

# **Review of the Regulatory Framework for Universal Service Arrangements**

## **Statement of the Telecommunications Authority**

8 June 2007

### **Executive Summary**

S1. The Telecommunications Authority (TA)'s conclusions as a result of the Consultation on the Review of the Regulatory Framework for Universal Service Arrangements are summarized below:

#### **Universal Service Arrangements**

S2. The universal service arrangements will be maintained.

#### **Scope of Universal Service**

S3. The current scope of universal service will be maintained but with the following changes:

- The weather warning services (Items (f), (g) and (h) of the “basic service”) will be taken out of the scope of the universal service when the opportunity to amend section 2 of the Telecommunications Ordinance arises.
- The “relevant revenue” should take into account the fair market value of using the payphone kiosks for advertising and any other purposes other than payphone service, and the total amount (or value assessed) should be accounted for as relevant revenue in calculating the universal service contribution (USC). The fair market value should be assessed by the TA, or with the help from an independent consultant, if necessary.
- A mechanism will be introduced for the TA to direct additions to, or removal from, the list of payphones eligible for USC after consultation with the universal service provider (USP) and the

community.

### **USC for Areas with Alternative Fixed Network Coverage, and USC for Payphones in the Vicinity of Competitive and Alternative Service**

S4. The fair USC for areas (or buildings) connected by at least one alternative self-built fixed customer access network capable of providing basic telephone service should be zero.

S5. Similarly, the fair USC for payphones in the vicinity of competitive and alternative service should be zero. Before reducing the USC for a payphone to zero, the TA will consult relevant parties and consider whether:

- payphone service provided by competitive provider(s) is available nearby (within a walking distance of 100 metres),
- the payphone in question is next to other payphone(s) of the USP, and
- there is a genuine public need of that public payphone (including whether peak demand at the location concerned justifies the provision of multiple payphones).

### **Relevant Revenue and Cost under Competition**

S6. The existing treatment of USP's discounts to its customers should continue in the USC calculation.

### **The Aggregation Basis**

S7. The aggregation basis should be changed from "customer-by-customer" to "distribution points" for USC calculation purpose.

### **Funding Arrangements for Universal Service Obligation (USO)**

S8. The *status quo* on the sharing of the cost of USO on the basis of IDD traffic volume handled should continue for the time being. The sharing basis will be migrated, by end of April 2009 when the current regulatory intervention in fixed-mobile interconnection charge is withdrawn, to that of the number of all telephone numbers allocated.

### **Administration Matters**

S9. An intermediary will continue to be engaged when USC funding is based on IDD traffic handled. The USP should take up the role of USC billing and collection from May 2009 when the USC funding is based on the number of all telephone numbers allocated.

S10. The accumulated unclaimed USC rebate to universal service contributors should be used to reduce the level of the USC.

S11. The conclusions of this Consultation will be implemented from 1 July 2007 unless stated otherwise.

## Introduction

On 28 December 2006, the Telecommunications Authority (TA) issued a consultation paper on “Review of the Regulatory Framework for Universal Service Arrangements” (the **Consultation Paper**)<sup>1</sup>. The Consultation Paper solicited the views and comments from the industry and interested parties on issues related to the regulatory framework for Universal Service Obligation (USO), namely (a) the policy of universal service arrangements, (b) the scope of universal service, (c) competitive provision of universal service, (d) exclusion of areas with alternative fixed network coverage from the USO, (e) costing for USO, (f) funding arrangements for USO and (g) administration matters.

## Submissions

2. All stakeholders including the industry, consumer interest groups and the public were invited to comment on the proposals and related questions put forward in the Consultation Paper. By the closing of the consultation period, the TA received a total of 17 submissions from the following respondents:

### Companies

- AT&T Global Network Services Hong Kong Limited
- China Mobile Peoples Telephone Limited
- ec Telecom Limited
- Hong Kong Broadband Network Limited
- Hong Kong CSL Limited and New World PCS Limited
- Hutchison Telecommunications (Hong Kong) Limited
- Mobile Clusters Limited
- New World Telecommunications Limited
- PCCW-HKT Telephone Limited (**PCCW-HKTC**)
- SmarTone Mobile Communications Limited
- Wharf T&T Limited
- Zone Limited

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<sup>1</sup> The Consultation paper can be downloaded at <http://www.ofta.gov.hk/en/report-paper-guide/paper/consultation/cp20061228.pdf>.

### Organisations

- Asia Pacific Carriers' Coalition
- Consumer Council
- Hong Kong Telecommunications User Group

### Individuals

- A Citizen
- Mr Horace Cheng

3. All of these submissions can be downloaded from the Office of the Telecommunications Authority (OFTA)'s website at <http://www.ofa.gov.hk/en/report-paper-guide/paper/consultation/20070323/table.html>.

4. Having duly considered the submissions, the TA sets out in this Statement his considered views and decisions on the regulatory framework for USO.

## Universal Service Arrangements

5. The existing objectives for the universal service are (i) to ensure access to affordable basic telephone service for all people in Hong Kong irrespective of where they reside or carry on business; and (ii) to ensure that the costs of providing "basic service" are fairly borne by the users of network services. In the Consultation Paper, the TA was of the preliminary view that generally the universal service arrangements should be maintained. The following question was raised in the Consultation Paper:

***Question 1:** Do you agree with our preliminary view that the universal service arrangements should continue to be maintained?*

### Submissions

6. Most submissions agree that the universal service arrangements should be retained, though some of them suggest that the scope of USO and the calculation of universal service contribution (USC) should be altered to suit the market situation. A few opine that the arrangements should not be required

because of high penetration of mobile service, a high proportion of buildings with alternative fixed networks and the unfairness of subsidising customers in remote areas.

### Response and Analysis

7. Although the mobile penetration rate is high and in recent years the government and the mobile industry have made efforts to improve mobile service coverage in the country parks and remote rural areas, certain rural areas will remain underserved in the foreseeable future. As communications is essential to social and economic activities for all walks of life, it is important to ensure that affordable basic telephone service will continue to be available to all people in all areas. The issue of a high proportion of buildings with alternative fixed networks coverage will be addressed in Question 10 below.

8. As regards the issue of subsidising customers in remote areas, the present arrangement of universal service costs being borne by telecommunications licensees prescribed by the TA is enshrined in section 35B of the Telecommunications Ordinance (the **Ordinance**). In some countries, the government may fund universal service, but these countries tend to have vast territories and the remote and sparsely populated areas would not be served on a commercial basis without substantially affecting consumer prices in the more densely populated areas. In Hong Kong, universal service arrangements funded within the telecommunications industry have been operating smoothly for many years and the impact on consumer prices has been negligible. The TA does not see any justification at this stage to change the present arrangements. On the question of “fairness”, the TA observes that cross-subsidization within a business between the more profitable customers and less profitable customers has been a common and well accepted practice among public utilities.

### Conclusion

9. Having considered the submissions, the TA considers that the universal service arrangements should be maintained but the scope of USO and the calculation of USC should be altered to suit the current and foreseeable market situation. These issues will be discussed later in this Statement.

## **Scope of Universal Service**

10. The scope of universal service is the “basic service” defined in section 2 of the Ordinance. The TA took a preliminary view in the Consultation Paper that the current scope of universal service, other than directory enquiry service and weather warning services, should be maintained.

### **Public Switched Telephone Service (PSTN) and Broadband Internet Access Service**

11. PSTN as part of the universal service supports voice telephony and narrowband Internet access up to 56 kbps. Some quarters of the community suggested that broadband Internet access service should also be included in the scope. Hence, the TA asked the following question in the Consultation Paper:

***Question 2:** Do you agree with our preliminary view on the scope of public switched telephone service as part of the basic service? If not, please state your views with supporting reasons.*

### **Submissions**

12. Most submissions agree that PSTN should be kept in the scope of the USO. However, some submissions take the view that the mode of delivering the “basic service” should not be restricted to fixed line technology and should be extended to other means, such as mobile technology. Some submissions opine that the scope of USO should cover the provision of broadband Internet service and quote the government funding of \$210 million for providing Wi-Fi access service in government venues as an example.

### **Response and Analysis**

13. The TA agrees that in the longer term the need to ensure access to affordable basic telephone services for all people may also be fulfilled through mobile services. However, amendment will have to be made to section 35B of the Ordinance so that any carriers (irrespective of them being fixed or mobile

carriers) may be allowed to provide universal service<sup>2</sup>. (For the avoidance of doubt, the universal service is provided to homes or offices anywhere in the territories, and the TA does not intend to extend the scope of universal service to cover mobile service.) On the other hand, the existing section 35B does not restrict the types of technologies deployed by fixed carriers in meeting the USO, including the deployment, for fixed services, of technologies which were originally designed for mobile services.

