

**Licensing of Mobile Services on Expiry of  
Existing Licences for Second Generation Mobile Services**

**Statement of the Telecommunications Authority**

**29 November 2004**

**INTRODUCTION**

At present, second generation (2G) mobile services are licensed under the Public Radiocommunications Service (PRS) licences pursuant to the Telecommunications Regulations (Cap. 106A). Of the eleven 2G PRS licences, five of them operate in the 825 - 960 MHz bands, providing Public Mobile Radiotelephone Services (PMRS) based on the GSM 900 standard (three systems), IS-95 CDMA standard (one system) and IS-136 TDMA standard (one system). The remaining six licences operate in the 1710 - 1880 MHz bands providing Personal Communications Services (PCS) using the GSM 1800 standard. These licences have expiry dates ranging from July 2005 to September 2006.

2. Since August 2003, the Telecommunications Authority (TA) has initiated a public consultation on the licensing of mobile services on expiry of existing 2G licences. Two rounds of consultation have been conducted. The first round of consultation commenced on 1 August 2003 with the issue of the “First Consultation Paper” and ended on 2 October 2003, with 23 submissions received. The second round of consultation commenced on 19 March 2004 with the issue of the “Second Consultation Paper” and ended on 19 June 2004, with a total of 66 submissions received from the parties as shown in Annex. All submissions to the First and Second Consultation Papers are published on the web site of the Office of the Telecommunications Authority (OFTA) at <http://www.ofta.gov.hk>.

3. In addition, the TA has commissioned a consultant to give advice on the setting of spectrum utilization fee and to assess the business case of a potential investment in a new system operating in the spectrum currently occupied by the existing IS-95 CDMA system. The consultant’s report is also published on OFTA’s web site.

4. Having duly considered the views and comments in response to the two Consultation Papers and the findings of the consultant, the TA would like to conclude the consultation exercise by setting out how he will deal with the relevant issues. For the avoidance of doubt, this statement sets out the approaches to be adopted by the TA and nothing in this statement constitutes the exercise of any statutory power conferred on the TA under the Telecommunications Ordinance.

5. Adopting the convention used in the Second Consultation Paper, the terms “GSM Licence”, “PCS Licence”, “CDMA Licence” and “TDMA Licence” will be used to denote the existing PRS licences deploying GSM 900, GSM 1800, IS-95 CDMA and IS-136 TDMA standards respectively.

## LICENSING ARRANGEMENTS FOR THE GSM AND THE PCS LICENCES

### Offer of “Right of First Refusal”

6. In the Consultation Papers, the TA proposed to grant the “right of first refusal” to the nine incumbent GSM and PCS licensees who had been making efficient use of the frequency spectrum assigned to them in the past years. The TA also took into account the importance of providing a stable investment environment and ensuring continuity of customer service. It was also recognized that the nine incumbent GSM and PCS licensees had been providing satisfactory service to their subscribers with continuous investments and improvements.

7. As the proposal is supported by the majority of the respondents to the Second Consultation Paper, **the TA decides to grant the “right of first refusal” to the nine incumbent GSM and PCS licensees.** The “right of first refusal” will entitle the licensee, who agrees to the licence conditions and exercises the right, to a new Mobile Carrier Licence that shall be granted on the date on which the relevant GSM or PCS licence expires.

8. The new Mobile Carrier Licence will have a period of validity of 15 years and will contain all the general conditions that are prescribed under the Telecommunications (Carrier Licences) Regulation (“Carrier Licence Regulation”) made by the Secretary for Commerce, Industry and Technology (SCIT). In addition, the TA will, pursuant to his power under section 7A of the Telecommunications Ordinance, attach special conditions to the new Mobile Carrier Licence.

9. OFTA will shortly commence the liaison with the concerned parties offering them the new Mobile Carrier Licence. They will be afforded reasonable opportunity and time to consider the offer. However, if any incumbent GSM or PCS licensee declines to accept the offer within the specified timeframe, the vacated frequency allocation will be reserved for future use. In that case, the licensee will need to provide reasonable and orderly “exit” arrangements to its subscribers.

## **Payment of Spectrum Utilization Fee**

10. In the Consultation Papers, the TA proposed that spectrum utilization fee (SUF) should be levied upon licensees of the 2G mobile services when the new licences were granted. Given that the existing GSM and PCS licensees are to be granted the “right of first refusal”, the 2G spectrum will not be allocated by a competitive mechanism similar to the 3G spectrum auction in 2001. The industry responses broadly agreed to the levy of SUF on 2G spectrum. As regards the structure and level of SUF, the industry submissions raised a number of practical concerns.

