF Night		3,816,239				3,110	646,485	-		646,485		
				1,734,632					53,947	-		53,947		
Standard User (SR)														
SUF		SRF Daily Price										-		
SUC		SRF Uncontrolled	16,086	33,176,034			0.365	17,780	2,144,996	-		2,144,996		
SA		SRF All inclusive		66,473,118				11,960	6,838,699	-		6,838,699		
SFC		SRF Controlled 20		2,821,419				6,120	7,950,105	-		7,950,105		
SD	D16	SRF Day		5,746,328				13,390	144,467	-		144,467		
SN	N8	SRF Night		2,611,833				3,110	769,433	-		769,433		
General User (G)														
GF		GRF Daily Price	4,062									-		
GUC		GRF Uncontrolled		8,377,636			0.365	17,780	641,649	-		641,649		
GA		GRF All inclusive		16,785,640				11,960	1,489,626	-		1,489,626		
GFC		GRF Controlled 20		712,468				6,120	2,007,663	-		2,007,663		
GD	D16	GRF Day		1,461,060				13,390	36,478	-		36,478		
GN	N8	GRF Night		659,659				3,110	194,296	-		194,296		
General Advanced User (GA)														
GAF		Closed	60				6.716					-		
G1				49,243				14,340	147,080	-		147,080		
G2				86,760				9,760	7,061	-		7,061		
G3				40,368				3,110	8,458	-		8,458		
CAP150				14,622,364			6.716	8,860		-		1,295,641		
Time of Use														
TOU1			67				19,127		467,761			467,761		
TOU2				8,501,417				8,880		-		-		
TOU3				18,640,643				6,040		-		754,926		
Industrial				9,048,738				0,630		-		1,119,849		
00098A310TEBBE			2									47,968		
000930310TEA66			0									-		
00098A0000TE210			1									-		
Non Standard	LDG		1									-		
Street Lights														
UMCON500									346,286	-		346,286		
UMDECL												-		
UMGL									221,178	-		221,178		
UMINT												-		
UMLDH												-		
UMLSH												-		
UMLSHLPMC												-		
UMLTH												-		
Σ P <sub>1,2017</sub> Q <sub>1</sub>														
			30,962	263,308,509	2,763				4,467,243	32,286,830	493,356	37,186,468		

Clause 11.4(e): The pricing methodology used to calculate distribution prices and pass-through prices is in accordance with the Pricing Methodology Disclosure 2017-2018 and is shown below. The full Pricing Methodology is available on the Top Energy Website; Network/Disclosures.

The figure below summarises the allocators used to allocate target revenue and the rationale for these decisions.

Cost Category	Allocator used	Rationale
Transmission costs	<i>Interconnection charges and ACOT - DG:</i> Coincident share of RCPD (kW) for industrial consumers and Anytime Maximum Demand (AMD) for other connections	Allocation of interconnection charges aligns with Transpower's use of RCPD to apportion charges at a national level.
	<i>Connection charges and ACOT - Transmission:</i> Share of AMD	Connection charges represent investment in GXP capacity. AMD broadly represents usage of this capacity.
Network Costs	Customer group demand on the system as a percentage of ORC	Spreads maintenance cost in portion to demand, weighted by the replacement cost of assets (recognising higher maintenance is usually attributed to higher cost assets).
Non-Network Costs	Regulatory Asset Base (RAB)	Spreads costs that are relatively static with the size of a customer.
Depreciation	IND: Demand (kW) General Advanced: RAB Residential/General/UM: kWh volume	Allocation based on utilisation of asset utilisation, which broadly corresponds with depreciation representing use of capital.
Pre-tax ROI	RAB	Allocates return in proportion to value of assets ODV/RAB, consistent with regulatory framework.