14. Regarding the broadband service, the proposed Government Wi-Fi programme is a government initiative to promote the wider use of wireless access to the Internet outside homes and offices. The installation of Wi-Fi facilities on government premises is intended to complement the municipal Wi-Fi infrastructure expected to be rolled out by the private sector. It should therefore not be compared with the USO. With the widespread availability of Wi-Fi facilities outside homes and offices, the access to broadband services by the public would be facilitated and the need for extending USO to broadband in individual households should be considered in this light.

15. The competition in the provision of broadband services is keen. Prices have become quite affordable to practically all households. ADSL-enabled copper local loops of the incumbent local fixed carrier, PCCW-HKTC, have already brought basic level (1.5 Mbps download) broadband services to 98% of the households. The remaining 2% of households are mostly located in remote rural areas. If the USO were immediately extended to broadband and broadband services were to be brought to these households through the extension of optical fibre access networks, the universal service cost would be substantially increased. This would increase the burden of telecommunications users who are expected to bear the universal service cost. The cost-benefit of this approach is extremely questionable. In the next few years, broadband wireless access technologies would become more mature and would enable operators to provide broadband Internet service to consumers in remote rural areas at lower costs. It could well be that some operators might be prepared to offer broadband services to these areas on a commercial basis. Furthermore, as pointed out in the Consultation Paper (paragraph 17), there are already mechanisms for Government to fund broadband connections to schools and public libraries. The provision of Wi-Fi coverage on government premises

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<sup>2</sup> Under the existing section 35B of the Ordinance, the TA may require fixed carriers only to provide universal service.

would broaden the range of facilities available for the public to have access to the Internet through broadband. Universal *access* to broadband services appears to be not a problem. Regulatory intervention at this stage by expanding the scope of USO to cover the provision of broadband Internet services to all households does not appear to be justified.

### Conclusion

16. Having considered the submissions, the TA takes the view that PSTN (Item (a) of the “basic service”) should remain as part of the “basic service” and the scope of universal service should not be extended to cover broadband Internet access service.

### Payphone Service

17. With the increasing penetration and affordability of mobile phones, there are arguments that the importance of payphones has diminished in recent years. However, payphones still play an important role in offering call service to all people in Hong Kong, especially for those on the move. Hence, the TA asked the following question in the Consultation Paper:

***Question 3:** Do you agree with our preliminary view on maintaining the existing universal service arrangements for payphone services (Items (b), (c) and (d) of basic service)? If not, please state your views with supporting reasons.*

### Submissions

18. Most submissions agree that payphone service should continue to be included in the scope of universal service; however, some of them opine that the number of payphones provided under the USO should be reduced.

19. Some submissions take the view that payphone service should be taken out of the scope of universal service. For example, people on the move have already had access to service delivered by the mobile network operators (MNOs). It is not the role of the USO to provide a social welfare subsidy to those under-privileged members of society who cannot afford to pay for the telephone service. It is also not the purpose of the USO to provide subsidised

facilities to inbound tourists, and MNOs have provided better service in the country parks, therefore payphones and helplines should be excluded from the USO scheme.

### Response and Analysis

20. Although comprehensive coverage of mobile services is available in the urban and sub-urban areas, the TA takes the view that a reasonable number of payphones is still necessary to cater to the need of the under-privileged (who may not be able to afford mobile phones) and tourists, and even for the convenience of those who have mobile phones, but whose mobile phones may not be available for use for one reason or another (e.g. flat battery). The issue of cross-subsidy within a business between different segments of the community has been dealt with in paragraph 8 above.

21. The argument that there are too many payphones operating under the USO scheme is an issue which will be dealt with separately under Questions 6 and 11 in this Statement.

22. While in recent years the government and the mobile industry have made efforts to improve mobile service coverage in the country parks and remote rural areas, there remains a need for emergency telephone service along the walking trails because ubiquitous coverage of mobile service coverage is not guaranteed.

### Conclusion

23. Having considered the submissions, payphone service (Items (b), (c) and (d) of the “basic service”) should be retained in the scope of USO. However, the number of payphones should be kept to a reasonable level in view of the current market situation. We will address more on this under Questions 6 and 11 in this Statement.

### **Fair Market Value of Making Use of Payphone Kiosks for Purpose other than Payphone Service**

24. Recently the universal service provider (USP) was found to place

advertisements on its public payphone kiosks<sup>3</sup>. Some quarters of the industry hold the view that any revenues generated or an amount deemed to reflect the fair market value of any non-cash benefits derived from advertisements placed on the USP's public payphone kiosks should be fully reflected in the calculation of USC. Hence, the TA asked the following questions in the Consultation Paper:

***Question 4:*** *Do you agree with the view that any revenue generated, or an amount deemed to reflect the fair market value of non-cash benefits derived, from advertisements placed on the USP's public payphone kiosks should be included as relevant revenue in calculating USC?*

***Question 5:*** *If the answer to Question 4 is yes, how should we assess the market value of the advertising space?*

### Submissions

25. Most submissions agree to the view that any revenue generated or an amount deemed to reflect the fair market value of non-cash benefits derived from advertisements placed on the public payphone kiosks of the USP should be counted as relevant revenue in calculating USC. Some of them propose that the market value should be arrived at by benchmarking against other similar forms of advertising activities.

26. The USP opines that the benefits derived from placing advertisements on the payphone kiosks are beyond the jurisdiction of the TA since the kiosk does not strictly form part of any telecommunications service and it is not directly related to the "basic service". The company also argues that advertising revenue cannot be considered relevant revenues because they are not directly dependent upon the successful operation of the payphone service.

### Response and Analysis

27. Most payphones in public streets in Hong Kong are attached to the kiosks. If the USP were not authorized by the TA to provide the payphone services, the government would not consider issuing permits for the USP to

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<sup>3</sup> Placing advertisements on payphone kiosks installed on unleased government land is subject to permission from the relevant government departments, including the Lands Department.

erect the payphone kiosks in public streets. Without the payphone kiosks, the USP cannot derive the benefit from putting up the advertisements. The TA is therefore not convinced that the kiosks, and the advertisement placed on them, can be artificially separated physically from the payphones in consideration of the composition of the revenues of payphone service. The 1998 TA Statement<sup>4</sup> already makes it clear that revenue derived from placing advertisements on payphone kiosks should be counted as relevant revenue, and there should be no argument regarding the jurisdiction of the TA in this matter. The TA would like to put it beyond doubt in this Statement that his power to prescribe the scope of “relevant revenue” should not be restricted to revenue actually received. If the USP derives any benefits from using the payphone kiosks, the benefits should be assessed as objectively as is practicable and accounted for in the calculation of the USC.

### Conclusion

28. Having considered the submissions, the TA considers that any revenue generated, or an amount deemed to reflect the fair market value of non-cash benefits derived, from advertisements placed on the public payphone kiosks of the USP should be accounted for as relevant revenue in calculating USC. Where necessary, the TA will seek the assistance of independent professionals to determine the prevailing fair market value. For the avoidance of doubt, the USP has to seek the necessary permissions from relevant government departments for making use of the kiosks to conduct activities other than for the provision of payphone service.

29. Likewise, the fair market value derived from the use of the payphone kiosks for any other purpose other than payphone service will be counted as relevant revenue in calculating the USC.

### **Mechanism for the TA to Alter the List of Payphone Eligible for USC after Consulting the USP and the Community**

30. At present, the addition of new payphones or relocation of existing payphones eligible for compensation under the USC is decided by the USP. Owing to the cost implications to the contributors, and the fact that community

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<sup>4</sup> Paragraph 22 of the TA Statement entitled “Universal Service Arrangements: the Regulatory Framework” published on 14 January 1998.

needs for public payphones or helplines are often reflected to the TA as the regulator, a mechanism may have to be introduced whereby the TA may alter the list of payphones eligible for USC after consultation with the USP and the community. Hence, the TA asked the following question in the Consultation Paper:

***Question 6:*** *Do you agree that a mechanism should be introduced for the TA to direct additions to, or removal from, the list of payphones eligible for USC after consultation with the USP and the community?*

### Submissions

31. Most submissions agree with the view that a mechanism should be introduced for the TA to direct additions to, or removal from, the list of payphones eligible for USC after consultation with the USP and the community.

32. However, the USP opines that the existing payphones were installed at the request of the community and the TA should not exclude any existing payphones from the USO. Further, the USP should not assume any investment risks if it does not have a say in the installation of new payphones.