11. Some respondents considered that as the nature of 2G services and the capabilities of 2G networks were different from those of 3G services and 3G networks, the SUF for 2G should be set at a lower level than 3G. However, the TA would like to point out that, upon the acceptance of the “right of first refusal” for licence renewal, the licensees should make the best use of assigned spectrum with the most efficient technology available for the provision of more advanced mobile services. Nevertheless, the TA is aware that 3G equipment is not yet available on 2G spectrum as of today. In this connection, he considers that immediately adopting the 3G SUF structure for 2G licensees may result in additional cost to licensees but with little advancement in the quality and variety of underlying services.

12. Some respondents submitted that SUF should only apply as and when a licensee launches services at the data rate of 144 kbps or above. The TA does not agree with such a view because this may provide disincentives for operators to introduce advanced mobile services, thus working against the policy objective of efficient use of spectrum and to the detriment of consumer interest.

13. Having considered the above, the TA considers that the convergence of SUF structure between 2G and 3G services should be subject to a transition period of 5 years, during which SUF for 2G licensees will be set at a relatively low level. The TA considers that the transition period should allow sufficient time for operators to upgrade their networks for the provision of advanced mobile services. Towards the end of this transition period, the gap between the capabilities of 2G and 3G networks is expected to narrow down and the two networks will converge ultimately. As such, the TA considers that the SUF structure for 2G and 3G spectrum should converge after the transition period on

principle and parity grounds. That is, SUF would be imposed at 5% royalty of network turnover, with a minimum fee.

14. Some respondents suggested that SUF levied on each licensee should be determined according to the bandwidth assigned to that particular licensee. The TA observes that some mobile network operators are assigned with more spectrum than the others. The TA agrees that levying SUF proportional to bandwidth, together with a proper mechanism for licensees to return excessive spectrum, will provide incentives for licensees to make efficient use of assigned spectrum.

15. After the transition period, however, the TA considers that there is no need for the royalty percentage to be set proportional to bandwidth. Firstly, it would not be in line with the current SUF arrangement for 3G spectrum. Secondly, the TA considers that a larger amount of assigned bandwidth should enable a larger scale of mobile network operation. As a result, higher network turnover could be generated thus leading to a higher royalty payment.

16. Some respondents submitted that the 3G auction result in 2001 was due to bullish market expectations amid the “technology bubble” at that time, and that market conditions had deteriorated significantly since 2001. They argued that the SUF set by the 2001 auction was no longer an appropriate benchmark for 2G SUF, and that 2G licensees would be unable to afford SUF at similar levels to 3G. As described in paragraph 3, the TA has commissioned a consultant to give advice on the setting of SUF for 2G spectrum. The consultant has studied different market scenarios to evaluate the level of SUF and also analysed the financial profile of the mobile operators. The consultant recommends that there should be no immediate liquidity concerns among mobile operators directly as a result of 2G SUF levied upon them. The TA has given due regard to the findings of the consultant in making his recommendation on the SUF.

17. When finalizing the structure of SUF, the TA firstly observes that if the market turns out to be more difficult than expected, licensees (no matter 2G or 3G) would be cushioned by lower royalty payment which is expressed as a percentage of network turnover. There is no need to reduce the royalty percentage in order to proportionately alleviate the financial burden to mobile licensees. By the same token, the royalty payment allows the Government to

share the upside of the market. Secondly, the minimum SUF payment will be proportional to bandwidth. Therefore, mobile licensees will have the opportunity to optimize the level of minimum fee according to their own utilization patterns. Overall speaking, the TA is satisfied that the 2G SUF structure has already provided for changes in market conditions since 2001, and is flexible enough to cater for any market upturn or downturn in the future.

18. Having considered the submissions, **the TA decides to designate the frequency bands 890MHz – 915MHz, 935MHz – 960MHz, 1710.5MHz – 1780.1MHz and 1805.5MHz – 1875.1MHz, which will be assigned to the GSM and PCS licensees who exercise the “right of first refusal” and obtain mobile carrier licences, to be subject to the payment of SUF. As to the level of SUF, the TA recommends to the SCIT to set the SUF for 2G spectrum as follows:-**

- a) **For the first 5 years upon the issue of a Mobile Carrier Licence, SUF is recommended to be set at HK\$ 145,000 per MHz of frequency then assigned to the licensee per year;**
- b) **From the sixth licence year onwards to the expiry of the licence, SUF is recommended to be set at 5% royalty over the annual network turnover of the licensee, subject to a minimum fee of HK\$ 1,450,000 per MHz of the frequency then assigned to the licensee per year.**

19. Under this recommendation, based on the existing frequency allocation, the annual SUF for the first 5 years would be HK\$ 3.4 million for a PCS licensee and HK\$ 2.4 million for a GSM licensee. From the sixth year onwards, the annual SUF would be based on 5% of network turnover, subject to the minimum fee of HK\$ 34 million for a PCS licensee and HK\$ 24 million for a GSM licensee.

