

Review of Methodology for the Calculation of Universal Service Contribution

Industry Consultation Paper

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Purpose

This paper consults the industry on the changes proposed by the Telecommunications Authority (TA) to the methodology for the calculation of Universal Service Contribution (USC) in view of the recent changes in the regulatory environment in both domestic and external services markets.

Introduction

2. Universal Service Obligation (USO) is the responsibility of providing good, efficient and continuous basic telecommunications services at reasonable cost on a non-discriminatory basis to all persons in Hong Kong. This obligation is explicitly set out in the special conditions of the Fixed Telecommunication Network Services (FTNS) Licence granted to Cable & Wireless HKT FTNS (CWHKT FTNS)¹. The responsibility of providing universal service will rest with CWHKT FTNS, insofar as it remains the dominant local fixed network operator, unless otherwise specified by the TA.

3. Given this licence obligation, CWHKT FTNS is entitled to receive contribution from other operators to assist it in meeting its USO. Universal Service Contribution (USC) is defined in the special conditions of the FTNS licence as “that sum calculated in accordance with a formula adopted annually by the [Telecommunications] Authority,

¹ “Cable & Wireless HKT FTNS” means the group of companies comprising Cable & Wireless HKT Telephone Limited, Cable & Wireless HKT International Limited and Cable & Wireless HKT CAS Limited.

to ensure that the Hong Kong Telephone Company [now CWHKT FTNS], where it has a universal service obligation, and any other licensee with such an obligation, as the case may be, receives fair contribution from other FTNS licensees² towards the costs, net of attributable revenues, of serving customers with Basic Service³ whom would otherwise not be served because it is not economically viable to do so but who are required to be served under the universal service obligation.”

4. The regulatory environment has been substantially changed since January 1998 when the TA Statement on the Universal Service Arrangements was issued. The Government concluded the Framework Agreement with Cable & Wireless HKT Limited (CWHKT) on 20 January 1998 (the “Framework Agreement”). This led to the permission for re-balancing of the residential telephone rental over a 3-year period commencing from 1 January 1999 and the lifting of price cap on commercial telephone lines from 1 July 1998. CWHKT FTNS took a commercial decision to defer the commencement of the tariff re-balancing to 1 September 1999 when it raised the residential telephone line tariff to HK\$90 per month, the level permitted under the Framework Agreement. Full external services liberalisation commenced on 1 January 1999 and the scope of the services under the FTNS Licence has been expanded to include the provision of external services by the universal service provider. The delivery fee arrangements have been replaced by a local access charge (LAC) over Category A routes and a modified delivery fee arrangement over Category B traffic. Broadband services which are delivered to the end users through the telephone lines

² In accordance with the framework set out in the TA Statement issued on 14 January 1998 on “Universal Service Arrangements: the Regulatory Framework”, the scope of the contributing parties has been expanded to include all providers of IDD-type external telecommunications services.

³ Basic Service comprises a public switched telephone service, a reasonable number of public payphones including payphones located within publicly or privately owned facilities to which the public have access, a reasonable number of payphones for hearing impaired and physically disabled, operator provided directory enquiries, fault reporting, service difficulty and connection services, a tropical cyclone warning service, a thunderstorm and heavy rain warning service, a flood warning service and access to a number or numbers for emergency services—i.e. the scope of universal service.

used for the Basic Service have been launched in the market. These changes call for a review on the methodology for the calculation of USC.

Calculation Methodology of Universal Service Contribution

5. The existing methodology for the calculation of the universal service cost is set out in the TA Statement issued on 14 January 1998 entitled “Universal Service Arrangements: the Regulatory Framework”. The costing principle of the USC framework is that the universal service provider would be compensated only for serving those “uneconomic customers” whom in fact would not be served on a pure commercial basis if there were no USO. A customer is regarded as “uneconomic” if the total relevant costs exceed the total relevant revenues. In determining whether a customer is “economic” or not, all the lines subscribed to by customers at the same location (i.e. the same distribution point) are aggregated. Lines subscribed to by the same customer at different locations would not be aggregated. Summing up the net costs of serving individual “uneconomic” customers gives the total universal service cost.

Relevant Revenues

6. Relevant revenues consist of revenues that are derived from the provision of Basic Service and all other services associated with the provision of standard telephone lines⁴ to the Basic Service customers. These are the revenues which would be foregone if the Basic Service is not provided. Under the present framework, the relevant revenues comprise :

- exchange line connection and removal;
- exchange line rental, including direct exchange lines, hunting, direct dialing-in (DDI) and Centrex lines;
- customer premises equipment rental;
- call management services (e.g. starline, faxmail, conference calling);

⁴ “Standard telephone line” includes all lines for the provision of Basic Service and therefore covers direct exchange lines, hunting lines, direct dialling-in lines, Centrex lines, payphone lines, but exclude interconnection lines.

- information-based services (e.g. Infoline, thunderstorm warning);
- other services associated with the provision of standard telephone lines (e.g. ringing extensions, directory amendments);
- interconnection charges from other fixed and mobile network operators for traffic originating from and terminating at the standard telephone lines; and
- delivery fees of outgoing and incoming external traffic originating from and terminating at the standard telephone lines.

