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13 May 2013

Lord Dalgety  
Electricity Commission  
Tu'atakilangi  
Nuku'alofa

Dear Lord Dalgety

### **Compliance Reporting for the Month of May 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 May 2013.

1. System Loss Report – April 2013
2. Reliability Measures – April 2013
3. Monthly Outage Events – April 2013
4. Insurance Review – 2012/13

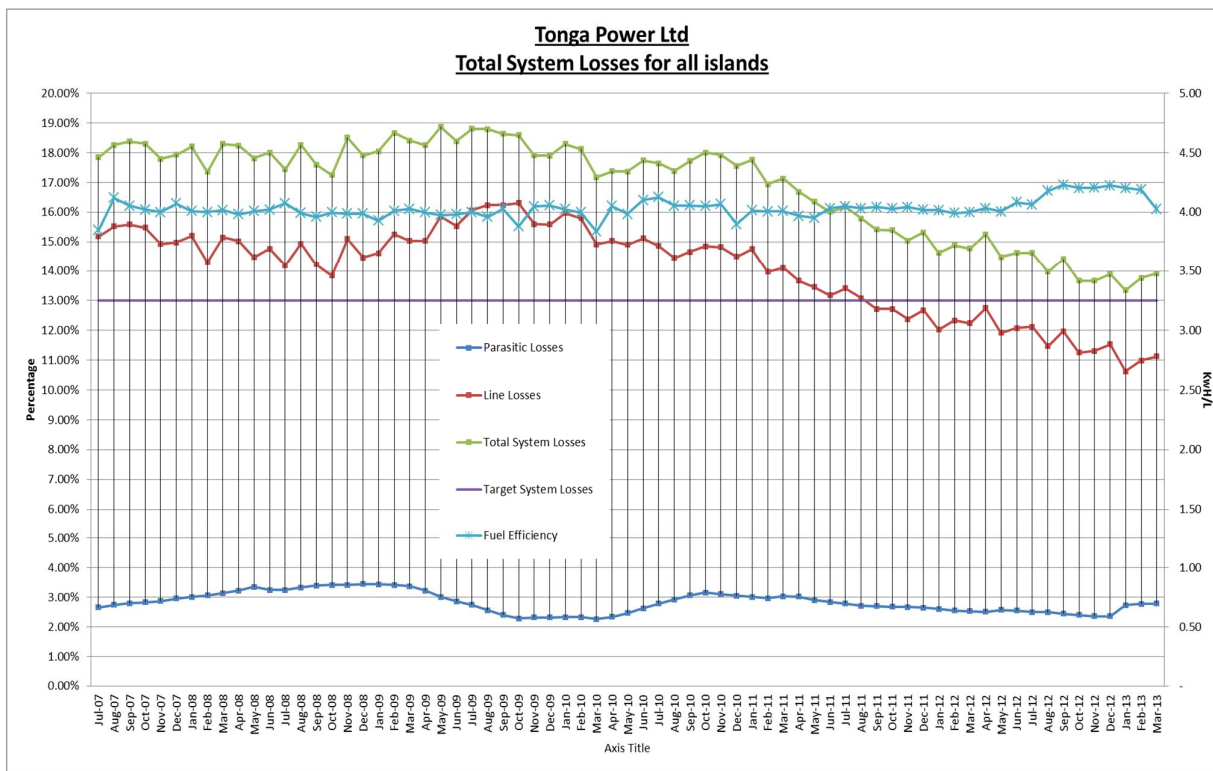
The above report items are described in detail below.

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

The following graph illustrates that the past 12 months moving average (smoothed) of systems losses for all four islands for the period July 2007 – March 2013. The graph indicates that the total losses for all four islands have slightly increased from 13.76% (February, 2013) to 13.91% (March, 2013). However, on a real time basis (disregarding 12 months moving average), total systems losses have decreased from 15.42% (February, 2013) to 12.01% (March, 2013). Whilst Vava'u, Ha'apai and 'Eua moving average losses have not changed much, Tongatapu moving average losses have slightly increased from 13.56% in February 2013 to 13.78% in March 2013.

Fuel efficiency for all four islands has slightly decreased from 4.19 Kwh/L in February, 2013 to 4.03 Kwh/L in March, 2013.

Please refer to the attached excel file System Loss Report April 2013 for further details.



## 2. Reliability Measures

SAIDI minutes (measuring average total duration of interruption per connected customer) for the month of April, 2013 have significantly increased from 134.90 (March 2013) to 339.33 (April 2013) minutes (see the table below).