### **Use of Spectrum**

20. The SUF structure for 2G spectrum stated in paragraph 18 is independent from the provision of 3G services or other advanced technologies. That is to say, even if operators launch services of more advanced technology, such as 3G services, within the first 5 years upon the issue of the Mobile Carrier Licence, the same SUF structure will continue to apply.

21. The approach that the TA has adopted regarding the SUF is consistent with the technology-neutral policy followed all along by the TA. For example, it was stated explicitly in Section 2.1.2.2 of the Hong Kong Third Generation Mobile Services Licensing Information Memorandum issued in July 2001 that “the existing 2G Operators are free to use any technology, regardless of whether it is 2G or 3G, in the spectrum under their 2G Licences. In line with this regime, existing 2G Operators will be allowed to re-farm the spectrum for 3G, if they so wish, under the current terms and conditions of their existing Licences for the remaining period of validity”. Accordingly, the operators who take up the new Mobile Carrier Licences on the basis of the “right of first refusal” will enjoy the same right that they are enjoying under their existing licences.

## **ARRANGEMENTS FOR THE CDMA AND THE TDMA LICENCES**

### **Ensuring Efficient Use of Spectrum**

22. The TA has the statutory duty under section 32G of the Telecommunications Ordinance to promote the efficient allocation and use of the radio spectrum as a public resource of Hong Kong. The use of such a scarce public resource should be well managed to the benefits of the general public.

23. The First and Second Consultation Papers contained the TA's consideration on the licensing arrangements for the CDMA and the TDMA licences. Based on the statistics of the subscriber size, network deployment and carried traffic, the TA formed the view that the CDMA and the TDMA licensees had not actively developed and marketed their services. In the interest of efficient utilization of the scarce spectrum, the TA opined that the "right of first refusal" should not be offered to these two licensees.

24. The TA would like to emphasize that the validity period of PRS licences is prescribed in Section 2(2A) of the Telecommunications Regulations to be "10 years from the day on which it is granted, and, subject to the discretion of the TA, may be extended for a further period of up to 3 years". The TA had previously exercised his discretion, in accordance with the Telecommunications Regulations, to extend these licences for 3 years. The TA has no discretion to extend further the CDMA and the TDMA licences. The CDMA and the TDMA licences will expire on 19 November 2005 and 22 July 2005 respectively. Such expiry and the proposal not to grant the "right of first refusal" to the CDMA and the TDMA licensees should not be construed as "withdrawal" of the licences. The statutory provision on the validity period and the discretionary extension of up to 3 years is clear. The licensees should be well aware of the limitation imposed by the statute and their claim that they have legitimate expectation that their licences will be renewed upon their respective licence expiry dates is therefore unsubstantiated. The TA has nonetheless endeavoured to ensure that all affected licensees are treated fairly and given the opportunity to make representations which ought to be considered before a decision to grant or not to grant fresh licences is made.



## **Inefficient Use of Assigned Spectrum by CDMA and TDMA Networks**

25. As a matter of fact, there is a sharp decline of the number of subscribers of the CDMA network, while the number of subscribers of the TDMA network has consistently remained at a very low level. The number of subscribers of the CDMA network declined from 105,154 (as at August 2002) to 25,687 (as at July 2004) while the number of subscribers of the TDMA network declined from 39,643 to 30,590 over the same period. As a comparison, the number of subscribers for a typical PCS network is around one million, achieving an average of 86,000 subscribers per MHz (paired) of bandwidth allocation. But the CDMA and the TDMA networks are only able to achieve around 4,000 subscribers per MHz (paired).

26. Similarly, there is also a sharp decline on the number of installed base stations for CDMA and TDMA networks. According to the information submitted by the respective licensees, the number of installed base stations for CDMA network decreased from 463 in August 2002 to 282 in July 2004. The number of installed base stations for TDMA network decreased from 283 to only 2 over the same period. For sake of comparison, a typical dual-band GSM/PCS network or PCS network in Hong Kong operates over 1,000 base stations in order to achieve territory-wide coverage in Hong Kong and to support the large subscriber base.

