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21 January 2013

Lord Dalgety  
Electricity Commission  
Tu'atakilangi  
Nuku'alofa

Dear Lord Dalgety

### **Compliance Reporting for the Month of January 2013**

In accordance with the reporting requirements of the Electricity Concession Contract and in response to your request for additional information as specified in the suggested MOU dated May 2012, TPL submits the following reports for the month of January 2013.

1. System Loss Report
2. Reliability Measures
3. Monthly Outage Events
4. Quarterly Capex Update
5. Quarterly RAV Update

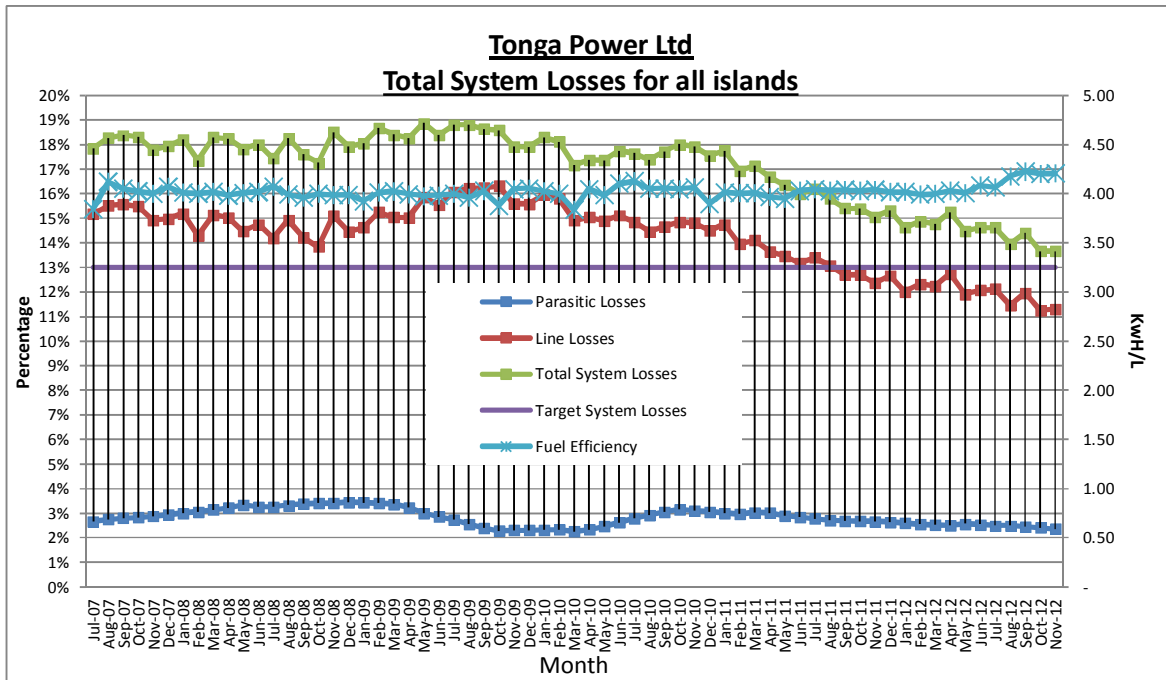
The above report items are described in detail below.

#### **1. System Loss Report**

The following graph illustrates the past 12 months moving average (smoothed) of systems losses for all four islands for the period Jul 2007 – Nov 2012. The graph indicates that the total losses for all four islands remain unchanged at 13.67% (in November 2012). However, on real time basis (disregarding 12 months moving average), overall losses have increased from 10.03% (in October) to 13.79% (in November) for all islands. It was noticed, on a real time basis, that Tongatapu losses have increased (from 8.92% to 14.18%). The real time losses have significantly decreased for all the other islands. The real time monthly losses variability can be explained by the impact of the number of days and fall of the weekends in respect to meter reading cycle.

It was observed that fuel efficiency is effectively unchanged from 4.20 Kwh/L in October to 4.21 Kwh/L in November 2012.