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

**Commerce Act (Electricity Distribution Default Price-Quality Path)**  
**Determination 2015**  
**Pass Through and Recoverable Costs**  
**for the Assessment Date 31 March 2018**

Pass Through and Recoverable Costs for year ending March 2018				
V 2018	2018	Forecast 2018	Variance (\$)	Variance (%)
Transpower	5,577,786	5,577,786	-	-
Avoided Transmission Ngawha	3,078,894	3,078,894	-	-
Energy Efficiency Incentive	-	-	-	-
Quality Incentive Adjustment	(98,322)	(99,683)	1,361	(1.38)%
Clawback	1,749,000	1,749,000	-	-
NPV Washup Allowance	651,000	651,000	-	-
Opex Incentive	-	-	-	-
Capex Incentive	22,834	22,834	-	-
IRIS (Balance from previous years difference)			-	-
Total V	10,981,192	10,979,830	1,361	0.01%
K 2018	Actual (\$)	Actual (\$)	Variance (\$)	Variance (%)
Rates	41,519	33,709	7,811	18.81%
Electricity Authority Levies	70,275	84,432	(14,158)	(20.15)%
Complaints Levy	22,795	18,732	4,063	17.83%
Commerce Act Levies	90,650	66,992	23,658	26.1%
Total K	225,240	203,865	21,375	9.49%
<b>Total Pass Through and Recoverable Costs</b>	<b>11,206,432</b>	<b>11,183,696</b>	<b>21,375</b>	<b>0.20%</b>

## Appendix D –PTB 2018 Compliance Calculations

### Commerce Act (Electricity Distribution Default Price-Quality Path) Pass Through Balance for the Assessment Date 31 March 2018

Pass Through and Recoverable Costs for year ending March 2018	
V 2018	2018
3.1.3 (1) b PTBi2018 Qi2018	11,147,743
3.1.3 (1)e Actual K 2018	225,240
3.1.3 (1) f Actual V 2018	10,981,192
3.1.3 (1)g PTBt2017	(202,657)
	(12,342)
Interest 2017 PBT	(12,342)
Total K+V (passthrough)	10,991,433
PTB 2018	(156,310)

Pass Through and Recoverable Costs for year ending March 2018 Variances to Pricing Forecast			
V 2018	Pricing Forecast 2018	Variance to Forecast	Explanation
PTBi2018 Qi2018	11,046,720	101,023	Forecast volumes were 2.2 % higher than forecast, an increase from 263.3GWh forecast to actual 269GWh. The increase in recovery is \$101K
Actual K 2018	203,865	21,375	Increase mainly due to Commerce Levies
Actual V 2018	10,842,854	138,337	PTB balance from the previous year was included in error
PTBt2017	(105,999)	(96,658)	Higher than calculated prior to Year end
		(12,342)	Interest wasn't included in the forecast
Total K+V (passthrough)	10,940,721	50,712	The increase in PTB costs to be recovered is \$50.7K
PTB 2018	(105,999)	(50,311)	Net increase in over recovery to forecast is \$50.3K



## Appendix E – Quality Standard Compliance Calculations

### Event Days exceeding Boundary Values

#### Quality Standards for Top Energy Limited Regulatory Period 1 April 2015 – 31 March 2020 Schedule 4A

##### Assessment Period Limits

SAIDI	SAIFI
516.675	6.248

##### Class C Unplanned Outage Boundary Values

SAIDI	SAIFI
29.364	0.347

Any Daily Value for Class C Interruptions greater than the Unplanned Boundary Value equals the Unplanned Boundary Value:

##### Event Days exceeding SAIDI and SAIFI Boundary Values

Date	SAIDI_C	SAIFI_C	SAIDI_C_NOF	SAIFI_C_NOF	CAUSE
11/07/2017	86.804	0.343	29.364	0.343	KOE 092 110kV breaker tripped - unknown cause, R464 failed to close
4/01/2018	51.045	0.186	29.364	0.186	Sub-tropical Storm Event - rain, high winds
5/01/2018	48.002	0.181	29.364	0.181	Sub-tropical Storm Event - rain, high winds