### Response and Analysis

33. Since 1999 the number of payphones eligible for USC has stabilized at around 4,300. There has been not much demand for additional payphones since then. Because of rapid market development, a payphone that was required by the community prior to 1999 may not be the case now. Further, the end result of the proposed mechanism is that the TA will alter the list of payphones eligible for USC after consultation with the USP and the community. As the USP will have a say in the process, its concern with investment risk in paragraph 32 above is therefore unfounded.

### Conclusion

34. Having considered the submissions, a mechanism will be introduced by the TA so that he may add to or remove from the list of payphones eligible for USC after consultation with the USP and the community. The mechanism

of removing a payphone from the list will be discussed in relation to Question 11 in this Statement.

### **Directory Enquiry (DQ) Service**

35. Directory information is readily accessible on the Internet. Therefore there is argument that DQ service may not necessarily be included in the scope of “basic service”. Hence, in the Consultation Paper, the TA asked the following question:

***Question 7:** Do you think DQ services should be removed from the scope of basic service?*

### **Submissions**

36. On the question of whether DQ service should be removed from the scope of “basic service”, the views expressed in the submissions are rather diverse.

37. Some submissions take the view that as all fixed network operators (FNOs) have to offer DQ service to their customers free of charge, the USP as one of the FNOs should do so without receiving any subsidy in the form of USC. They therefore consider that DQ should be taken out from the scope of USO.

38. One submission opines that the current provision of a subsidy to the USP’s DQ service hampers the development of competitive directory service. It also observes that FNOs, if allowed, should be able to charge a reasonable commercial tariff for DQ services. Experience in other markets has shown that such a requirement will generally lead to the establishment of separate specialist organizations providing directory services both through the FNOs and other channels on competitive commercial terms. Hence, DQ service should be excluded from the “basic service”.

39. One submission suggests that the directory service can be removed due to its nature and availability of alternative service via Internet.

40. On the other hand, some submissions opine that DQ service should be

kept as part of the “basic service” because not every person can use Internet anytime and anywhere to access directory information.

41. Some submissions have other suggestions, such as requiring all network operators, mobile and fixed, to provide free directory enquiry limited to public and government services, non-government organizations (such as social service agencies), public utilities and essential services (such as banking services and public transport services), and requiring that a reasonable price determined by the TA for DQ service if the service is no longer required to be provided free of charge.

### Response and Analysis

42. The proposal in the Consultation Paper was to remove DQ service from the scope of “basic service” for the purpose of the USO. This meant that in the provision of a basic telephone line to meet the USO, the provision of DQ service for the customer of that telephone line would not be mandatory. The original intention was that the cost of providing DQ service to that telephone line would not be included in the “relevant costs” in the provision of “basic service”.

43. At present, the scope of “basic service” is defined in section 2 of the Ordinance. All FNOs are also obliged under licence conditions (Special Condition (SC) 10 in PCCW-HKTC’s fixed carrier licence and General Condition (GC) 25 of Fixed Telecommunications Network Services Licences) to provide DQ service free of charge to *all* customers (i.e. including customers served only to meet the USO). Therefore the proposal in the Consultation Paper cannot be implemented unless the definition for “basic service” in the Ordinance is amended and the requirement for DQ service to be provided free of charge to *all* customers under the said SC 10 or GC 25 is relaxed.

44. The TA has noted comments from some submissions that not every person can use Internet anytime and anywhere to access directory information. Having given the issues further consideration, he is of the view that, without a detailed survey on the community expectation and usage of the DQ service, it is premature to consider any relaxation of the requirement for DQ service to be provided to all customers free of charge under SC 10 or GC 25.

45. When all FNOs remain obliged under their licence conditions to provide DQ service to all customers free of charge, the cost of providing DQ service to the customer of a basic telephone line is a cost that cannot be avoided by the USP even if the provision of that particular telephone line is “uneconomic”. It is only fair that the cost of the DQ service is treated just like other elements of the “relevant costs” incurred in the provision of the telephone line. The TA does not agree with the argument that, as all FNOs have to offer DQ service to their customers free of charge, the USP as one of the FNOs should do so without receiving any subsidy in the form of USC. The whole point of USC is that the USP has the USO while the other FNOs have no such obligation.

46. Regarding the comments that the current provision of a subsidy to the USP’s DQ service hampers the development of competitive directory service, the TA considers that removing the DQ service from the scope of “basic service” would not enable the development of competitive DQ services on a tariffed basis unless the requirement for the provision of DQ service free of charge under SC 10 and GC 25 is also removed. As discussed above, it is now premature to consider modification of the particular requirement under SC 10 and GC 25.

### Conclusion

47. Having considered all the views expressed in the submissions, the TA will not pursue for the time being the removal of DQ service from the scope of “basic service” under the USO. Further studies, including survey on the community expectation and usage of DQ service if necessary, are required on the continuation of free DQ service to all customers under SC 10 and GC 25 and as part of the “basic service”.

### Weather Warning Services

48. The Hong Kong Observatory (**Observatory**) has provided similar weather warning services to the public. The TA therefore proposed excluding the services from the scope of “basic service”.

*Question 8: Do you agree with our proposal that weather warning services be removed from the scope of universal service in future when the*

## *Telecommunications Ordinance is amended?*

### Submissions

49. Most submissions including the USP agree that services for receiving announcement of weather warnings on tropical cyclone, thunderstorm, heavy rain, and flooding over the phone (Items (f), (g) and (h) of the “basic service”) be removed from the scope of universal service in future when the Ordinance is amended.

50. Only two submissions oppose the proposal because weather warning services are considered very important and related to catastrophic management, therefore it should be kept within the scope of USO.

### Response and Analysis

51. The Observatory has provided similar services which allow the subscribers to receive weather forecasts and warnings through fax, telex, Internet and direct communication links (e.g. through leased lines). These services are provided at cost and the charges depend on the information coverage and the subscription period. Other than disseminating weather warnings and forecasts of hazardous weather to the general public via radio, television and the Internet, the Observatory also operates two free telephone enquiry services – the Dial-a-Weather service and the Information Enquiry System – to provide the public with the access to the latest weather information. The wide-ranging weather forecast and warning services provided by the Observatory are much more sophisticated and comprehensive than those currently offered by the USP. Existing customers of the services of USP may subscribe to alternative services should the USP decide to not to provide the service. The continuation or otherwise of the services of the USP should be decided by the USP on a commercial basis.

### Conclusion

52. Having considered the submissions and noting that the USP itself also agree to the proposal raised in Question 8, the TA will take the necessary step to remove the weather warning services from the scope of USO when the opportunity to amend section 2 of the Ordinance arises.

## Competitive Provision of Universal Service

53. Under the existing legislation, the obligation to provide universal service can only be imposed on fixed carrier licensees. Under existing licence conditions, the obligation is imposed only on the incumbent local fixed carrier licensee, PCCW-HKTC. The existing legislation and licence conditions have therefore incorporated a historical bias in favour of using technologies for fixed services to fulfil the USO. The TA sought the view of the industry as to whether competition should be introduced to the universal service arrangements and asked the following question in the Consultation Paper:

***Question 9:** Do you consider that competitive provision should be introduced to the universal service arrangements such that the universal service should be provided by the operator that can provide the service in the most efficient manner?*

### Submissions

54. Most submissions consider that competitive provision should be introduced to the universal service arrangements such that the universal service should be provided by the operator that can provide the service in the most efficient manner.

55. Some submissions oppose the view on the grounds that “basic service” would be best provided by FNOs. There may be insufficient number of operators capable of providing territory-wide service or even regional service. There is no successful story overseas on competitive provision of universal service and the TA has not proposed a detailed bidding scheme addressing all practical aspects that are essential to the successful implementation of competitive provision of the service.

56. One submission opines that since the current legislative framework only allows FNOs to take up USO, the current review should be confined to examining the existing arrangement of providing universal service by the incumbent. Another one opines that competitive provision of universal service should be dealt with at a later stage after the scope of USO has been

clarified and the policy on fixed/mobile convergence (FMC) has been finalised.

### Response and Analysis

57. The universal service may well be provided by different operators, using different technologies, for different areas. Hence, the obligation to provide universal service and the right to receive USC for the cost of meeting the USO should in principle be open through a bidding process to competition. This approach would be most suitable for a “greenfield site” where no particular operator has a strong presence.

58. In practice, the network of the incumbent local fixed carrier, PCCW-HKTC, in Hong Kong has been extended to every corner of the territory. Currently no FNOs can match PCCW-HKTC in terms of network coverage. At this stage, it is largely academic that competitors of PCCW-HKTC can build alternative access networks to reach the remote areas and provide universal service at lower costs than PCCW-HKTC. The situation may well change in the future as wireless fixed access technologies become more mature and widely available.