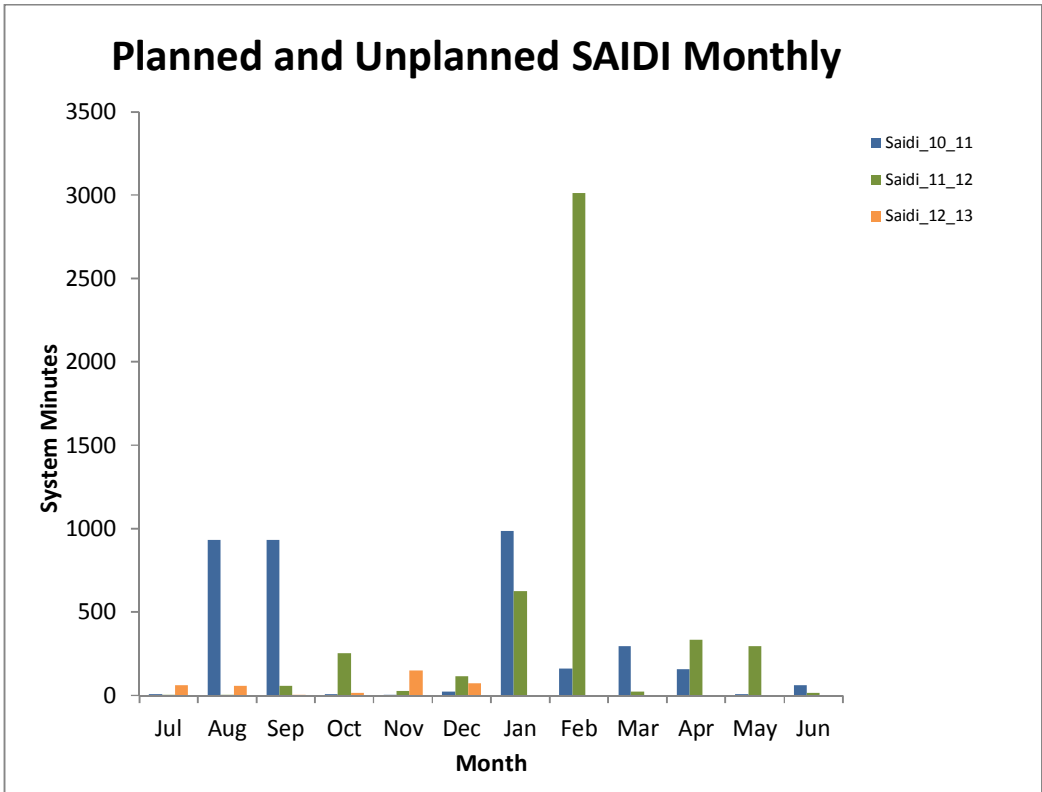
Please refer to the attached excel file 'System Loss Report December 2012' for further details.