#### Assessed SAIDI Value

SAIDI <sub>2018</sub>	483.341
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The sum of daily SAIDI Values in the Normalised Assessment Dataset

$$SAIDI_{\text{assess}} = (0.5 \times SAIDI_B) + SAIDI_C$$

SAIDI<sub>B</sub> is the sum of the daily SAIDI Values for Class B Interruptions

SAIDI<sub>C</sub> is the sum of the daily SAIDI Values for Class C Interruptions

#### Assessed SAIFI Value

SAIFI <sub>2018</sub>	4.949
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The sum of daily SAIFI Values in the Normalised Assessment Dataset

$$SAIFI_{\text{assess}} = (0.5 \times SAIFI_B) + SAIFI_C$$

SAIFI<sub>B</sub> is the sum of the daily SAIFI Values for Class B Interruptions

SAIFI<sub>C</sub> is the sum of the daily SAIFI Values for Class C Interruptions



***Annual Reliability Assessments***

FYE	SAIDI	SAIFI
2014	464.909	5.486
2015	599.923	6.349
2016	461.799	5.639
2017	400.912	4.823
2018	483.341	4.949

## Appendix F –Quality Incentive Calculations

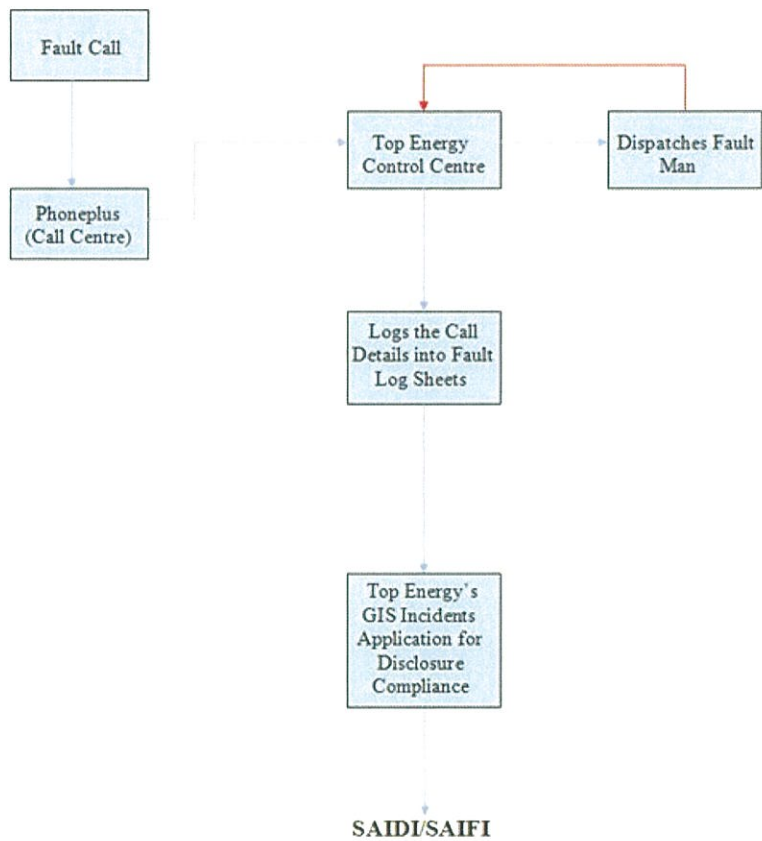
Quality Incentive Adjustment		2016	2017	2018
Term	Description	Value \$000	Value \$000	Value \$000
<i>S SAIDI</i>	SAIDI incentive	-55.506	72.809	-100.905
<i>S SAIFI</i>	SAIFI incentive	-42.815	129.120	102.558
<i>S TOTAL</i>	SAIDI incentive plus SAIFI incentive	-98.322	201.929	1.653