7. The cost of universal service also includes the net cost of providing the service from “uneconomic” payphone lines. In calculating this net cost, the relevant revenues would include all the revenues generated by local calls, the delivery fees and surcharges relating to the external traffic originated from the payphones plus the revenue, if any, generated by leasing of advertising space at the payphone kiosks.

8. For the purpose of this review, the TA has identified the following issues as affecting the methodology of calculating the relevant revenues:

- deferral of the tariff increase for residential lines;
- expansion of the services under the licence held by the universal service provider;
- introduction of the local access charge and modified delivery fee arrangements; and
- use of the telephone lines for Basic Service for the provision of broadband services.

Deferral of Tariff Increase for Residential Lines

9. Under the Framework Agreement, CWHKT FTNS is allowed to increase the rental for residential lines to HK\$90 per month from 1 January 1999 while there is no restriction on the increase for business lines. CWHKT FTNS announced on 21 December 1998 that it would defer the increase of the telephone rentals until further notice. CWHKT FTNS subsequently decided to raise the residential telephone rental to HK\$90 per month effective from 1 September 1999. The level

of USC for the period from 1 January 1999 to the end of August 1999 would have been lowered by the additional revenues from the increased line rental if CWHKT FTNS had implemented the increases allowed by the Framework Agreement starting from the permitted date. The TA has decided in the Statement on USC dated 5 February 1999 that the operators contributing to the USC should not be required to compensate CWHKT FTNS by way of additional USC payment for what was a commercial decision of the company and the provisional USC and the future actual USC for the period after 1 January 1999 should be calculated as if CWHKT FTNS had increased the residential line rental up to the level permitted by the Framework Agreement from 1 January 1999. As regards the rental for business lines, the estimation of provisional USC and future actual USC level should be calculated based on the actual level of business line rental in the relevant period.

Expansion of the Services under the Licence Held by the Universal Service Provider

10. Earlier termination of the exclusive licence of Cable & Wireless HKT International Limited (CWHKTI) in international traffic and the modification to Cable & Wireless HKT Telephone Limited (CWHKTT)'s FTNS licence to the one held by CWHKT FTNS on 31 March 1998 have brought changes to the scope of services that may be operated by the universal service provider under the FTNS Licence. For this purpose, the "universal service provider" is the business unit within CWHKT FTNS which is the operator of the local fixed network. It is understood that this business unit is at present CWHKTT. The liberalisation of the external services market has permitted CWHKTT to operate by itself the external services provided to the end-users and other service providers (instead of just providing access to the external gateway services of Hong Kong Telecom International Limited (now CWHKTI) prior to 1 January 1999) in competition with other external telecommunications service (ETS) providers. As a result, the relevant revenue and cost structure of CWHKTT related to the handling of external traffic have changed since 1 January 1999.

11. Under the existing methodology, the relevant revenues of CWHKTT as the universal service provider just include the revenues for

providing access to the external gateway of CWHKTI and revenues from the operation of call-back services by CWHKTT (which is also a form of access to the external gateway of CWHKTI). From 1 January 1999, the scope of the relevant revenues of the universal service provider should be broadened to reflect the expansion of the scope of services permitted under the FTNS Licence. The relevant revenues should include the additional sources of income of CWHKTT from offering external services that are associated with the provision of standard telephone lines to the Basic Service customers.

Introduction of the Local Access Charge and Modified Delivery Fee Arrangements

12. The delivery fee arrangements have also been replaced by the LAC over Category A routes and a modified delivery fee arrangement over Category B traffic from 1 January 1999 in accordance with the TA Statement issued on 25 November 1998. LAC and LAC with transit (LAC_T) received by CWHKTT over Category A routes and that part of Category B traffic sent via International Private Leased Circuits (IPLC) (i.e. not sent through CWHKTI's switched external gateway) would replace the delivery fee incomes under the present framework while TA determined gateway prices and modified delivery fees for Category B traffic that sent through CWHKTI's external gateway would supplant the old delivery fee arrangement. Corresponding adjustments have to be made on the present scope of relevant revenues.

Sharing of the Telephone Lines for Basic Service for the Provision of Broadband Services

13. To meet community demand arising from the advancement in information technology, broadband conveyance services are now offered by CWHKTT to value-added service providers (such as Internet service providers) for delivery of broadband value-added services to the residential and corporate customers of the service providers. The TA is aware that on many occasions, the same copper pairs of the standard telephone lines for the provision of the Basic Service are used for both narrowband and broadband services. The costing principle of the USC framework is to include those costs and revenues generated from the

standard telephone lines. The revenues generated and costs incurred by the broadband conveyance services sharing the use of the copper pairs would have to be incorporated into the present calculation framework.