27. It is obvious from the above technical data that the CDMA and the TDMA networks are not effectively utilizing the spectrum assigned to them. With the diminishing number of installed base stations, it is also doubtful whether the networks can provide acceptable network coverage in Hong Kong to satisfy the needs of their subscribers. In addition, the IS-95 CDMA technology and the IS-136 TDMA technology being deployed are dated and becoming obsolete.

### **TA's Decision**

28. After taking due consideration to the submitted information by the concerned parties and also the views of other respondents, the TA maintains that it is in the public interest not to grant the "right of first refusal" to the existing CDMA and TDMA licensees. Extending the tenure of the use of spectrum by the CDMA and the TDMA licensees who do not achieve efficient use of

spectrum is not in the interest of public, as it will be at the expense of the opportunity of using the same spectrum by services that can generate higher economic benefits to the community.

29. Nevertheless, the TA is also mindful that, in order to safeguard the interests of the subscribers to the CDMA and the TDMA services and the interests of inbound roamers to the CDMA network, the licensees should be given suitable period for migrating its existing customers to other mobile networks. The TA considers that a migration period of 3 years would be sufficient for the CDMA and the TDMA licensees to complete the migration exercise. During the migration period, it is not necessary for the licensees to occupy all the assigned bandwidth to provide services to their currently small subscriber size. Only part of the currently assigned frequencies sufficient to cater for the existing traffic volume will be assigned to the CDMA and the TDMA licensees.

30. Based on the monthly traffic information submitted by the CDMA licensee, it is estimated that the allocation of two IS-95 CDMA radio carriers (i.e. 2 x 2.5 MHz) will be more than sufficient for the CDMA licensee to carry all its existing traffic volume. For the TDMA licensee, the monthly traffic carried by the TDMA network is found to be far less than that of the CDMA licensee. However, on equity grounds, TDMA licensee will also be given the same migration period with the same amount of spectrum as the CDMA licensee.

31. In summary, **the TA decides that both the TDMA and the CDMA licensees will be given a migration period of 3 years, with one-third of the original assigned spectrum (i.e. 2.5 MHz paired spectrum).** The rest of the spectrum currently assigned under the TDMA and the CDMA licences is to be returned to the TA when the licences expire in July 2005 and November 2005 respectively. The licensees should devise changeover plans to ensure minimum service disruption to their customers.

32. With the decision, the TA ensures that the under-utilized spectrum can be re-farmed or reserved for future use pending the outcome of the spectrum policy review described in paragraph 42. Meanwhile, without compromising the policy of ensuring efficient use of spectrum, the CDMA and the TDMA licensees could be allowed more time to migrate their subscribers to other

telecommunications networks they operate in an orderly and steady pace with minimal disruption caused to the consumers.

### **Licensing Vehicle for the 3-Year Migration**

33. It has been explained in paragraph 24 of this document that the TA does not have the power to further extend the existing CDMA and TDMA licences. To implement the decision in paragraph 31, the TA intends to make offer to the CDMA and the TDMA licensees such that the CDMA and the TDMA paired spectrum will be assigned under their respective GSM licences. With this offer, upon the expiry of the TDMA licence of CSL on 22 July 2005, the 2 x 2.5 MHz TDMA paired spectrum will be assigned to CSL under its GSM licence for about half a year until its expiry in January 2006. When the amended GSM licence itself expires on 11 January 2006, the 2 x 2.5 MHz TDMA paired spectrum will then be assigned to CSL under the new Mobile Carrier Licence which CSL obtains by exercising the “right of first refusal” for another two and half years until 22 July 2008 inclusive. When assigning the 2 x 2.5 MHz TDMA paired spectrum to CSL under its GSM licence and its Mobile Carrier Licence, the TA will specify explicitly that the relevant frequencies are for IS-136 TDMA services only.

34. The CDMA licence and the GSM licence of Hutchison will both expire on 19 November 2005. With the same offer, upon the expiry of the CDMA licence of Hutchison on 19 November 2005, the 2 x 2.5 MHz CDMA paired spectrum will be assigned to Hutchison under the new Mobile Carrier Licence which Hutchison obtains by exercising the “right of first refusal” for its GSM licence. The TA will specify explicitly that the 2 x 2.5 MHz CDMA paired spectrum is assigned for 3 years until 19 November 2008 inclusive and is for IS-95 CDMA services only. The Government will shortly commence the liaison with the licensees on the offers.