SAIDI Incentive		2016	2017	2018
Term	Description	Value	Value	Value
<i>SAIDI Target</i>	SAIDI target specified in DPP Determination	435.4607	435.4607	435.4607
<i>SAIDI Collar</i>	SAIDI incentive range collar specified in DPP Determination	354.2460	354.2460	354.2460
<i>SAIDI Cap</i>	SAIDI incentive range cap specified in DPP Determination	516.6753	516.6753	516.6753
<i>MAR</i>	Maximum allowable revenue for the 2015/16 year (in \$000)	34,231	34,231	34,231
<i>REV RISK</i>	Revenue at risk; 1% of MAR (\$000)	342.310	342.310	342.310
<i>SAIDI IR</i>	SAIDI incentive rate per unit; equal to 50% of revenue at risk divided by Cap minus Target (\$000)	2.107	2.107	2.107
<i>SAIDI ASSESS</i>	Assessed SAIDI value for the Assessment Period	461.799	400.912	483.341
<i>SAIDI ASSESS - FOR INCENTIVE</i>	Assessed SAIDI value for purpose of incentive	461.799	400.912	483.341
<i>S SAIDI</i>	SAIDI incentive adjustment; equal to incentive rate multiplied by SAIDI target minus Assessed SAIDI value (\$000)	-55.506	72.809	-100.905

SAIFI Incentive				
SAIFI Incentive		2016	2017	2018
Term	Description	Value	Value	Value
<i>SAIFI Target</i>	SAIFI target specified in DPP Determination	5.4359	5.4359	5.4359
<i>SAIFI Collar</i>	SAIFI incentive range collar specified in DPP Determination	4.6240	4.6240	4.6240
<i>SAIFI Cap</i>	SAIFI incentive range cap specified in DPP Determination	6.2478	6.2478	6.2478
<i>MAR</i>	Maximum allowable revenue for the 2015/16 year (in \$000)	34,231.000	34,231.000	34,231.000
<i>REV RISK</i>	Revenue at risk; 1% of MAR (\$000)	342.310	342.310	342.310
<i>SAIFI IR</i>	SAIFI incentive rate per unit; equal to 50% of revenue at risk divided by Cap minus Target (\$000)	210.808	210.808	210.808
<i>SAIFI ASSESS</i>	Assessed SAIFI value for the Assessment Period	5.6390	4.8234	4.9494
<i>SAIFI ASSESS - FOR INCENTIVE</i>	Assessed SAIFI value for purpose of incentive	5.6390	4.8234	4.9494
<i>S SAIFI</i>	SAIFI incentive adjustment; equal to incentive rate multiplied by SAIFI target minus Assessed SAIFI value (\$000)	-42.815	129.120	102.558

**Appendix G – Policies and Procedures for Recording SAIDI and SAIFI**

Top Energy Limited records data for network performance from its network Control Centre. The following flow diagram outlines the process that manages the recording and production of quality performance statistics.



**Top Energy Faults Management Process**

## 1. PLANNED OUTAGES

Planned outages are maintained by the Control Centre. They;

1. schedule the work with the Field Staff,
2. conduct and coordinate the switching on the network. These details are recorded by action, date and time on 'Switching Procedure Sheet' following a predetermined switching plan.

## 2. UNPLANNED OUTAGES

Unplanned outages are initiated either by a fault call received by our contracted Call Centre (PHONEplus) or by receiving a direct protection equipment alarm generated directly out of the SCADA system. A call detail record is entered into the Call Centre's call management system (CMS), this is completed by the Call Centre operators who identify key information about the interruption, such as: time, fault description, name and contact details of the caller.

Subsequently the Control Centre/Faults Dispatch team will dispatch a Fault Man directly or via the contractor's Faults Supervisor, log the fault, and enter the relevant details in the log. As part of managing the restoration of supply, the Control Centre Operator records the devices that are operated and the times they are operated on the 'Switching Procedure Sheet'. All HV and EHV faults are additionally recorded electronically via the SCADA system which provides an accurate record of the operation, time and date factors of the outage.

The data generated by the SCADA alarm only records faults on a feeder and the time that the circuit tripped. The event logs are not a complete switching record, as they do not provide evidence of the time that consumers down the feeder were restored.