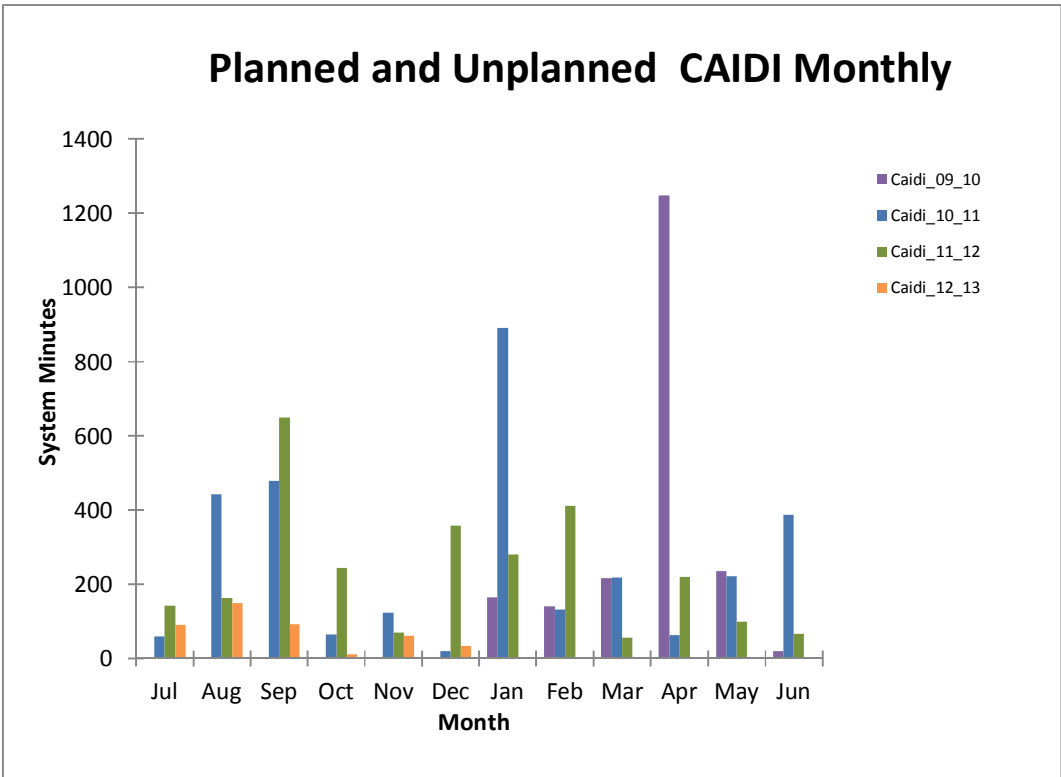
## 2. Reliability Measures

SAIDI minutes (measuring average total duration of interruption per connected customer) for the month of December have significantly decreased from 150.73 minutes (November 2012) to 73.28 minutes (December 2012). Sixteen HV faults have contributed to the SAIDI losses which include:

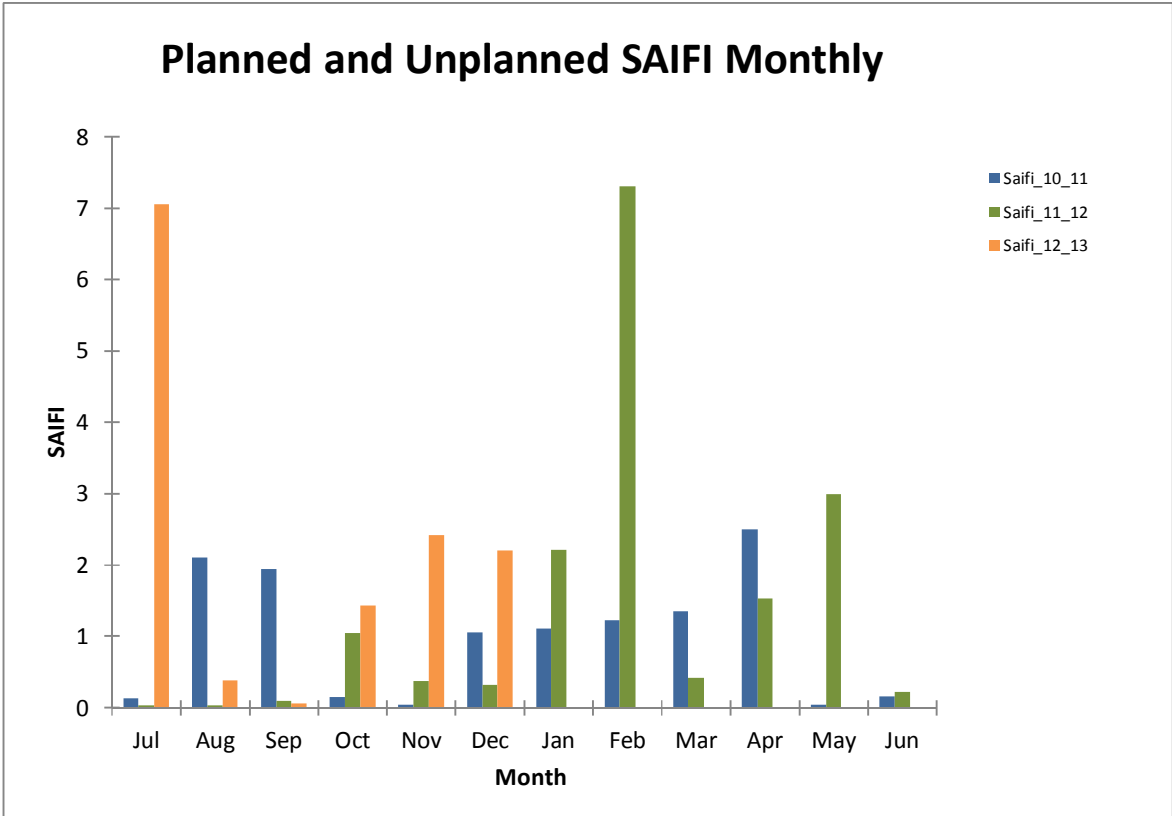
- Two generation (unplanned) faults: 1. The Popua Power Station was out due to a generator mechanical failure. 2. The second was caused by a coconut tree that fell on a line on one of the rural end spurs on the Vaini Feeder, for an unknown reason, the resulting multiple phase contact caused the entire generation station at Popua to trip out. The breaker on the Vaini feeder failed to isolate the generators from the fault, causing the blackout.
- One from HV line (Planned shutdown) for maintenance/Village upgrade work on HV line
- 11 from HV line (Unplanned) due to broken conductors, DDO Blown fuses, trees rubbing on the HV lines etc.
- Two from HV pole (Unplanned) broken due to vehicle accident