### Conclusion

59. The TA decides that competitive provision of universal service should not be pursued for the time being, but this possibility should be kept under review as the deployment of wireless fixed access technologies in Hong Kong becomes more widespread.

## **USC for Areas with Alternative Fixed Network Coverage, and for Payphones in the Vicinity of Competitive and Alternative Service**

### **USC for Areas with Alternative Fixed Network Coverage**

60. As competition develops, the reason for designating a USP in areas with other fixed self-built customer access networks may diminish. In the Consultation Paper the TA was of the preliminary view that areas or buildings

with alternative fixed network coverage should be excluded from the USO so he asked the following question:

***Question 10:** Do you agree with our preliminary view that areas with alternative fixed network coverage should be excluded from the USO scheme?*

### Submissions

61. All submissions, except the one from the USP, favour the proposal that areas with alternative fixed network coverage should be excluded from USO.

62. The USP takes the view that if the TA's proposal was adopted, the existing USP would cease to serve uneconomic customers in the building and it is uncertain whether the other network operators would be able to take up the migrating customers, not to mention the confusion created.

63. The company opines that SC 1.1 of its licence states that the proposal to exclude specific areas from the USO must come from the USP itself. Hence, it is not permissible for the TA to exclude areas with alternative networks from USO. It also opines that adopting the TA's proposal means that the USP would no longer be able to fully recover its investments.

### Response and Analysis

64. Most operators of alternative self-built fixed customer access networks are willing and able to attract the USP's customers at lower prices. Further, the fixed carrier licence requires the FNOs to serve customers at published tariff where the service could reasonably be provided by the licensee to the customer at the location at which the service is requested utilizing the licensee's network in place at the time of the request (GC 10(2) of fixed telecommunications network services licences and the equivalent SC in fixed carrier licences). This obligation is applicable to PCCW-HKTC even in areas not covered by the USO. Hence, without any evidence in support, the USP's concern that some customers might have to change supplier or even end up without service is not convincing.

65. SC 1.1 of the USP's fixed carrier (FC) licence provides the following:

*“The licensee shall provide, maintain and operate the network to the satisfaction of the Authority in such manner as to ensure that, subject to Special Conditions 1.3 and 1.4, a good, efficient and continuous basic service is reasonably available, subject to the Ordinance, to all persons in Hong Kong (the provision, maintenance and operation of the relevant part of the network and of the basic service together constituting the “universal service obligation”), provided that where the licensee is able to demonstrate, to the reasonable satisfaction of the Authority that the basic service in a specified area, or areas, is, or is capable of being met by any other fixed carrier or fixed telecommunications network service licensee and that in the circumstances it would be unreasonable or unnecessary for the licensee to be required to also provide the basic service, the Authority may, subject to such conditions as it thinks fit, including but not limited to conditions as to duration, exempt the licensee from all, or part of, the universal service obligation with respect to that area, or those areas”*

66. Section 35B(2) of the Ordinance provides that

*“A universal service obligation requires a licensee to ensure that a good, efficient and continuous basic service is, in the Authority’s opinion, reasonably available to all persons within the areas of Hong Kong covered by that obligation.”* (underline added)

67. The wordings of section 35B(2) of the Ordinance show that when the TA requires a fixed carrier licensee to have a USO, that obligation does not need to cover all areas of Hong Kong.

68. Further, under section 35B(3) of the Ordinance, the TA is empowered to establish a system for licensees prescribed by the TA to meet a reasonable contribution to the cost of providing the USO. This power is not restricted by SC 1.1. This power has been incorporated into SC 1.5 of the USP’s FC licence. Under SC 1.5, the TA is empowered to adopt a formula to ensure a fair contribution towards the costs of serving customers whom would otherwise not be served because it is not economically viable to do so. If there are other operators who are willing and able to provide “basic service”

competitively to customers in a certain area, without any USC compensation, it demonstrates that customers in that area are not “uneconomic” at all. According to SC 1.5, the “fair contribution” to the USP has to exclude the costs of serving these customers (i.e. the level has to be zero), because customers in that area are “otherwise served” in “economically viable” terms. From the customers’ point of view, since customers in that area can already enjoy the “basic service” provided by one or more operator(s) with zero USC subsidy, it is not necessary for the USP to carry out its USO in that area. Any further USC compensation in such a situation would only serve to distort the competitive landscape and cannot therefore be justified.

69. Further, the 1998 TA Statement has also covered the option of competitive provision of universal service. In this context the USP should have been well aware since the inception of the universal service arrangements in 1998, areas with alternative network service may be excluded from the calculation of USC (SC 1.5 of the USP’s FC licence refers) and the USC arrangements for the provision of “basic service” by the USP in these areas, as determined in the 1998 TA Statement, may not stay unchanged throughout the term of its licence.

70. Whether the existing USP can recover its investments without receiving USC compensation in competitive areas is a forward-looking question (i.e. future revenue has to be taken into account in assessing whether the investments can be fully recovered), not a historical one. It is perhaps true in the past that when basic fixed voice telephony was the only application, the USP rolled out an access network to certain areas to fulfil its USO, with the expectation that USC would contribute towards the recovery of the investments. Over time, however, demographics change and new applications emerge. Access network rollout in some areas that depended on USC income to justify investments may become economically viable on its own, with additional revenue streams from new services (such as broadband access, pay-TV services and the growth in interconnection traffic such as mobile and IDD). Going forward, it is likely in general that the USP can continue to recoup its investments in competitive areas even if USC vanishes, given the much improved economies of scale and scope from the past. As an indicator of the economic viability of providing “basic service” to a certain area, the TA will take into account the representation of the FNOs (including PCCW-HKTC) and will have regard to the competitive rollout of access networks from other FNOs

in competition with PCCW-HKTC.

### Conclusion

71. Having considered the submissions, the TA takes the view that the fair USC in areas (or buildings) connected by at least one alternative self-built fixed customer access network capable of providing basic telephone service should be zero. The USP's claim that such a change in the arrangement would lead to its investments not being fully recovered will not be considered unless the USP can prove, to the satisfaction of the TA, with specific finance data, that past investments for the fulfilment of USO in the areas concerned would not be fully recovered if the USC in those areas is now set at the level of zero. In assessing the recoverability of USP's investment for USO, the TA will consider the cost recovery from, among other things, both economic and uneconomic customers, both basic and non-basic services, both existing and future possible uses, and any net proceeds from disposal of the investments. If the USP could prove, to the satisfaction of the TA, that past investments could not be recovered, the appropriate compensation could be added back to the USC calculations similar to the treatment of asset write downs (see paragraph 95 below).

72. The TA also concludes that, in areas where the fair USC is zero, it is correspondingly not necessary for the USP to carry out its USO. In accordance with SC 1.1, the USP may seek exemption from performing its USO in those areas. The USP will of course have the right under its FC licence to continue providing its service to those areas where its regulatory obligation is exempted. It is of course entirely PCCW-HKTC's decision whether it wishes to exercise its option under SC 1.1 and it would be entirely its commercial decision if it does not opt to do so.

73. The TA has considered the so called "confusion" mentioned in paragraph 62 above by PCCW-HKTC. He does not consider that this would likely happen because all FNOs, including PCCW-HKTC, are under the licence obligation to provide the service where it reasonably could be provided at the location at which the service is requested.

74. The TA also considers the likelihood of subsequent complete withdrawal by an operator of alternative self-built customer access network

(which does not have the USO) from an area and leaving the residents or occupants there stranded without any “basic service” if the USP is exempted from USO in respect of that area (or building). Given the vibrant and the extremely competitive fixed market, the likelihood of this occurring would appear to be extremely remote.

### **USC for Payphones in the Vicinity of Competitive and Alternative Service**

75. In the Consultation Paper, the TA took the preliminary view that uneconomic payphones in the vicinity of locations where competitive or alternative service is offered should be excluded from the USO scheme.

***Question 11:** Do you agree with our preliminary view that an uneconomic payphone in the vicinity where competitive or alternative service is offered should be excluded from the USO scheme?*

#### Submissions

76. All submissions, except the one from the USP, favour the proposal that an uneconomic payphone in the vicinity where competitive or alternative service is offered should be excluded from the USO scheme.

77. The USP opines that all existing payphones under the USO scheme were installed at the request of the community and approved by the TA. While it may be permissible to change the rules of the game for new payphones, it would not be fair or lawful to do so for existing payphones. It also argues that it may not be able to fully recover its investments. The USP also takes the view that there is no good definition for vicinity and it is difficult to decide which uneconomic payphones are not eligible for USC.