The reason that no automatic record is created in SCADA for minor faults is that the alarms are placed on the first circuit breaker or reclosers on the feeder. The circuit breakers are designed so they do not trip needlessly with every small fault further down the feeder, meaning that there will only be alarms created for events exceeding momentary supply interruptions.

Therefore, the sources of recorded information from individual events are from three sources;

- (a) Call detail sheet from the call management system (CMS) which is logged by the Call Centre
- (b) Switching procedure sheets
- (c) Computer generated records from the SCADA System.

Once the outage is completed and all power is restored, the information gathered from the call detail sheet, switching procedure sheet, SCADA records and any other relevant information to form a network performance pack.

### 3. NETWORK PERFORMANCE PACK

The network performance pack is assembled to provide verified event data, to ensure accurate data entry into the GIS Incident Application. The time the customers are without power, number of customers affected is calculated by the GIS Incidents application. The control centre operators also allocate each fault a cause code so that they can be categorised for disclosure purposes.

### 4. GIS INCIDENT APPLICATION

Top Energy Limited has been using its fully upgraded GIS Incident Application since 1 April 2009. Top Energy Limited is recording network interruptions and generating the Network Performance Indexes, such as SAIDI and SAIFI, using this GIS Incident program. On a monthly basis, the database is reviewed for reasonableness by the Control Centre Manager. After the data is reviewed, network quality graphs and a summary monthly report of reliability statistics form part of the General Manager Network's report to the Board of Directors. On a six-monthly basis, the statistics are summarised and reported as part of the Company's Financial Report, with comparison against targets set out in the Company's Statement of Corporate Intent.

The GIS incidents system calculates customer outage minutes from the network outage data entered into the system.

The system calculates the customer outage minutes for each individual operation, by recording the time stamped operation of each switchable device and counting the number of ICP's connected beyond the device. A report is then generated from the data where the SAIDI and SAIFI are stated. For disclosure the averaged ICP count is used.

The equation used by GIS Incidents to calculate customer minutes

$$\Sigma (\text{Outage Duration}_1 \times \text{ICP Count}_1) + (\text{Outage Duration}_2 \times \text{ICP Count}_2) + \dots \text{ (and so on for each outage duration)}$$

Each GIS Incident that is inputted is reviewed and checked by the Control Centre Manager. Each month's results are checked for reasonableness, thus equates to 12 checks each year end.

A report is generated from the Report Manager, which shows the SAIDI and SAIFI calculations for the period.

For all outages the GIS Incident Application calculates the number of affected customers. The ICPs affected are automatically populated from the GIS system. With a fully integrated GIS & ICP database of our network, Top Energy uses its GIS system to report the number of customers beyond every isolation device on the network. The customer count is extracted from the GIS system, which is linked to the ICP database.

For the assessment period ending 31 March 2018, Top Energy had been using the accurate customer count as at 31 March 2017. To determine the total number of consumers on our network, Top Energy maintains an ICP database (Club ICP) which is based on the industry-maintained Registry equivalent. The ICP database has been maintained consistently in compliance with relevant Rules and Regulations. The result is used for internal reporting and performance management throughout the year. For disclosure purposes the average of the Total ICP counts at 31 March year start and 31 March year end.

The Customer count data is taken from the Electricity Registry.