35. The TA will designate the spectrum assigned during the 3-year migration period to be subject to the payment of SUF. The TA recommends to the SCIT that the same level of SUF as described in paragraph 18, i.e. an annual SUF of HK\$ 145,000 per MHz, should be payable for the use of the relevant spectrum under Mobile Carrier Licences.

## **TREATMENT OF THE VACATED SPECTRUM AND OTHER AVAILABLE SPECTRUM**

### **Proposals in the Second Consultation Paper**

36. In the Second Consultation Paper, a number of proposals for re-farming the frequency spectrum for mobile services were discussed. It was then proposed that the frequency spectrum vacated from CDMA licence should be made available for allocation to a new licence. It was also proposed that the frequency spectrum vacated from the TDMA licence and the spare spectrum in the 1800 MHz band should be reserved for future migration or capacity expansion of all eligible mobile operators.

37. Since then, the TA has received diverging views from the industry. Some supported that allocation of the vacated spectrum from the CDMA licence for the operation of a new system, whereas others doubted the effect of introducing further competition in an already competitive market. Before making a decision on the treatment of the vacated spectrum as well as the spare spectrum, the TA has taken stock of the market situation and reviewed the proposals.

### **Result of the Consultancy Study on the Financial Model for Hong Kong Mobile Market**

38. The TA has commissioned a consultant to conduct financial modelling on the Hong Kong mobile market and assess the business case of a potential investment in a new system operating in the spectrum currently occupied by the existing IS-95 CDMA system. Accordingly, the consultant has studied different market scenarios (e.g. whether the data market booms or stagnates, whether a new licence is issued) and different profiles of the operator of the new system (e.g. a newcomer to the telecommunications market, an existing 2G mobile operator, an existing 3G mobile operator and an existing operator without a mobile licence). The business case for the new system is largely mixed under different scenarios. However, the TA did not ask the consultant to recommend on the optimal number of mobile operators in Hong Kong because such a recommendation would be arbitrary and subjective. The economic model was developed based on certain theoretical assumptions and generalities. The actual market conditions may vary and may not be predictable in the longer

term. The TA has therefore taken the modelling results as a reference only - he considers that the size of the mobile market and the optimal number of players should be determined by the market and the competitive process itself rather than by the TA.

### **TA's Considerations**

39. The TA notes that the consultancy study did not provide a conclusive result on the prospect of a new system and the economic benefits to the Hong Kong market generated by licensing this new system.

40. In addition, the TA has also noted the generally negative reaction in the submissions in response to the Second Consultation Paper to the proposal of licensing a new system in the spectrum currently occupied by the existing IS-95 CDMA system.

41. The TA therefore considers that there is no urgency in introducing a new system operating in the spectrum vacated by the existing IS-95 CDMA system. Further study to be undertaken as part of the spectrum policy review described in the following paragraph has to be conducted before a decision is made on whether and if so, when and how the vacated spectrum should be licensed for the operation of a new system.

42. The Government intends to initiate a separate spectrum policy review on the allocation and assignment of radio spectrum for telecommunications and related services. In the light of the outcome of the review, the Government will initiate the necessary legislative and administrative procedures to implement the revised spectrum policy. The TA will then determine the way forward for the allocation and assignment of the spectrum vacated by the existing IS-95 CDMA system and other available spectrum for mobile and other telecommunications services. If any operators or parties have any plan to use the spectrum for the deployment of advanced mobile networks, they may submit their proposals to the Government during the spectrum policy review. The Government will consider such proposals in the context of the policy review.

## **Re-farming TDMA Spectrum for EGSM**

43. Concerning the spectrum vacated from the TDMA licence, the TA maintains the view that the band plan should be aligned with that of the Mainland. This will facilitate the development of a harmonized band plan across Hong Kong and the Mainland so that the utilization of the scarce public resource on both sides of the boundary can be maximized. As mentioned in the Second Consultation Paper, the band 885 – 890 MHz / 930 – 935 MHz is assigned for the EGSM service in the Mainland. The alignment of the band plan will require that the TDMA spectrum be re-farmed for the EGSM service.

44. As a result, **the TA decides that the spectrum vacated from the TDMA licence may be re-farmed for EGSM services. The re-farmed spectrum may be made available for capacity expansion by the existing mobile operators.** The ultimate band plan for the 800 MHz band will be determined after the TA has duly consulted with the relevant stakeholders. The method of allocation of the EGSM spectrum will be discussed in the following paragraphs.