Proposed Changes to Relevant Revenues

14. The TA proposes to include the following additional sources of incomes of CWHKTT as relevant revenues:

for outgoing external traffic

- where CWHKTT is the provider of the external services, the revenues for the retail services provided to end-user customers ;
- where CWHKTT is providing access to the external telecommunications services of other operators (including the external services of other FTNS operators through the “00X” codes, the external services of ETS providers directly connected to the CWHKTT’s network and the external services of ETS providers directly connected to the networks of other FTNS operators), the revenues from
 - (a) local access charge (LAC) and LAC with transit (LAC_T) received by CWHKTT over Category A routes and that part of Category B traffic sent via IPLC (i.e. not through CWHKTTI’s switched external gateway) in accordance with the TA Statement on “Local Access Charge and Modified Delivery Fee Arrangments” in November 1998; and
 - (b) interconnection charge for Category B traffic sent through CWHKTTI’s switched external gateway in accordance with the TA Statement on “Local Access Charge and Modified Delivery Fee Arrangements” in November 1998.

for incoming external traffic

- LAC, LAC_T , delivery fee or interconnection charge in

accordance with the TA Statement on “Local Access Charge and Modified Delivery Fee Arrangements” in November 1998.

for broadband conveyance service

- revenue from the connection and rental/usage charges associated with the end-customer connections in CWHKTT’s broadband conveyance services which are sharing the telephone lines for the Basic Service.

15. Similar changes have to be made to the delivery fees and surcharge income related to the external traffic originated from the payphones.

Relevant Costs

16. The relevant costs for determining the net USO costs are measured on the basis of “avoidability”. These are the costs that would not be incurred (i.e. would be avoided) if the Basic Service and the associated services were not provided to the “uneconomic” customers. Based on this cost concept, the relevant costs under the existing calculation framework consist of:

- avoidable annualized capital cost of the customer access network (CAN) including cost of capital;
- line connection and removal costs;
- call set up, switching and transmission costs;
- avoidable operating costs; and
- avoidable corporate overheads.

17. The annualized capital cost of CAN (comprising cost of capital to compensate for the investment cost) is included as relevant costs as this cost is avoidable if CWHKTT is not required to serve this particular customer. Same line of reasoning is applied to the inclusion of line connection costs, switching and transmission costs.

18. As regards the operating costs such as some of the sales and marketing expenses, only the front-line costs are classified as “avoidable”. Also, only those corporate overhead expenses that vary

with the number of customers are defined as “avoidable”.

19. As the purpose of the USC is to compensate the universal service provider for the net costs incurred in providing the universal service, the non-current asset costs listed above are measured on a historical cost basis. The decision of not using the current cost approach is to prevent inflation from expanding the size of the universal service cost through higher labour costs associated with the CAN which has been installed in the past.

20. Commencing on 1 January 1999, CWHKTT is now offering external services on its own. In providing external services as a retailer, CWHKTT incurs corresponding costs which would fall into the scope of relevant costs. CWHKTT has to pay gateway prices to CWHKTI if it chooses to deliver the international traffic through CWHKTI’s switched external gateway. Alternatively, if CWHKTT chooses to send the outgoing traffic in bypass of the CWHKTI’s external gateway, CWHKTT has to pay leasing cost for the IPLC and all other costs associated with International Simple Resale (ISR) operation including switching costs and outpayment to overseas operators are incurred as well. These costs are not addressed under the current methodology and only the costs of call-back services are included in the calculation. The TA wishes to incorporate those costs incurred by CWHKTT mentioned in this paragraph into the scope of relevant costs to account for the changing external service environment.

21. Accordingly, the following costs of CWHKTT in providing its own external services should be included as relevant costs:

for outgoing external traffic

- where CWHKTT is delivering the traffic through CWHKTI’s switched external gateway, the gateway prices charged by CWHKTI;
- where CWHKTT is delivering the traffic through ISR, all costs associated with the ISR operation, including the IPLC leasing costs, switching costs and outpayment to overseas operators.

for incoming external traffic

- network cost of CWHKTT in providing the trunk transmission, switching and customer access networks.

for broadband conveyance services

- relevant cost of CWHKTT's broadband conveyance services which enables the broadband connection to be established to the end customers using the telephone lines for the Basic Service.

Consultation

22 The industry is invited to comment on the proposed methodology for the calculation of USC discussed in this paper. Specifically, comments are welcome in relation to:

- the inclusion of retail tariff from end-users for the provision of external services into relevant revenues;
- replacement of old delivery fee arrangements by LAC, LAC_T, and modified delivery fees in the scope of relevant revenues;
- the addition of gateway prices charged by CWHKTI, all costs associated with ISR operation and network cost of CWHKTT as elements of relevant costs;
- the incorporation of broadband conveyance services of CWHKTT, which share the copper loops used for the provision of the Basic Service, into the existing USC framework and the method on allocating revenues and costs of the broadband conveyance services to relevant revenue and cost for the determination of universal service cost.

23. Views and comments should be made in writing and should reach the Office of the Telecommunications Authority ***on or before 25 October 1999***. The TA reserves the right to publish all views and comments and to disclose the identity of the source. Any part of the submission, which is considered commercially confidential, should be clearly marked. The TA would take such markings into account in making his decision as to whether to disclose such information or not.

Submissions should be addressed to :

Office of the Telecommunications Authority
29/F., Wu Chung House
213 Queen' Road East
Wan Chai
Hong Kong
[Attn: Economic Adviser (II)]

Fax comments can be sent to 28035112 and email may be sent to
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