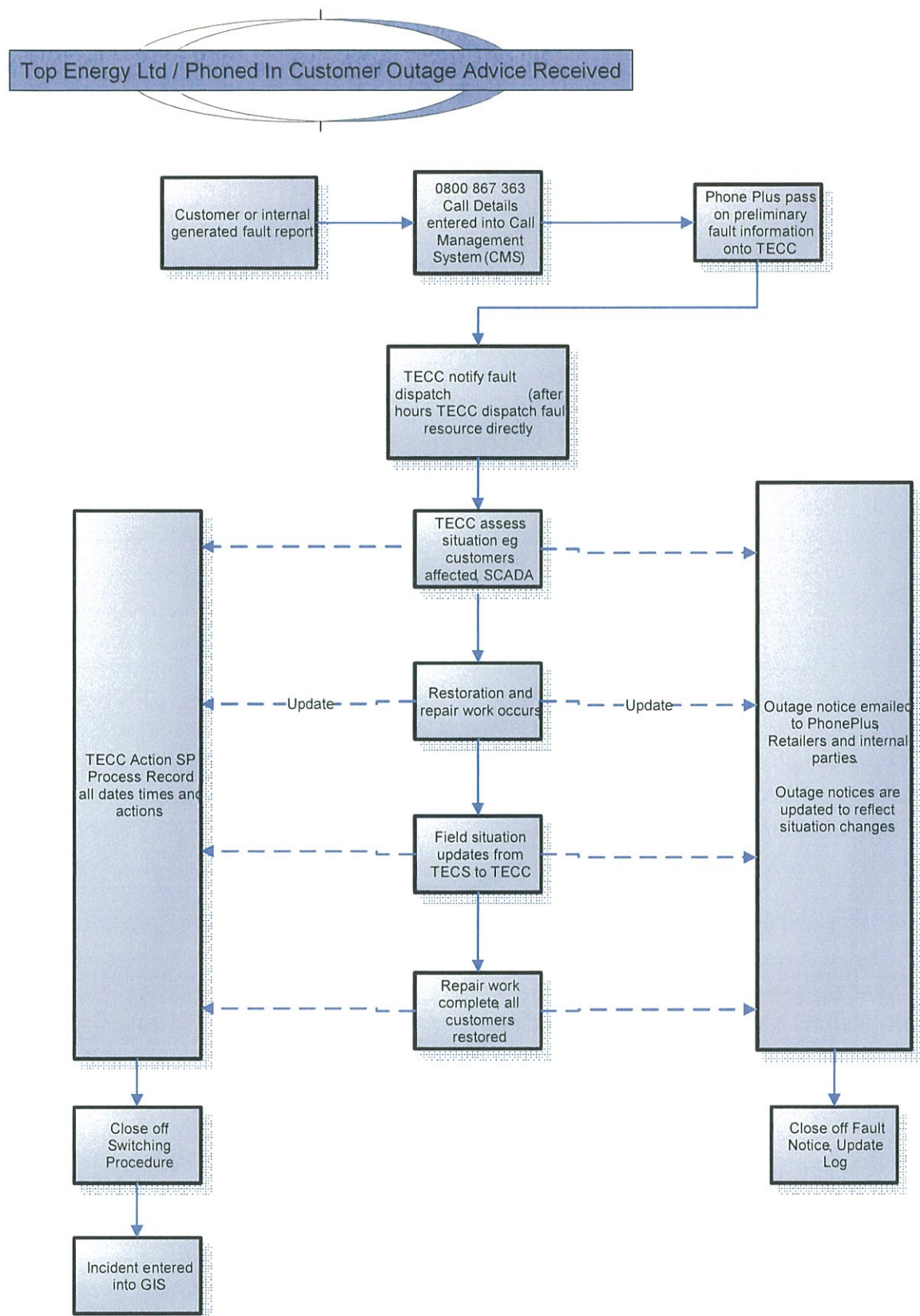
The average ICP count for 2018 was calculated as the sum of the 31 March 2017 + 31 March 2018 ICP counts divided by 2.

To ensure the accuracy of ICPs in Geographical Information System (GIS) an automatic trace is set to run on a daily basis. The trace runs through the connected model and gathers total ICPs per feeder. The trace results are compared against the previous days trace and outputted into a report showing the difference between the two traces, categorized by feeder. The report is e-mailed to the GIS Manager each morning and reviewed. If there is a significant ICP difference the connectivity of the feeder is further investigated in GIS, and when remedied the trace is rerun manually.

In addition, a weekly trace is run to ensure number of ICP's in Club ICP database matches number of ICPs connected in GIS by the GIS Administrator. The report outputs total number of ICPs in Club ICP application and the total number of ICPs in GIS, the difference between the two databases categorised by feeders. The report also lists ICP numbers which are not placed in GIS. This report is reviewed and rectified by GIS Technician as appropriate.