#### Response and Analysis

78. As mentioned in paragraph 33 above, from 1999 onwards the number of payphones eligible for USC has been kept steady at around 4,300. The demand for additional payphones has not increased much since then. Because of the rapid market development, this issue has to be looked at again.

79. The Consultation Paper suggested that “vicinity” means a distance (walking distance) of 100 metres. The TA considers that the existence of competing and alternative service within a distance of 100 metres of a payphone operated by the USP should not automatically result in the USC of the particular payphone being set to zero, but should provide a trigger for the TA to consider if users of the particular payphone of the USP would not be served if the USC subsidy were removed.

80. SC 1.5 of the USP’s licence allows the TA to include in the calculation of USC the net cost of serving customers who should otherwise not be served with “basic service” (here meaning payphone service) because it is not economically viable to do so. If some other operators are providing payphone service in the vicinity of the payphones of the USP without any regulatory subsidy, it demonstrates that providing payphone service within that vicinity is not “economically unviable” at all. Instead, at least one competitor has found the business case attractive without USC subsidy. According to SC 1.5, the “fair contribution” to the USP has to be zero, because payphone users are “otherwise served” in “economically viable” terms.

81. The TA would need to address the USP’s concern that its investments would not be fully recovered. Setting USC subsidy to zero for the particular payphone does not necessarily prevent the USP from recouping its investments. If a payphone is already installed in the vicinity of an alternative payphone, and the USC subsidy for the payphone is subsequently reduced to zero, the USP may continue to run its payphone service commercially until its investments are fully recovered. The TA believes that the USP will be able to recover its investments in the payphone concerned provided that it is at least as efficient as its competitors who are already doing so. If the viability of the existing USP’s payphone service depends critically on USC compensation, then the USP is competitively inefficient in providing that payphone, in which case the particular payphone should be shut down. Upon proof by evidence to the satisfaction of the TA, any unrecoverable net asset cost should be added back to the USC calculations (similar to the treatment of asset write downs in paragraph 95).

82. Where the USP operates two or more payphones within a vicinity (in many cases side-by-side), and if one or more of the payphones are “uneconomic”, the TA will have to examine critically whether the demand for

payphone services at the particular location justifies the provision of multiple payphones at that location (in order to, for example, cut down queuing time during peak hours), even though some of the payphones are “uneconomic”, before deciding whether the “uneconomic” payphones should be excluded from the USC calculation.

83. It is not necessary for the USP to carry out its USO in providing payphone service where USC is zero, but it is of course the right for the USP under its licence to continue providing the service. Even if the USP removes a payphone, community interest would not be compromised, because another payphone will still be available within a walking distance of 100 metres.

### Conclusion

84. Having considered the submissions, the TA takes the view that before reducing the USC for a payphone to zero, he will consider whether

- payphone service provided by competitive provider(s) is available nearby (within a walking distance of 100 metres),
- the payphone in question is next to other payphone(s) of the USP, and
- there is a genuine public need of that public payphone (including whether the demand at peak hours at the location concerned justifies the provision of multiple payphones).

85. Consultation with the community, the USP and where appropriate the relevant competitive payphone service providers will be carried out in deciding whether a particular payphone operated by the USP should have the USC reduced to zero. If the TA decides that the USC of a particular payphone operated by the USP should indeed be reduced to zero, the USP will be allowed to recover upon proof of evidence any unrecoverable net asset cost. Similarly, the USP may seek exemption to its USO for payphones where USC is zero, in accordance with SC 1.1 of its FC licence.

## Costing for USO

### Relevant Revenue and Cost under Competition

86. The USP has made numerous promotional offers since 2002 as competition intensifies. To ensure that the USC contributing parties are not unfairly financing the marketing campaigns of the USP, the TA has reached agreement with the USP that any discounts including, but not limited to, rebates, waivers, allowances and freebies associated with the promotional programmes, would be taken out from the USC calculation. After these adjustments, those telephone lines under promotions by the USP that are still “uneconomic” but could have been switched to other competitors had those promotions not existed would be totally excluded from the USC calculation.

87. The following questions were raised in the Consultation Paper:

***Question 12:** How should we adjust the “relevant revenues” and “relevant costs” for USC in the cases that PCCW-HKTC offers promotion discounts to customers?*

***Question 13:** Should we continually apply the (existing) treatment of discounts for USC calculation?*

### Submissions

88. In general, all submissions consider that subsidising the USP for its discounts to be unfair and unacceptable to the contributing parties. They support the existing treatment of discounts by the TA and consider that the TA should continue with the present treatment.

### Response and Analysis

89. It is the commercial decision of the USP to offer its telephone services at prices below its standard tariffs to some of its customers in order to fend off competition from other operators. It would be unfair to the USC contributing parties to compensate these promotional discounts.

## Conclusion

90. Having taken into account the views in the submissions and the above analysis, the TA will continue to apply the existing treatment of the USP's promotional discounts to the calculation of the USC in future.

## Existing Costing Principles

### **(A) Asset Write Downs**

91. The long run avoidable cost concept utilizing historical cost is currently used as the costing basis for USC calculation. As such, any asset written down by the USP on account of technological advancement and competition would be added back to the USC calculation as if there were no such impairments. The following specific question was asked in the Consultation Paper:

***Question 14:** Should "asset written downs" be excluded from the USC calculation?*

## Submissions

92. Most of the submissions consider that asset written downs should not be added back to the USC calculation. One submission believes that the USP is required under section 35B(2) of the Ordinance to provide "a good, efficient and continuous basic service". Therefore the USP should provide the service using the most efficient equipment and should not be entitled to recover the impairment losses. Another submission is of the view that universal service contributors should not pay for any impairment losses due to the wrong capital investment decision on the part of the USP.

93. In contrast, the USP submits that the asset written downs are appropriate for accounting purposes, but are neither required nor suitable for USC purposes. It considers that the existing costing principle should continue to ensure full recovery of asset costs as it had little choice as to when to make the original investment.

## Response and Analysis

94. A relevant question needs to be addressed is whether or not the USP should be allowed to fully recover from the USC all its investment. Clearly, network costs were incurred by the USP to build a ubiquitous network whilst the USP is fulfilling its USO. It is reasonable to assume that the USP, being a commercial entity and one of the major USC contributors, has the incentive to deploy the most efficient technology at the time in order to stay competitive in a liberalised telecommunications market and to minimise its sharing of USC. If the USP is not allowed to recover the impairment losses due to subsequent technological advancement and competition, the consequences for future USO investment in areas not adequately served by other competitive operators will be profound.

95. Since the USP is entitled to receive a fair contribution towards the cost of providing the USO under SC 1.5 of its FC licence, it is reasonable to allow the USP to recover its asset written downs due to obsolescence and impairment which are beyond its control given its commitment to the USO.

## Conclusion

96. Having considered the submissions, the TA concludes that the existing treatment on asset write downs should continue.

### **(B) Excess Capacity**

97. The fixed line market share of the USP has declined since liberalisation and hence part of its network has become idle. However, the existing lines in service would need to share the full cost of its fixed line network under the current USC calculation. It may be unfair if the cost due to this excess capacity or capacity that does not contribute to the generation of relevant revenue is also counted as relevant cost. The following specific question was raised in the Consultation Paper:

***Question 15:*** *Should the cost due to excess capacity or capacity that does not contribute to the generation of relevant revenue be counted as relevant cost?*

## Submissions

98. The majority of the submissions are of the view that excess capacity should be excluded from the USC calculation. Some submissions consider that by doing so the USP will be given the right incentive to improve its network efficiency. One submission adds that capacity in excess over a reasonable margin should not be counted as the cost of the provision of “basic service”. On the other hand, the USP argues that it had little choice as to when to make its network investment and hence should not be penalized for any excess capacity that has now arisen as a result of competition. It further submits that it has refrained from replacing certain network equipment and thereby its existing network is utilised more fully.

## Response and Analysis

99. According to the statistics submitted by the USP, the excess capacity has moderately increased over the years since the market deregulated in 1995. It is logical for the USP and other network operators to maintain a certain level of excess capacity to cater for network outages and demand surges. The TA considers that the current excess capacity level is still within a reasonable range since, based on the actual data deployed for the calculation of USC, there has been no material increase in network cost per line in use over the three years from 2002. However, should the excess capacity increase further and result in a significant increase in unit cost in future, then a portion of the excess capacity should be excluded from the USC calculation. Nonetheless, the TA would allow the USP to recover any unrecoverable net asset cost due to USO upon proof of evidence.