CAIDI minutes (measuring average total duration of interruption per interrupted customer) for the month of November have also decreased from 62.32 minutes (in November) to 33.78 minutes (in December).

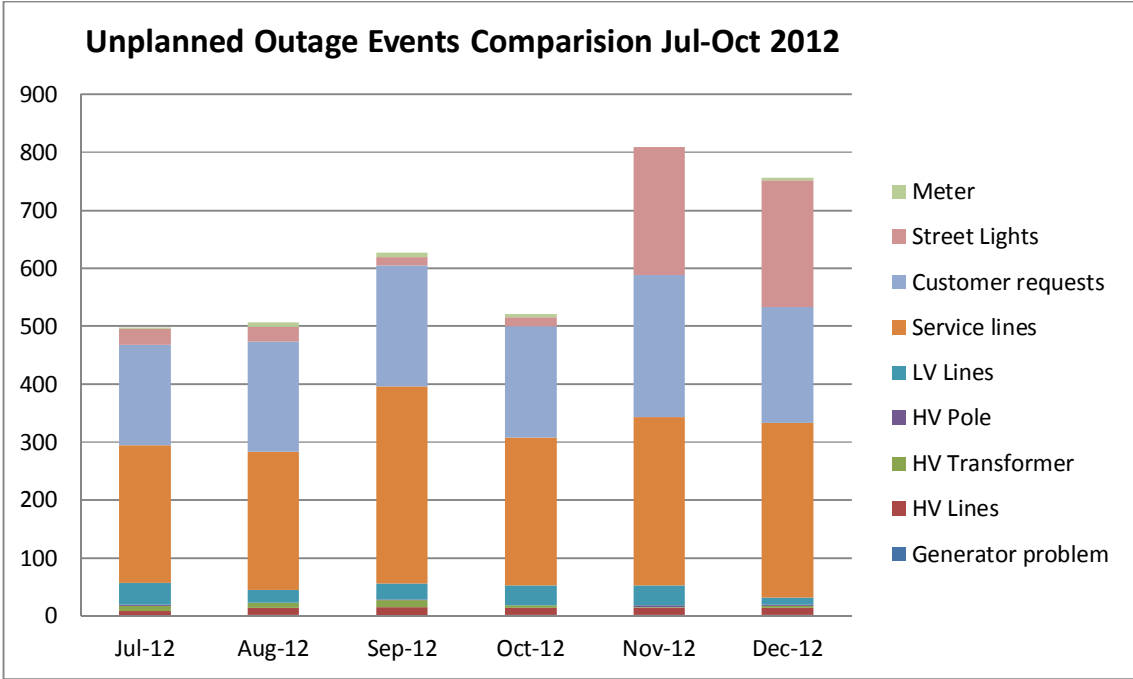


SAIFI (measuring average number of interruptions per customer) has slightly decreased from 2.42 (in November 2012) to 2.2 (in December).