## **TREATMENT OF THE VACATED SPECTRUM FROM THE TDMA LICENCE AND THE UNALLOCATED PCS SPECTRUM**

45. Some of the PCS licensees have informed the TA of their spectrum shortage problems. At present, each of the PCS licensees is assigned with 2 x 11.6 MHz bandwidth in the 1800 MHz band. Some of them have achieved high efficiency in the use of the assigned spectrum as they are now providing network services to more than one million subscribers each. In order to cope with their business growth and also to enable the introduction of higher speed mobile data services, some of the PCS licensees have made applications to the TA for the allocation of additional spectrum. As mentioned in the preceding paragraphs, the spectrum vacated from the TDMA licence, after re-farming for supporting EGSM service, may be made available for capacity expansion by the existing licensees. In the meantime, the unallocated 2 x 4.9 MHz PCS spectrum (i.e. 1780.1 – 1785 MHz / 1875.1 – 1880 MHz) may also be made available for immediate allocation.

46. The TA recognizes that some of the mobile operators possess both the GSM and PCS licences. These operators have therefore implemented dual-band operations such that in effect they are having 2 x 19.9 MHz for providing their services. However, other operators only have PCS licences with 2 x 11.6 MHz bandwidth allocation. Given that the market share of all the six mobile operators in Hong Kong are quite evenly spread, those mobile operators having the PCS licences only may have genuine spectrum shortage problems.

47. As a result, the TA sees a need to consider allocating the spectrum vacated from the TDMA licence and the unallocated 2 x 4.9 MHz PCS spectrum (i.e. 1780.1 – 1785 MHz / 1875.1 – 1880 MHz) as soon as possible. According to Sections 32G(2) and 32I(1) of the Telecommunications Ordinance (Cap. 106), the TA is required to consult the industry and such other persons who may be directly affected before dividing the radio spectrum to frequency bands and channels, specifying the general purpose of use of the frequency bands and channels, assigning the frequencies and designating the frequencies to be subject to SUF payment. The applications of the PCS licensees for the allocation of additional spectrum have been outstanding for some time. The TA considers that there is sufficient public interest to process the applications outside the

spectrum policy review as mentioned in paragraph 42. The TA will therefore conduct a separate consultation on this matter shortly.



## **LICENCE CONDITIONS APPLICABLE TO THE NEW MOBILE CARRIER LICENCE**

48. In this section, the licence conditions applicable to the new Mobile Carrier Licence will be discussed.

### **Imposition of Open Network Access Requirement**

49. As in the Second Consultation Paper, the TA maintained the intention to impose the Open Network Access (ONA) obligation on all new Mobile Carrier Licensees at a certain specified date from which 3G services were expected to be provided. However, the TA is mindful of the concerns raised by the existing GSM and PCS licensees. While some licensees including Hutchison, NWPCS supported the proposal, others like HKCSL, SmarTone and Peoples objected the imposition of ONA obligation to any licensees. In particular, Peoples urged the TA to take into consideration the existing network structure, utilization and capacity limitations of individual licensees when imposing the ONA requirement.

50. Judging from the current market conditions, it is anticipated that some of the GSM and PCS licensees after taking up the “right of first refusal” will probably be offering mobile services still using the existing 2G technologies in the short term. At present, the GSM and PCS licensees are using the assigned spectrum in a highly efficient manner, as demonstrated by the fact that the licensees are now serving a combined total of more than 7.7 million subscribers as at July 2004. From the technical point of view, the licensees may find it difficult to make available part of their installed network capacity to fulfil the ONA requirement. The provision of network capacity to other content and service providers by the licensees may also have adverse impact on the grade of service being offered to their subscribers.

51. In view of the anticipated technical concerns, the TA considers that the licensees should be given certain flexibility in complying with the ONA requirements. Instead of mandating a certain specified date after which the ONA requirement will be brought in force, the TA will conduct assessment on whether the licensees have sufficient network capacity to satisfy the ONA requirements before enforcing the relevant licence conditions. The assessment

for the licensees will likely take into account the actual network capacity installed, the usage of the network capacity, network upgrade plan, etc.