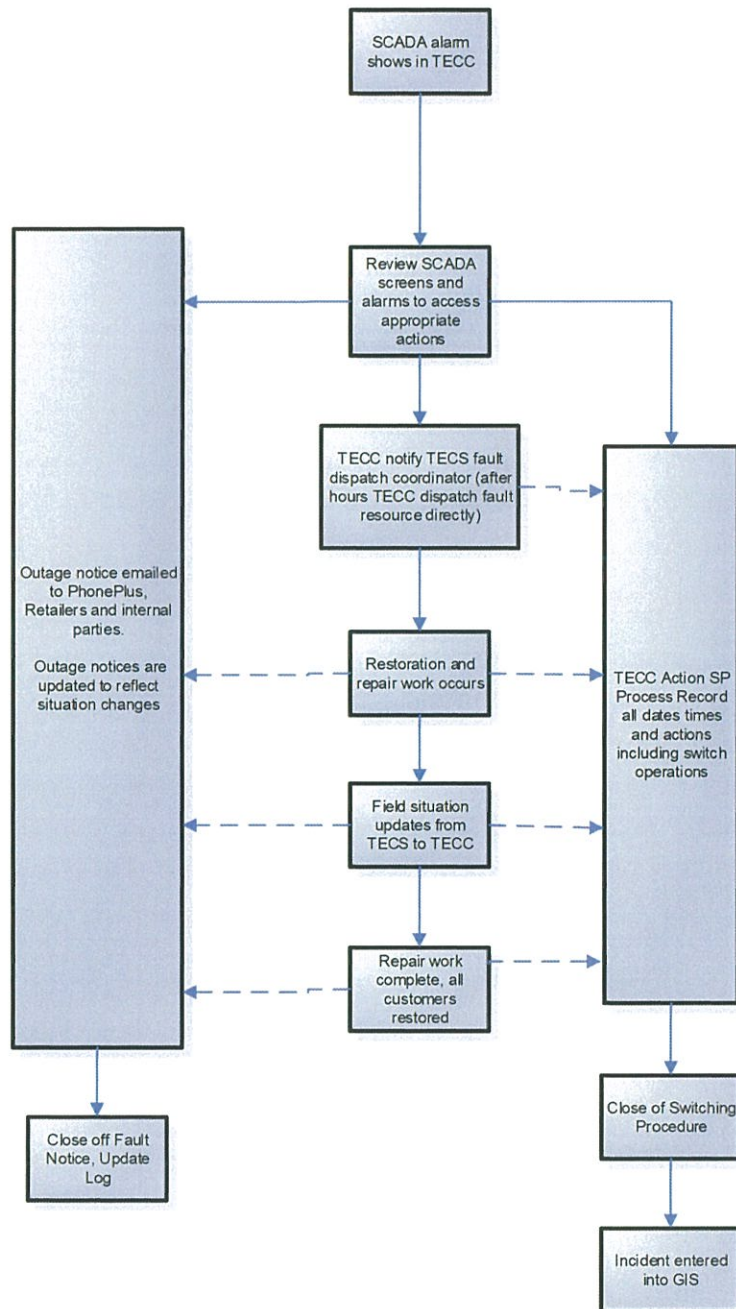


## 5. PHONED IN CUSTOMER OUTAGE ADVICE

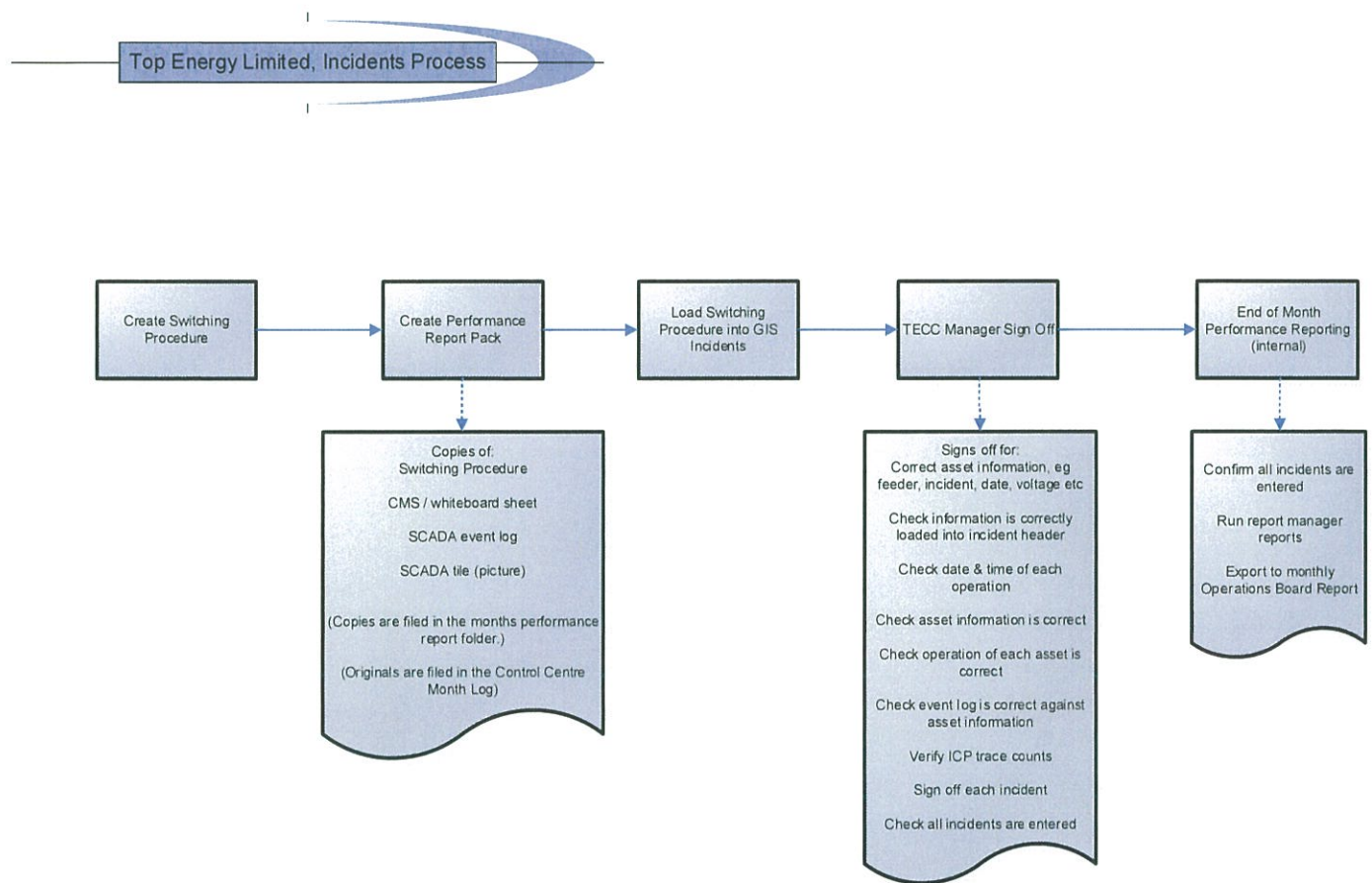


## 6. SCADA GENERATED OUTAGE ADVICE

### Top Energy Ltd / SCADA Generated Fault Outage Advice



## 7. INCIDENTS PROCESS



## 8. PROCESS FOR SUPPLYING OUTAGE DATA FOR AUDITOR

Top Energy Network Operations will receive a request in the following March of each year to provide a spreadsheet of Top Energy outage events. The Auditor will specify a selection of outage events for compliance audit. Once the audit selection process has been confirmed, Top Energy will package the relevant outage information and hold on site ready for the audit.