Further information on SAIDI, SAIFI and CAIDI indicators can be found in the attached excel file named Reliability Measures December 2012.

**3. Monthly Outage Events**



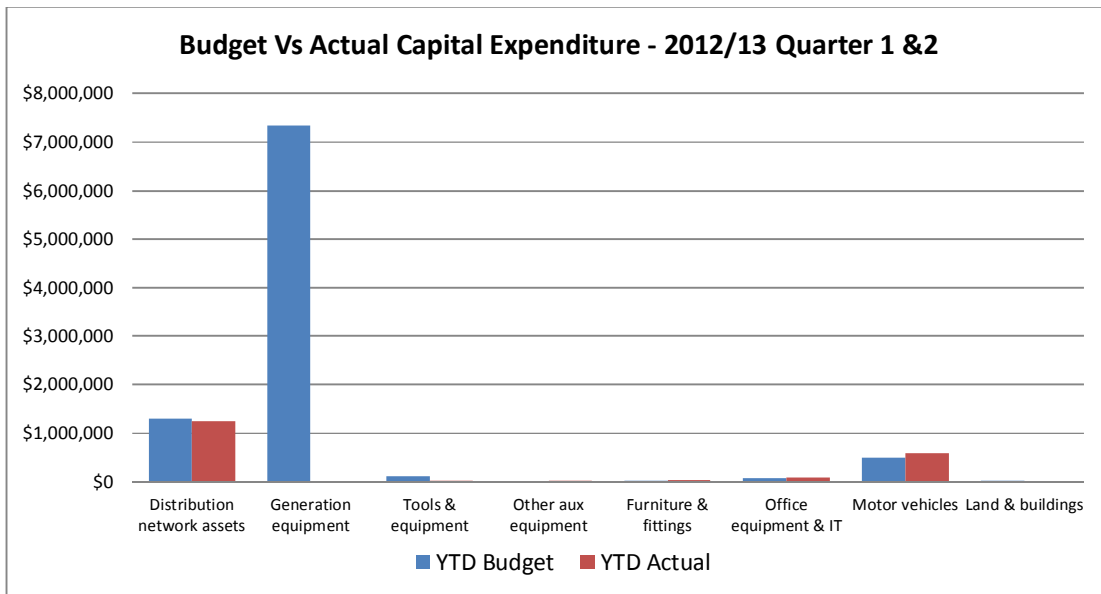
There were total 756 fault events for the month of December affecting 33,625 customers. As per the graph above, the number of fault events have slightly decreased to 756 events in December, from 810 events in November. The faults constitute mostly customer (201 faults), street lights (217 faults) and service lines (301 faults). Most of the customer services faults include fuses at the service line tap off point for a premise. Most of the street light faults were caused by the poor state of street lights mainly around control box equipment. This caused the staff to receive many complaints of light strings being left off at night, or perhaps left on in the daytime. Distribution staff are waiting for supplies of suitable replacement parts to help alleviate this issue. There have been several vehicles versus pole incidents, while we get these regularly they were slightly higher given the festive season over December.

A detailed breakdown of all fault events for the month can be found in the attached file named Monthly Fault Events December 2012.

#### 4. Quarterly Capex Update

The table and the graph below show the capital expenditure for the first and the second quarters of the year 2012/13. It can be noticed that generation budget have not yet realised in actual terms. The new generator (2.88MW MAK Generator No. 8) installation project has now been approved and expenditure incurred as the project progresses will be shown starting in the next Capex update.