Reliability Measures											
SAIDI Monthly Performance			CADI Monthly Performance				SAIFI Monthly Performance				
Month	2010/11	2011/12	2012/13	Month	2010/11	2011/12	2012/13	Month	2010/11	2011/12	2012/13
Jul	7.74	4.74	638.62	Jul	60.7	143.09	90.44	Jul	0.13	0.03	7.06
Aug	935.29	4.51	57.31	Aug	443.33	161.45	148.47	Aug	2.11	0.03	0.39
Sep	933.55	59.19	5.66	Sep	477.69	649.6	92.61	Sep	1.95	0.09	0.06
Oct	9.35	253.89	16.05	Oct	64.33	243.63	11.23	Oct	0.15	1.04	1.43
Nov	4.35	25.49	150.73	Nov	123.68	69.34	62.32	Nov	0.04	0.37	2.42
Dec	20.42	115.19	74.28	Dec	19.48	358.97	33.78	Dec	1.05	0.32	2.2
Jan	984.8	622.62	177.39	Jan	889.45	280.26	114.76	Jan	1.11	2.22	1.55
Feb	162.32	3010.76	282.85	Feb	131.96	412.1	363.77	Feb	1.23	7.31	0.78
Mar	296.37	23.32	134.9	Mar	219.53	55.81	62.17	Mar	1.35	0.42	2.17
Apr	157.89	336.9	339.33	Apr	63.18	219.97	190.62	Apr	2.5	1.53	1.78
May	8.22	294.55		May	222.5	98.59		May	0.04	2.99	
Jun	62.22	14.72		Jun	387.96	66.45		Jun	0.16	0.22	

The major HV faults contributed to the SAIDI increases are described below:

Report_Date	Fault_Description	Repair_Comment	No_of_Customers_Off
20/04/2013	Broken pole	Broken pole due to accident so the repair shut down the power from hoi all the way to Niutoua and wait for the line man to bring a new pole and replace the pole. Vehicle licence plate # J 2 9 6 2.	10106
20/04/2013	OFF POWER	ON POWER FROM HOI---NIUTOUA	10106
25/04/2013	Power Shutdown		5021
30/04/2013	Power shut down	They shut down the power to remove HV line from cross arm	1000
05/04/2013	Broken pole H.V.	Broken H.V. power pole by accident [ hit and run ] Broken power pole in front of Tupou High School at Vaololoa. [Power shut down from Kapeta air breaker switch up to Tofoa. including Tonga Water Board at Mata Ki 'Eua ]	300
08/04/2013	SHUT DOWN	SHUT DOWN POWER FROM TOKOMOLOLO TO MAKAPAE... REPAIR STAND BY Tokomololo THEY REACH THERE AT 19:25 and SHUT DOWN POWER AT 19:30...JOB COMPLETE AT POPUA POWER SWITCH ON FOR ALL THIS AREA AT 21:30... POWER BACK TO NORMAL...	150
11/04/2013	Conductor broken	Conductor broken in HV line and also blown fuse so ha'avakatolo to ha'atafu were all off so they fix it and replace it with [ Yellow phase ]	100

CAIDI minutes (measuring average total duration of interruption per interrupted customer) for the month of April 2013 have also increased significantly from 62.17 minutes (March, 2013) to 190.62 (April, 2013) minutes.

SAIFI (measuring average number of interruptions per customer); however, has decreased from 2.17 (March, 2013) to 1.78 (April, 2013). Refer to the table above.

### 3. Monthly Outage Events

Unplanned Outage Events	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13
Generator problem	0	2	0	2	2	2	3	1	3	2
HV Lines	8	12	15	11	11	12	9	42	5	9
HV Transformer	10	9	12	6	2	4	6	16	7	3
HV Pole	2	0	1	0	4	2	1	1	2	4
LV Lines	37	22	28	34	34	12	61	69	68	35
Service lines	238	238	340	255	291	301	235	354	569	328
Customer premises	173	190	209	192	244	201	234	221	360	220
Street Lights	27	26	15	15	221	217	224	155	36	34
Meter	3	8	7	6	1	5	3	6	9	4
Total	498	507	627	521	810	756	776	865	1059	639

There were total of 639 unplanned fault events for the month of April, 2013 affecting 27,216 customers. As per the table above, the number of fault events has decreased from 1059 events in March, 2013 to 639 events in April, 2013. The faults were mostly constitutes of customer (220 faults) and service lines (328 faults). In April, 2013, both service line and customer premises faults have decreased due to better weather conditions. Most of the customer services faults include fuses at the service line tap off point for a premise. Street lights faults have not changed much.

### 4. Insurance Review

The insurance review supplied to EC last year is still valid until July 2013. The updated insurance policy review will be sent to EC in September 2013 along with the EC Annual Report.

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 April 2013
- Reliability Measures April 2013
- Faults Events April 2013
- Insurance Review 2012/13