## Conclusion

100. Having taken into account the views of the submissions and the above considerations, the TA concludes that the excess capacity should be allowed in the USC calculation provided that the unit cost per line in use is not substantially increased due to further increase in the level of excess capacity. The USP would be allowed to recover upon proof of evidence any unrecoverable net asset cost.

## Alternative Costing Principles

### **(A) Forward-Looking Current Cost**

101. Many countries that initially adopted historical cost approach for USC calculation have changed their methodology to forward looking current cost approach. This is aimed at encouraging the USP to adopt efficient processes and technologies or else it has to bear the cost associated with less efficient alternatives without receiving compensation to cover the inefficiencies. However, the current cost information is not fully captured by the USP. The specific question asked in the Consultation Paper was:

*Question 16: Should “forward-looking current cost” approach be used?*

#### Submissions

102. The views of the submissions are divided. Some submissions consider that the forward-looking current cost approach should be used in order to follow international best practice and also to encourage the USP to provide universal service efficiently. Conversely, other submissions consider that the current cost approach subjective and that the current cost information is not readily available and costly and timely to collect.

#### Response and Analysis

103. There are merits of adopting the forward looking current cost approach but the costs of collecting and validating the current cost information and the time required for revising the existing model may be too prohibitive.

#### Conclusion

104. In light of the submissions and the above analysis, the TA concludes that to be expedient, the historical cost approach should continue to be used, subject to the conditions given in paragraphs 95 and 100 on assets written downs and excess capacity respectively. He will consider adopting the forward looking current cost approach when the opportunity for the next review arises.

## **(B) Duplication of Networks**

105. The USP has plans to replace its traditional telephone exchanges with Next Generation Network (NGN) based on IP technology. The cost of this IP-based network will be reflected in its books. Since both the traditional network and the IP-based network are capable of providing the “basic service”, there is a need to prevent double-counting of costs in the calculation of USC. The following specific question was asked in the consultation paper:

**Question 17:** *In the situation where the basic service is served by both traditional and new networks, do you agree that duplication in USO costing should be disallowed?*

### Submissions

106. Most of the submissions agree that only one network should be counted for USC calculation. One submission considers that the cost of the more efficient network should be used. Another submission considers that the decision by the USP to upgrade its network is a pure commercial decision which should not cause any extra burden on USC. On the contrary, the USP argues that the NGN investment is one of a significant but phased series of continual network upgrade to improve network efficiency and capabilities. The USP supplements that some parts of the PSTN network will be maintained during a transitional period while the IP technology is being implemented.

107. The USP has put forth two scenarios. First, if it is only permitted to account for the costs of its PSTN network (and none or very little of the incremental NGN upgrade costs are included), this would mean that a significant portion of the network costs in serving customers would be omitted from the USC calculation over time. Second, if it is only permitted to account for the costs of its NGN upgrades (but not its PSTN network costs), a significant portion of network costs incurred in serving customers would also be omitted from the USC calculation.

### Response and Analysis

108. According to its annual report, the USP is transiting itself from a traditional telecommunications operator to a new breed of Information and

Communications Technologies (ICT) player providing content, applications and transactional services, as well as voice services. Part of that evolution is via transition to an all-IP network or NGN that will create a superhighway to carry all traffic, whether they are voice, data, video or multimedia applications. Therefore, the NGN of the USP is a significant network investment capable of providing many non-basic services in addition to the basic service. Thus, a portion (and very likely a significant portion) of the NGN cost should be allocated to non-basic services and excluded from the USC calculation.

109. In regard to the NGN cost for the basic service, the USP has failed to show that its existing PSTN network is not capable of continuing the provision of basic service and hence the upgrade to NGN is inevitable. The TA agrees with the views of other submissions that the NGN investment is a commercial decision of the USP. The TA is, therefore, of the view that the NGN investment is not a replacement purely for the wear and tear of the existing PSTN for the purpose of fulfilling the USO. As the USP already acknowledged a scenario where both networks are maintained during a transitional period, it would be reasonable to include only the PSTN to avoid double counting.

### Conclusion

110. Having taken into account the views of the submissions and the above considerations, the TA is of the view that investment in NGN is a commercial decision of the USP and not for the purpose of solely fulfilling the USO. NGN cost for the basic service should be disallowed unless it can be demonstrated to the satisfaction of the TA that any part of the PSTN is not capable of continuing the provision of “basic service” and its functions for providing the “basic service” have been taken over by the NGN, in which case only the proportion of the NGN costs incurred for the provision of the “basic service” should be allowed in the USC calculation.

### The Aggregation Basis

111. The current approach to measure net cost for USO is on a customer-by-customer basis and all lines subscribed by a customer at the same distribution point are aggregated. There have been criticisms against using this methodology from investment, international practice and competition angles. The Consultation Paper put forth four alternative aggregation bases in

terms of “area” for comments. They are 1) geographical regions, 2) districts, 3) existing exchange areas and 4) distribution points. The following specific questions were raised in the Consultation Paper:

**Question 18:** *Should we change the aggregation basis from “customer-to-customer” to “area” for USC calculation purpose?*

**Question 19:** *If your answer to Question (18) is yes, should the “Area” basis be defined in terms of exchange areas or distribution points?*

### Submissions

112. Only two submissions including that of the USP reject a change in aggregation basis. Both submissions consider that Hong Kong, unlike other countries such as Australia, is too small for an area to be used for USC calculation. Furthermore, the USP claims that SC 1.5 of its FC licence, providing that “*Universal service contribution is that sum calculated in accordance with a formula adopted annually by the Authority, to ensure that the PCCW-HKT Telephone Ltd. ... receives a fair contribution... towards the costs, net of attributable revenues, of serving customers with basic service whom would otherwise not be served because it is not economically viable to do so...*”, clearly describes the USO in terms of individual customers. If an aggregated “area” basis is adopted, economic customers in the area would effectively subsidize the uneconomic customers in the area, which is contrary to the intentions of the USO/USC regime. In addition, the USP considers that the existing “customer-by-customer” basis gives the most accurate results and the existing methodology in deriving the USC has been well established. On the other hand, it considers that the “area” aggregation basis is entirely subjective and an unreliable means to determine the USC level as geographical boundary drawing would significantly affect the result of whether certain groups of customers would be classified as “economic” or “uneconomic”.

113. On the other hand, other submissions in principle agree to a change in aggregation basis. Two submissions consider that the “customer-by-customer” approach is extremely detailed and therefore is both costly and time consuming to calculate the USC. Some submissions add that the “customer-by-customer” approach does not reflect the fact that the investment decision of the FNOs is based on the overall profitability of an area instead of individual customer.

However, two other submissions are concerned about the costs and benefits of changing the aggregation basis.

114. Only three submissions specify their preferred alternative options. One opts for existing exchange areas and two opt for distribution points. The latter consider that defining areas by exchange areas would be too broad but distribution points should be fair to all related operators.

### Response and Analysis

115. The full SC 1.5 is set out below:

*“Universal service contribution is that sum calculated in accordance with a formula adopted annually by the Authority, to ensure that the PCCW-HKT Telephone Ltd., where it has a universal service obligation, and any other licensee with such an obligation, as the case may be, receives a fair contribution from other fixed carriers, fixed telecommunications network services licensees or other types of licensees as specified by the Authority towards the costs, net of attributable revenues, of serving customers with basic service 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.”*

116. This licence provision has to be construed consistently with section 35B of the Ordinance, as required by section 7A.<sup>5</sup> Section 35B provides that the TA may establish a system for licensees prescribed by the TA to meet a reasonable contribution to the cost of providing the USO and managing the fund.<sup>6</sup>

117. The existing system prescribes that the calculation is based on “customer-by-customer” in accordance with a formula adopted by the TA pursuant to the power conferred upon him under section 35B. The existing system can be reviewed and changed according to the law and proper

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<sup>5</sup> Section 7A provides that the Authority may attach special conditions, consistent with the Ordinance and not inconsistent with the prescribed general conditions, to a licence he is empowered to issue, including special conditions and which special conditions are to be interpreted subject to the prescribed general conditions.

<sup>6</sup> See section 35B(3) of the Ordinance.

procedure. The words and phrases “... *... serving customers with basic service 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*” mean no more than stating the purpose scope and intention of USO. If SC 1.5 is read, as PCCW-HKTC has argued, to mandate the calculation method based on “customer-by-customer” basis, it would obscure the meaning of SC 1.5 and unreasonably restrict the power conferred upon the TA under section 35B to design a system which can fairly and justly allocate USC.