2012-2013 (Current Year)															
Annual Budget (B)	Budget Variance (%) (A) vs. (B)	Q1 Budget	Q1 Actual	Q1 Variance	Q2 Budget	Q2 Actual	Q2 Variance	Q3 Budget	Q3 Actual	Q3 Variance	Q4 Budget	Q4 Actual	Q4 Variance	YTD Budget	YTD Actual
\$3,366,158	14.76%	\$511,957	\$505,270	\$6,687	\$785,492	\$735,195	\$50,298							\$1,290,762	\$1,240,465
\$9,953,179	-6.57%	\$5,698,098	\$0	\$5,698,098	\$1,645,599	\$0	\$1,645,599							\$7,343,697	\$0
\$142,000	3450.00%	\$100,071	\$646	\$99,425	\$13,976	\$5,069	\$8,907							\$114,047	\$5,715
\$0	0.00%	\$0	\$2,094	-\$2,094	\$0	\$189	-\$189							\$0	\$2,282
\$35,590	789.75%	\$5,260	\$5,921	-\$661	\$10,110	\$21,238	-\$11,128							\$15,370	\$27,159
\$176,286	226.46%	\$11,000	\$51,912	-\$40,912	\$55,095	\$18,657	\$36,438							\$66,095	\$70,569
\$732,464	688.81%	\$372,714	\$375,045	-\$2,331	\$119,917	\$212,629	-\$92,712							\$492,631	\$587,674
\$11,700	0.00%	\$2,925	\$0	\$2,925	\$2,925	\$0	\$2,925							\$5,850	\$0
<b>\$14,417,377</b>	<b>4.50%</b>	<b>\$6,702,025</b>	<b>\$940,888</b>	<b>\$5,761,137</b>	<b>\$2,633,115</b>	<b>\$992,976</b>	<b>\$1,640,139</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$9,328,452</b>	<b>\$1,933,864</b>



As per distribution capex, the graph shows that the distribution department spent most the first two quarters budget as planned (\$1.24m budget vs. \$1.29 actual) on replacing ageing/missing LV/HV poles, replacing new transformer structures and meter replacements capex items.

Refer to the excel files 'Capex Summary for the Regulatory Period 2008-2015' and 'Capex Reconciliation July-Dec 2012' for further information on first quarter capital expenditure.

## 5. Quarterly RAV Update

<b>Actual Results</b>						
<b>Description</b>	<b>2008-09</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13 Q1</b>	<b>2012-13 Q2</b>
Opening Net Book Value	30,123,378	29,512,275	32,667,062	36,964,833	38,203,683	38,455,675
Generation Capital Expenditure	-	2,350,792	1,912,142	52,767	-	-
Distribution Capital Expenditure	385,605	1,952,145	3,638,383	3,483,179	505,270	1,240,465
Office Computers & Equipment	33,279	87,064	463,620	106,854	51,912	70,569
Furniture & Fixtures	4,007	13,221	20,532	18,850	5,921	27,159
Tools & Equipment	55,206	114,239	133,812	61,455	646	5,715
Vehicles	213,121	638,415	503,709	159,492	375,045	587,674
Other Auxiliary Equipment	1,348	31,467	93,001	-	-	2,282
Building	128,863	80,944	463,462	28,359	-	-
Disposals and Retirements	-	(329,007)	(614,553)	-	-	-
Depreciation on Opening RAV	(1,369,244)	(1,369,244)	(1,369,244)	(1,369,244)	(342,311)	(342,311)
Depreciation New Assets	(63,289)	(415,248)	(947,092)	(1,302,862)	(344,491)	(383,169)
Closing Estimated RAV	29,512,275	32,667,062	36,964,833	38,203,683	38,455,675	39,664,059

With the addition of new capital expenditure for the second quarter, the new RAV is recorded as \$39,664,059 as at 31 December 2012.

Should you have any queries with the information provided, please do not hesitate to contact me.

Yours Faithfully,  
 Ajith Fernando  
 Risk & Compliance Manager  
 Tonga Power Limited

### Attachments:

- System Loss Report December 2012
- Reliability Measures December 2012
- Faults Events December 2012
- Capex Summary for the Regulatory Period 2008 – 2015
- Capex Reconciliation July-Dec 2012