25 August, 2014

Lord Dalgety
Electricity Commission
Tu’atakilangi
Nuku’alofa

Dear Lord Dalgety


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 July, 2014.

1. System Loss Report
2. Fuel Efficiency Report
3. Reliability Measures Report
4. Monthly Outage Events Report

The above report items are described in detail below.

1. System Loss Report, June 2014

The following graphs illustrate the 12 months Moving Average (smoothed) Systems Losses for all four islands for the years 2012/13 and 2013/14. The 12 months moving average losses are used because of the variability of monthly Real Time Systems Losses due to the impact of the number of days and fall of the weekends in respect to meter reading cycle. In addition, system loss report is always one month late as last month consumption data (i.e. meter readings) will only be read this month and available to report next month. Hence July EC Report contains only June system loss data.
For the month of June, 2014, all island moving average system losses have slightly decreased from 12.59% (May, 2014) to 12.29% (June, 2014) achieving the regulatory target 13%.
The individual island group’s system losses are shown below.

The graph above shows that Tongatapu systems losses have decreased from 12.60% (May) to 12.26% (June).

Vava’u losses have been steady since March, 2014 to June, 2014 at around 12.8%.
Ha’apai system losses have always been below target until January, 2014. Since January, system losses have increased due to Cyclone Ian effect.

Eua systems losses are trending downwards, and fell below 13% target in May but increased again in June.
2. Fuel Efficiency Report, June 2014

It is important to note that fuel efficiencies calculated here include both diesel and solar generation. Hence the following fuel efficiencies are somewhat higher than than the diesel only generation. Targets in the Concession Contract have been stipulated for diesel generation only.

Tongatapu fuel efficiency ratios have been erratic, but most of the time above the target.

Vava’u fuel efficiency ratios have been well above the target due to the two new 600KW generators commissioned in May, 2010 and the introduction of Vava’u solar farm which was commissioned in November 2013.
Mostly, fuel efficiency ratios have been under achieved in Haapai but increased to a record high in March and May, 2014.

Mostly, fuel efficiency ratios have been under achieved in Eua.
Overall, all island fuel efficiency ratios have been above weighted average target of 4.17 KWh/L.

3. Reliability Measures, July 2014

<table>
<thead>
<tr>
<th>Reliability Measures</th>
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<tr>
<td><strong>SAIDI Monthly Performance (Minutes)</strong></td>
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SAIDI minutes (measuring average total duration of interruption per connected customer) for the month of July, 2014 have significantly increased from 87.19 (June, 2014) to 171.37 (July, 2014) minutes (see the table above). Some of the major HV faults contributed to the SAIDI minutes for the month of June are described below.
Cumulative SAIDI YTD is showing below. The annual target is 5% less than the last year’s value.

CAIDI minutes (measuring average total duration of interruption per interrupted customer) for the month of July 2014 have however decreased from 145.14 minutes (June, 2014) to 106.45 minutes (July, 2013).
Cumulative CAIDI YTD is showing below. The annual target is 5% less than the last year's value.

SAIFI (measuring average number of interruptions per customer) has also increased significantly from 0.60 (June, 2014) to 1.61 (July, 2014).

Cumulative SAIFI YTD is showing below. The annual target is 5% less than the last year's value.

There were total of 572 planned & unplanned fault events for the month of July, 2014 affecting 56,324 customers (it is possible that several outages would have struck the same customer more than once). As per the table above, the number of fault events has slightly increased from 490 in June, 2014 to 572 events in July, 2014. HV/LV lines/transformer faults have increased from the last month. Both customer premises faults and the service line faults have increased. Most of the customer services faults included fuses at the service line tap off point for a premise. Street lights faults however have increased.

In total, the number of faults has decreased significantly from same month last year from 762 (July 2013) to 572 (July, 2014). There is no correlation between the 2013 and 2014 figures.

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