118. From investment angle, once the investment is made to serve the “economic” customers, the incremental cost involved in serving the remaining “uneconomic” customers located within the same cluster/area would be marginal. As supported by some of the submissions, the TA considers that investment decision associated with network and service rollout would not normally be made on a “customer-by-customer” basis and thus it is unfair for the universal service contributors to continually compensate the USP on that basis.

119. From competition and level playing field angles, an FNO without the USO is also not allowed to cherry-pick customers at a location where its services could be reasonably provided as this is expressed in its licence condition which states that “...*the licensee shall comply with a customer request for the Service as tariffed by the licensee...where the Service reasonably could be provided by the licensee to the customer at the location at which the Service is requested utilizing the licensee's Network in place at the time of the request*”. It would be inequitable for other operators to continue to subsidise the USP on individual “uneconomic” customer basis given the network coverage of other FNOs has reached 76% of the households. The adoption of distribution points as the aggregation basis to calculate the USC is also consistent with the licence conditions to which the USP and non-USPs are subject when they provide services to customers.

120. The TA takes note of certain arguments against the adoption of “area” basis by alleging the subjectivity and unreliability in geographical boundary drawing. However, the USP should have no difficulties in deciding distribution points and existing exchange areas as they have been well determined and managed by the USP. It is also the existing practice for the USP to prepare the distribution of “uneconomic” customers and USC by the

five geographical regions, namely Hong Kong Islands, Kowloon, New Territories (developed), New Territories (rural) and Outlying Islands. Regarding the “districts” basis, the government has already divided the whole territory into eighteen districts. As the boundary of each aggregation “area” basis is clearly defined, the TA does not share the view of the USP that the “area” aggregation basis is a subjective and unreliable means to determine the USC level.

121. The overseas approach based on geographical areas referred to in the Consultation Paper is intended to show certain international practice that “area” basis, instead of “customer-by-customer” basis, is considered to be the appropriate basis for making network investment decision. The TA is aware that Hong Kong is much smaller in area than countries such as Australia. However, the TA does not concur with the view that the “area” aggregation basis is not applicable for a territory such as Hong Kong, given its relatively small size and given that the network investment decision could be made on each “area” of the territory.

122. If the aggregation basis is changed from “customer-by-customer” to “area”, the practical choice as noted in the Consultation Paper is either on an exchange area basis or on a distribution point basis. Currently, there are about 300 exchange areas (the majority of which are served by remote line units <sup>7</sup> and more than 80,000 distribution points in the USP’s network. Some submissions who opt for “distribution points” basis argue that aggregating net cost on an exchange area basis is considered to be too broad. It is not necessary the case that a network operator would extend its network to every building or distribution point in an exchange area. By contrast, distribution point fairly reflects the physical constraint for the network and service rollout of a network operator.

123. In regard to the costs and benefits of changing the aggregation basis, the TA agrees that “area” aggregation basis should be adopted only if the associated benefits (e.g. reduction in the social cost of funding universal services) outweigh the associated costs (e.g. administrative costs incurred in revising the USC costing system). If “distribution points” basis is adopted, the exact impact on the level USC is unknown at this stage because there is

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<sup>7</sup> Remote line units, connected to the main exchange, are normally used to serve customers located far away from the main exchange.

insufficient data and because the costs that may be incurred by the USP in rebuilding/modifying its USC costing system is not known. Nevertheless, sampling and projection techniques may be considered to simplify the calculation process.

### Conclusion

124. The TA considers that sound investment decision associated with network and service rollout would be based on “area” basis instead of “customer-by-customer” basis. It is fair to both the USP and its competitors to calculate USC on “distribution points” basis as all FNOs have similar obligations to provide their services at locations where the services could be reasonably provided. The TA therefore concludes that the aggregation basis should be changed from “customer-by-customer” to “distribution points” for USC calculation purpose.

### Intrinsic Benefits

125. Intrinsic benefits may include brand awareness/loyalty, public payphone visibility, ubiquity of service, and life cycles effects (i.e. unprofitable now but profitable over time) and so on. Some overseas jurisdictions put a value on the USP intrinsic benefits while others did not follow. These benefits have so far not been reflected in the current USC calculation model. The following specific questions were asked in the consultation paper:

***Question 20:*** *Should USC incorporate the intrinsic benefits from undertaking USO?*

***Question 21:*** *If yes, how should such benefits be quantified?*

### Submissions

126. Many submissions generally agree to the inclusion of intrinsic benefits in the USC calculation. As to the assessment of intrinsic benefits, two submissions suggest engaging a consultant to assess the amount of intrinsic benefits. Another two submissions consider it unnecessary when USO is open to competition through bidding.

127. In contrast, a few submissions concern the lack of a well-defined approach and the difficulty in quantifying the intrinsic benefits. The USP contends that the quoted benefits, if any, are equally present to USP and other operators after more than ten years of market liberalisation in Hong Kong. It is extremely difficult to separate any USP intangible benefits from other possible intangible benefits. It argues that the intrinsic benefits cannot be directly attributed to the operator of the USP and hence should have no bearing on the USC calculation.

### Response and Analysis

128. The TA agrees that the intrinsic benefits can be, to a certain extent, attributed to both the USP and its counterparts as competition develops. The TA notes the difficulty of identifying and quantifying the intrinsic benefits and the need to separate the intrinsic benefits of USP from others and therefore recommends not to proceed further down this path for the time being. If in due course the USO is open for bidding the intrinsic benefits would be internalised in the bidding process and it would obviate the need of quantification and separation.

### Conclusion

129. Having taken into account the views of the submissions and the above analysis, the TA consider it appropriate not to quantify and account for any intrinsic benefits of being a USP at this stage.

### Trend Analysis

130. The current USC calculation methodology is a fairly involved and time-consuming process. Given the nature of the cost data and the complexity of the cost model, there is a lag of some two years before the final USC level for the year is determined. A trend analysis may be used to estimate future USO costs, either based on indexation or econometric estimation, in order to facilitate a more timely determination of the USC. The following specific questions were raised in the Consultation Paper:

***Question 22:*** *Should we adopt trend analysis to estimate USC?*

*Question 23: If yes, should we determine the USC in advance for the following 3 years or other appropriate period?*

### Submissions

131. All submissions generally agree in principle that the trend analysis should be used to simplify the calculation process. However, there are concerns that there might be fundamental changes to the calculation methodology and hence the past trend of USC may not be relevant for future estimation. No submission specifically specifies the period for the trend analysis.

### Response and Analysis

132. Respondents are generally in support of the proposed trend analysis. Adopting the trend analysis would simplify the calculation process and shorten the time from the end of accounting year to the availability of the actual USC level.

### Conclusion:

133. Having considered all the submissions and the analysis above, the TA consider that the trend analysis should be pursued. In the implementation, the TA will work closely with the USP to establish the reasonable trend based on past data to calculate USC for 2006 and the first half of 2007.

## **Funding Arrangements for USO**

134. The existing arrangements of sharing the universal service cost on the basis of IDD traffic volume originated from historic situation when IDD services, which used to have high profit margins, were subsidizing the then loss-making local telephone services. The legacy of cross-subsidy between local and IDD services has now been rectified and the profit margins generated by external telecommunications services are on the decline. Furthermore, increasing volume of external telephone traffic is routed entirely over IP networks, bypassing the traditional IDD services operated over circuit-switched networks. The existing arrangements may not be fair or sustainable in the

longer term. There is therefore a need to review the USC sharing mechanism by considering alternative sharing basis such as eligible revenue generated and telephone numbers allocated.

135. In the Consultation Paper, the TA set out four options of USC sharing basis and sought the view of the industry, namely:

Option 1 – *Status quo*, i.e. sharing on the basis of IDD traffic minutes through circuit-switched networks;

Option 2 – Sharing on the basis of eligible revenue;

Option 3 – Sharing on the basis of numbers allocated to fixed services with prefixes 2, 3, 8, 57 and 58; and

Option 4 – Sharing on the basis of numbers allocated for fixed and mobile services with prefixes 2, 3, 6, 8, 9, 57 and 58 when MNOs are treated the same as FNOs in relation to fixed-mobile interconnection regulation, subject to the outcome of consultation of the Deregulation for Fixed-Mobile Convergence. Prior to that Option 3 is adopted.

136. The TA asked the following questions in the Consultation Paper:

***Question 24:*** Which option do you prefer? Please give reasons for your preference.

***Question 25:*** Do you have any other suggestion on the USC sharing mechanism that is fair and easy to implement in light of the recent developments in telecommunications markets?