52. To conclude, **the TA decides to impose relevant licence conditions to require the licensees taking up the “right of first refusal” to open 30% of their network capacity to non-affiliated service providers.** The regulatory regime for the ONA requirement will follow that for the 3G licensees. In order to give flexibility to the licensee to comply with the ONA requirement, the TA will grant a waiver to the licensees for the first 5 years of the licence period. At the sixth anniversary of the licence, the TA may consider granting extension to the waiver on a case-by-case basis, taking into account whether the licensees have sufficient network capacity to satisfy the ONA requirement.

### **Implementation of Mandatory Codes of Practice**

53. As mentioned in both the First and Second Consultation Papers, the TA maintained his views that certain Codes of Practice should be mandated in the new Mobile Carrier Licence, and that he should have the power to require the licensees to comply with certain Codes of Practice as and when necessary. The TA was prepared to impose a special condition such that the TA would be empowered to require the licensees to comply with certain Codes of Practice to be prescribed by the TA from time to time.

54. The incumbent operators indicated that they had reservations on the imposition of the mandatory Codes of Practices, especially when they claimed to have satisfactorily complied with the voluntary Codes of Practice through self-regulation. Indeed, it is TA’s intent to employ a light-handed approach in the regulation of mobile services. The TA encourages the industry to take on initiatives to self-regulate on activities related to service provisioning and network operation. However, the TA wishes to re-iterate that there is still a need to institutionalize the regulatory framework of mobile service through the Codes of Practice. Therefore, the TA considers it necessary to put in place appropriate licence conditions in the new Mobile Carrier Licence so that the TA may direct the licensee to comply with certain Codes of Practice in case industry self-regulation fails or in case it does not live up to the expectation of the general public.

55. With the above considerations, **the TA decides to add a new licence condition with respect to the mandatory Codes of Practice in the new Mobile Carrier Licence to be issued to those GSM and PCS licensees taking up the “right of first refusal”**. The new licence conditions will require the licensees to comply with any Code of Practice or guidelines which may be issued by the TA from time to time. The Code of Practice or guidelines will provide practical guidance to the licensees in respect of the following areas:-

- Provision of satisfactory service;
- Protection of customer information; and
- Protection and promotion of the interests of the consumers of telecommunications goods and services.

The TA will take into account the views of the public and take reasonable steps to invite participation of the relevant licensees in the development of the Codes of Practice or guidelines.

### **International Mobile Equipment Identity (IMEI) Checking**

56. The Hong Kong Police Force (HKPF) had made a submission to the Second Consultation Paper in which the latest situation of the problem on mobile phone theft was discussed. According to the HKPF, mobile phone theft had become a major crime problem in Hong Kong over the past few years and there was an upward trend for young persons falling victim to mobile phone theft. To contain the problem, Police proposed to add a new licence condition in the Mobile Carrier Licence such that the licensee should be able to render mobile phones unusable or invalid by denying their network access through checking of IMEI.

57. The TA is aware of the initiatives taken by some overseas jurisdictions on maintaining a central database of lost, stolen or unauthorized IMEI with which operators can check for the validity of the handsets being used by their subscribers. Nevertheless, the TA notes that the arrangement sought by the HKPF may carry a couple of limitations. Firstly, unless regional implementation of IMEI checking is established, shipping stolen handsets out of the territory would render local IMEI checking efforts ineffective in combating mobile phone theft. In addition, there are also reports that the IMEI of certain

models of the handsets may be re-programmed. These will compromise the efforts made in establishing the IMEI checking arrangements.

58. **In view that IMEI checking will potentially be beneficial to the society, the TA considers that the operators should take the necessary initiatives to implement IMEI checking.** The above-mentioned limitations can be dealt with, for example, through regional cooperation in establishing a region-wide IMEI database. Moreover, efforts in stopping IMEI re-programming can also be made to ensure the effectiveness of IMEI checking.

59. Noting that the operators may require some time to agree on the various technical aspects of IMEI checking, the TA will allow the operators sufficient flexibility in the implementation of IMEI checking. A licence condition will be added to the new Mobile Carrier Licence so that the licensees will be required to implement IMEI checking when directed by the TA. The TA will keep track of the progress of the implementation by the industry and will issue a direction in this matter at the opportune time.

