

Wharf T&T Limited (SBO #015)

Preliminary Report on Service Degradation on 12 August 2014

1 Introduction

This preliminary report is submitted by Wharf T&T Limited (“WTT”) pursuant to its Services-Based Operator (“SBO”) Licence.

WTT provides residential voice service pursuant to its SBO Licence which is marketed and operated by i-Cable Telecom Limited (“i-Cable”). WTT does not offer or provide residential broadband service.

This report summarizes the service degradation incident on 12 August 2014. At around 15:30, one of the UPS (Uninterrupted Power Supply) at WTT Tsuen Wan Central Office (CO) failed.

The incident affected the Digital HomeLine (“DHL”) service, which is an IP telephony service, and affected an estimated 41,777 customers.

2 Incident Description

The incident occurred at around 15:30 due to the malfunctioning of the parallel control board of one of the UPS inverters at WTT Tsuen Wan CO. This incident occurred despite that the UPS was designed with 1+1 protection such that in the event of board failure it would trigger the switchover to the isolation transformer for continuous power supply. Unfortunately, the transformer was faulty and failed to supply power. Such exceptional double failure caused total failure of the UPS.

The incident was detected by WTT Network Management Center (NMC). NMC immediately despatched CO facility management engineers and network operation engineers to the site. Network operation engineers alerted senior management and customer service staff to enable them to timely respond to customer inquiries on the problem and the progress of service recovery.

Most of the DHL service was resumed by 16:50. The circuit breaker was turned off in order to check that the power supply was stable. This then caused a temporary interruption of service from 17:57 to 18:07. By 18:07 all DHL service was resumed normal.

3 Services and Customers Affected

DHL service was affected.

The estimated number of customers affected is 41,777.

4 Event Log on 12 August 2014 on Incident and Recovery Action

Time	Event
15:30	NMC detected system alarm and diagnosed to be UPS power failure at Tsuen Wan Central Office. Immediately informed Central Office Facility Management (COFM) engineer to check.
16:05	COFM engineers arrived on site.
16:15	UPS A/B observed inverter alarm and no output.
16:20	Facility maintenance contractor arrived on site. Reset UPS alarm for trial without success.
16:25	IP voice broadband switches were connected to non-essential AC power.
16:50	Most of the DHL service resumed normal.
17:00	Power down/ up UPS for emergency recovery without success.
17:10	Facility maintenance contractor advised that the fault might be caused by parallel control board and isolation transformer failure.
17:30	Facility maintenance contractor started cable connection bypass of isolation transformer for emergency restoration.
17:57	Breaker was turned off to perform thorough check for power supply stability assurance.
18:07	All DHL services resumed normal after breaker was turned on.
20:05	Completed the cable connection to bypass the isolation transformer and faulty parallel control board replacement of UPS.
20:15	Power up and resumed UPS for testing.
20:35	UPS resumed to normal.
13/8/2014 00:00	Fallback the non-essential AC power to UPS and confirmed all normal.

5 Remedial Actions

Upon the UPS failure, the immediate action was to restore service to customers with temporary non-essential AC power.

Once NMC diagnosed the cause to be UPS failure, the COFM, facility maintenance contractor and network operation engineers were notified to attend on site for trouble shooting and service restoration. In parallel, network operation team informed and kept in close contact with senior management and customer service staff to provide information updates.

The faulty UPS parallel control board was replaced to restore the UPS power. A power cable was laid to bypass the faulty isolation transformer to prevent single point of failure before the isolation transformer fault was fixed.

WTT is working closely with facility maintenance contractor for improvement and preventive measures.

6 Root Cause

The investigation suggests that the root cause of the incident was due to the double failure of the parallel control board of the UPS inverter and the isolation transformer. This was totally unexpected as WTT regularly (at quarterly intervals) inspect and carry out preventive maintenance. The latest inspection and preventive maintenance were carried out on 30 June 2014 and there was no problem identified.

7 Communications with Customers

- IVR ad hoc message announcement from 17:50 to 20:48
- Customer service agents were briefed to handle related enquires consistent with the IVR ad hoc message

8 Communications with OFCA

Communication by i-Cable on behalf of WTT 12 August 2014:

- 17:38 – telephone call was made to OFCA notifying OFCA that DHL service was down and details would be provided
- 18:16 – preliminary outage report was emailed to OFCA
- 18:31 – email acknowledgement of receipt of report from OFCA
- 18:30 – telephone call from OFCA to check status and it was informed that matter was still under investigation
- 19:24 – call to OFCA that problem was fixed
- 19:49 – email to OFCA that problem was fixed at 19:10 and outage report will be provided soon

WTT wishes to clarify that DHL service was restored by 18:07 on the same day. WTT further clarifies that only DHL service was affected by the incident.

9 Conclusion

WTT regrets the incident that has caused service impacts to its valued customers and concerns to OFCA.

We understand the importance of telecommunications service to our customers and to that end we will continue to use our best endeavor to deliver the high standard of service that our customers have come to expect from us.

In closing, we note that OFCA is currently consulting with industry on extending the Guidelines for Fixed and Mobile Network Operators for Reporting Network Outage to major SBO licensees. As of today the said guidelines do not require reporting of the incident to OFCA by SBO Licensees providing IP telephony service. In any event WTT will co-operate with OFCA and answer any queries that OFCA may have on this incident.

Thank you.

Submitted by Wharf T&T Limited

15 August 2014