### Submissions

137. Most submissions favour either Option 1 (*status quo* – sharing on the basis of IDD traffic delivered) or Option 4 (sharing on the basis of telephone numbers allocated to fixed and mobile services subject to same treatment in relation to regulation of fixed mobile interconnection charge (**FMIC**) for all local carriers).

138. Other suggestions in the submissions are:

- public/government funds the obligation because USO is a social

- obligation;
- USP bears all costs because it can make use of its extensive network to provide broadband and IPTV services;
  - USC should be shared on the basis of the number of telephone numbers activated (not allocated) otherwise it would hamper prepaid service;
  - USC should be shared on the basis of the number of telephone numbers allocated to all operators irrespective of whether FMIC has been deregulated.

### Response and Analysis

139. The whole telecommunications industry is well developed and the revenue base generated is large in comparison to the cost of USO. Therefore, as explained in paragraph 8 above, the present arrangement of funding the universal service cost within the telecommunications industry has been operating smoothly for many years with minimal effect on consumer prices in the market. Therefore the TA takes the view that there is no need to change the existing arrangements. It is reasonable for the telecommunications industry which benefits from the universality of network services to fund the USO. Funding the USO within the telecommunications industry has the additional advantage that the industry will then have the necessary incentive to ensure the efficient provision of USO.

140. As regards the other comments in the submissions, that the USP is making use of the extensive network to provide broadband and IPTV services is not relevant as the network costs for the provision of broadband and IPTV services have been excluded from the universal service costs. All operators assign numbers to customers and all MNOs offer prepaid services. The TA cannot see any reason why sharing on the basis of the number of all telephone numbers allocated would harm prepaid services.

141. With fixed-mobile convergence, the distinction between fixed and mobile networks will become increasingly blurred. Apart from access to limited resources such as radio spectrum and public road space for underground ducts, etc., the rights and obligations of fixed and mobile carriers should in principle be the same. Therefore, if the basis of sharing the universal service cost is changed to that based on the number of telephone numbers allocated, it

is more reasonable to include all telephone numbers that have been allocated, irrespective of whether the telephone numbers are for fixed or mobile services. IP telephone services allocated with telephone numbers will also be required to share the universal service cost. This basis of sharing is fair as all services that require the allocation of telephone numbers benefit from the universality of network services.

### Conclusion

142. Having considered the submissions and noting that Options 1 and 4 are preferred by the majority of the respondents, the TA considers that the *status quo* (sharing on the basis of IDD traffic volume handled) should be maintained for the time being. The basis for the sharing of the cost of USO will then be migrated to that of the number of all telephone numbers allocated from May 2009 when the current regulatory intervention in FMIC is withdrawn<sup>8</sup>.

## **Administration Matters**

143. In the Consultation Paper the TA sought the view of the industry on the existing USC collection mechanism through an intermediary. In addition, he proposed that the accumulated unclaimed USC rebate to universal service contributors (approximately \$5 million) should be used to reduce the level of the USC.

### **USC Collection Mechanism through an Intermediary**

*Question 26: Do you think the USC collection mechanism through an intermediary should be maintained?*

### Submissions

144. Most submissions favoured keeping an intermediary for USC collection. However, a few mentioned that if sharing on the basis of the number of telephone numbers allocated is adopted, the burden on USC

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<sup>8</sup> The TA will deregulate the existing FMIC arrangement subject to a transitional period of two years starting from the date of issue of the TA Statement on “*Deregulation for Fixed-Mobile Convergence*” on 27 April 2007.

collection will be much lessened.

145. The USP opines that the charge levied by the intermediary, Citibank, for administering the USC collection mechanism and its own operational costs incurred in extracting relevant revenues and costs are not recovered under the existing USC arrangements.

#### Response and Analysis

146. The TA would like to point out that, in spite of what the USP has asserted, the charge levied by the intermediary has already been accounted for as relevant cost in the calculation of USC since the inception of the scheme in 1999. In addition, there is no reason to exclude the operational costs (including the cost of extracting relevant revenues and costs for the compilation of USC) of the USP that are relevant to the USC calculation.

#### Conclusion

147. Having considered the submissions, the TA is of the opinion that when the sharing of the USO cost is still based on the amount of IDD traffic handled, an intermediary will continue to be engaged to collect USC because the IDD traffic is considered to be sensitive commercial data. However, when the sharing basis shifts to the number of all telephone numbers being allocated in May 2009, OFTA will advise the USP the amount that individual contributor should pay and the USP will bill and collect the USC direct.

#### **Unclaimed USC Rebate**

*Question 27: Do you agree with the TA's proposal in handling the unclaimed rebate?*

#### Submissions

148. Most submissions agree with the TA's proposal of using the unclaimed rebate to lower USC. One submission proposes using the unclaimed rebate to finance the construction of submarine cables for diversity so as to reduce the impact during natural disasters, such as the earthquake at Luzon Strait (south of Taiwan). The USP claims that due to its "unreimbursed" expenses (as

referred to in paragraph 145 above), returning the unclaimed amount to the company would be appropriate.

### Response and Analysis

149. The USP's claim is already refuted in paragraph 146 above. The cost of constructing submarine cables is in the order of hundreds of millions of dollars. Commercial incentive should be preserved for the investment in submarine cables for hedging against the risk of disruptions due to natural disasters. If the investments were subsidized and the capacity was then allocated to non-investing operators, this would dilute the incentives for investment in diversity capacity.

150. The provisional USC payment was made to cover the cost of providing universal service. If the provisional USC payment turned out to be higher than the actual universal service cost, the USP should refund the excess payment to the contributors via the Intermediary under the present Tripartite Agreement. Some of the contributors may have already been dissolved and the Intermediary cannot effect the refunding. As the USC was paid to cover the universal service cost, it is fair and just that the unclaimed USC is used to offset the future cost of providing universal service. The TA therefore considers that the proposal of using the unclaimed rebate to lower USC should be implemented.

### Conclusion

151. The TA decides that the accumulated unclaimed USC rebate to universal service contributors should be used to reduce the level of the USC.

## **Way-forward**

152. The TA proposed in the Consultation Paper to divide the implementation into two phases. "Relevant Revenue and Cost under Competition", "Exclusion of areas with alternative fixed network coverage from the USO", "The Aggregation Basis" and "Funding arrangements for USO" will be covered in Phase 1. This phase may include other issues after consulting with the industry. The TA's conclusions on the rest of the issues raised in the Consultation Paper would be drawn only in Phase 2 and

implemented in stages in accordance with the outcome of the review.

153. In this Statement, the TA's conclusions concerning continuation of existing arrangements are as follows:

- Universal Service Arrangements (paragraph 9)
- PSTN as part of "basic service" (paragraph 16)
- Payphone service as part of "basic service" (paragraph 23)
- DQ service as part of "basic service" (paragraph 47)
- Treatment of USP's discounts in USC calculation (paragraph 90)
- Treatment on asset write downs of USP (paragraph 96)
- Treatment of excess capacity (paragraph 100)
- Historical cost approach (paragraph 104)

154. The TA's conclusions involving some changes to existing arrangements that will be implemented in Phase 1 are listed below. Unless stated otherwise, all items will take effect as from 1 July 2007.

- Scope of universal service (paragraphs 28 - 29, 34 and 52)
- USC for Areas with Alternative Fixed Network Coverage, and USC for Payphones in the Vicinity of Competitive and Alternative Service (paragraphs 71 – 74 and 84 - 85)
- Treatment of NGN cost (paragraph 110)
- The Aggregation Basis (paragraph 124)
- Trend analysis in USC calculation (paragraph 133)
- Funding Arrangements for USO (paragraph 142). The *status quo* will be maintained until end April 2009, when the sharing basis will be migrated to that of the number of all telephone numbers allocated.
- Administration Matters (paragraphs 147 and 151). We will continue to engage the intermediary until end April 2009, after which the USP may bill individual contributors directly.

155. Issues that should be considered at the appropriate time in the future (Phase 2) are as follows:

- DQ service under SC 10 and GC 25 of fixed carrier licence or Fixed Telecommunications Network Services licence and as part

of “basic service” (paragraph 47)

- Competitive provision of universal service (paragraph 59)
- Forward looking current cost approach (paragraph 104)
- Intrinsic benefits of being a USP (paragraph 129)

156. It will take time to come up with a confirmed USC level for periods after 1 July 2007 based on the revised methodology set out in this Statement. Hence, the provisional level for USC on and after 1 July 2006 given in the TA Statement on “Universal Services Contribution – Confirmed Level for 2004 and Provisional Level on and after 1 July 2006” issued on 13 November 2006 will continue after 1 July 2007 until further notice.

**Office of the Telecommunications Authority**

8 June 2007