#### **No Need for Performance Bond**

60. In the Second Consultation Paper, the TA acknowledged that the existing GSM and PCS licensees have provided mobile services with satisfactory coverage. Given their solid on-going business and their wide customer base, the TA proposed not to impose the performance bond requirement on the existing GSM and PCS licensees. As the respondents are generally supportive of the proposal, **the TA decides that the performance bond requirement will not be included in the new Mobile Carrier Licences to be granted to the existing GSM and PCS licensees taking up the “right of first refusal”.**

#### **No Need for Service Continuity Requirement**

61. In response to the Second Consultation Paper, the MTR Corporation (MTRC) indicated that there might be a risk of non-continuity of the existing mobile services on MTRC premises on the day of commencement of the new Mobile Carrier Licences. Accordingly, MTRC proposed that a new licence condition/warranty/guarantee for same service coverage and standard should be

included in the new licences, insofar as the *status quo* of 2G services was maintained.

62. The TA notes MTRC's concern but he has reservation on the need for such a requirement. The mobile market of Hong Kong thrives on competition. Each of the existing GSM and PCS licensees is providing high quality mobile service and network coverage to attract and retain its customers. They will risk losing market share by providing a deteriorating service and coverage. Through market force, the TA expects that the licensees will not only maintain the *status quo* but continuously innovate and improve their services as well. Therefore, the TA maintains his view that there is no need to impose any licence condition to mandate the licensees to maintain the *status quo* of 2G services.

### **Other Licence Conditions**

63. After considering the views submitted by the respondents, **the TA decides that the licence conditions as applicable to the existing 3G licensees will also be included in the new Mobile Carrier Licence.** These licence conditions include the following:-

- Accounting Separation
- Anti-avoidance Provisions
- Directory Services
- Disposal of Assets
- Emergency Service
- Location Service
- Metering Accuracy
- Numbering Plan and Number Portability
- Requirements for Interconnection
- Tariffs

**Office of the Telecommunications Authority**  
**29 November 2004**

**Names of Respondents to the Second Consultation Paper**

1. Mr Ka Kai Eddie Chan
2. Hong Kong Police
3. Mr Leung Sai Ming, Gary
4. Fire Services Department
5. British Consulate General
6. NEC Corporation
7. Canadian Consulate General
8. JP Morgan Securities (Asia-Pacific) Limited
9. Motorola
10. Dr Xu Yan
11. GSM Association
12. CDMA Development Group
13. NTT DoCoMo, Inc.
14. New World PCS Limited
15. LG Electronics Inc.
16. Zoneo Communications Limited
17. Easeful Strategic Ltd
18. Dr Hon David Y L Chu, JP
19. Hong Kong Telecommunications Users Group
20. M-Bounce Limited
21. Standard Chartered Bank
22. Merrill Lynch (Asia Pacific) Limited *[Submitted on a Confidential Basis]*
23. Hewlett Packard HK SAR Limited
24. China Unicom Limited
25. Cellcast (Asia) Limited
26. Voice Corner Limited
27. Messaging Technologies (H. K.) Limited
28. Samsung Electronics HK Co., Ltd.
29. Freshfields Bruckhaus Deringer
30. Lucent Technologies (China) Co. Ltd
31. MAS Technology Co. Ltd
32. Nortel Networks (Asia) Limited
33. Credit Suisse First Boston (Hong Kong) Limited *[Submitted on a Confidential Basis]*
34. China Resources Peoples Telephone Company Limited

35. Ericsson
36. MTR Corporation Limited
37. Morgan Stanley
38. BNP Paribas
39. Nokia (H.K.) Limited
40. Goldman Sachs (Asia) L.L.C.
41. Easy Group Holdings Limited
42. Hong Kong Broadband Network Ltd
43. Professor Martin Cave
44. Sidley Austin Brown & Wood LLP
45. Telstra Corporation Limited
46. Deutsche Bank
47. Siemens Ltd
48. Qualcomm International
49. SmarTone Mobile Communications Limited
50. LoverLover.com Limited
51. IVRS (International) Ltd
52. Hon Sin Chung Kai
53. Wharf T&T Limited
54. Paul, Weiss, Rifkind, Wharton & Garrison
55. SUNDAY
56. Hong Kong CSL Limited
57. Go-CDMA Limited
58. Ms Susanna Wong
59. ABN AMRO Asia
60. Hutchison Telephone Company Limited & Hutchison 3G (HK) Limited
  - Professor Janusz Ordover and Dr William Lehr
  - Network Economics Consulting Group Pty Ltd
  - PA Consulting Group
61. Global Mobile Suppliers Association
62. Dr Peter Yum
63. Telewide Enterprises Ltd
64. Mobile Telecom Network (Holdings) Ltd
65. The American Chamber of Commerce [*Late Submission*]
66. Consumer Council [*Late Submission*]

(The above respondents are arranged according to the date of their submission received by OFTA).