

Telecommunications Regulatory Affairs Advisory Committee

Minutes of the Seventh Meeting

**Held on Thursday, 20 November 2014 at 2:30 p.m.
in OFCA Conference Room, 20/F Wu Chung House**

Present

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| Mr Danny Lau | Office of the Communications Authority (OFCA) (Chairman) |
| Mr Chaucer Leung | OFCA (Secretary) |
| Ms Agnes Tan | Wharf T&T Limited (Wharf T&T) |
| Mr Raymond Chan | Hong Kong Cable Television Limited |
| Mr Peter Lam | PCCW-HKT Telephone Limited, Hong Kong Telecommunications (HKT) Limited and Genius Brand Limited (HKT) |
| Mr Fred Lam | Hong Kong Police Force |
| Mr TL Or | SmarTone Communications Limited and SmarTone Mobile Communications Limited (SmarTone) |
| Mr William Brown | Hutchison Global Communications Limited and Hutchison Telephone Company Limited |
| Mr YH Shum | The Institution of Engineering and Technology Hong Kong (IETHK) |
| Mr York Mok | Ad personam |
| Mr Sutton Cheung | ComNet Telecom (HK) Limited (ComNet) |
| Mr Raymond Wong | Paging operators as a group |
| Ms Eva Chan | Ad personam |
| Mr Dennis Leung | Verizon Hong Kong Limited (Verizon) |
| Prof Xu Yan | Ad personam |
| Dr Andrew Simpson | Ad personam |
| Mr Indarto Nata | Mobile virtual network operators (MVNOs) as a group |
| Mr William Li | 21 ViaNet Group Limited (21 ViaNet) |
| Mr Allen Law | Services-based operators (SBOs) as a group |

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| Mr Andrew Hung | HKC Network Limited |
| Ms Edith Wong | Towngas Telecommunications Fixed Network Limited |
| Ir Dr KF Tsang | The Hong Kong Institution of Engineers (HKIE) |
| Mr Alex Cheng | China Mobile Hong Kong Company Limited (CMHK) |
| Mr Charles Yeung | Hong Kong Broadband Network Limited |
| Mr Patrick Ng | NTT Com Asia Limited (NTT) |
| Mr Gilbert Chan | Communications Association of Hong Kong |

In Attendance

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| Mr Malcolm Leong | Wharf T&T |
| Mr WH Tang | HKT |
| Mr Kelvin Ma | IETHK |
| Mr Kenneth Kwok | ComNet |
| Mr Robert Sia | Paging operators as a group |
| Mr YK Ho | 21 ViaNet |
| Mr CK Cheng | OFCA |
| Mr Esmond Chiu | OFCA |
| Mr TS Chew | OFCA |
| Ms Linda Yu | OFCA |
| Mr Sidney Tsan | OFCA |
| Mr CH Yim | OFCA |
| Ms Pancy Cheng | OFCA |

Absent with Apologies

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| Dr Victor Hung | Consumer Council |
| Mr Raphael Ho | Equinix Hong Kong Limited |
| Mr Ken Yiu | Hong Kong Mobile Television Network Limited |

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| Mr Johnny Cheung | New World Telecommunications Limited |
| Mr Billy Yeung | Hong Kong Wireless Technology Industry Association |
| Mr Paul Abfalter | Telstra International HK Limited and Telstra International Limited, and External fixed operators as a group |
| Mr Kenneth Lau | TraxComm Limited |
| Mr Y S Lee | China Telecom Global Limited |
| Mr Eric Yeung | Small and Medium Enterprises |
| Ms Fannie Cheung | Ad personam |
| Mr Stephen Chan | External telecommunications services (ETS) providers as a group |

The Chairman welcomed Members to the new term of 2014/2016 under the Telecommunications Regulatory Affairs Advisory Committee (TRAAC) and thanked Members for attending the meeting. He briefed Members that meetings would generally be held at around three to four month intervals. In general, OFCA would propose items for discussion, but Members were also welcome to propose other discussion topics. He introduced the new faces of the meeting, namely, Ir Dr KF Tsang from HKIE, Mr Kelvin Ma from IETHK, Mr William Li and Mr YK Ho from 21 ViaNet, Mr Patrick Ng from NTT, Mr Dennis Leung from Verizon, Mr Indarto Nata representing MVNOs as a group and Mr Robert Sia representing paging operators as a group.

2. With no comment received, the Chairman said that the proposed agenda was adopted.

Item 1 Confirmation of Minutes of Last Meeting

3. The Chairman reported that the draft meeting minutes of the sixth TRAAC meeting were circulated to Members for comment on 11 June 2014. As there was no comment received from Members, the minutes of the sixth meeting were confirmed without amendment.

Item 2 **Matters Arising**

Item 6 of the Minutes of the Second TRAAC Meeting - Restriction of Certain Mobile Terminals in respect of LTE Networks

4. Concerning the alleged anti-competitive conduct in relation to preventing certain Apple devices from connecting to certain fourth generation/Long Term Evolution networks in Hong Kong, the Chairman updated Members that the Communications Authority (CA) had completed an investigation into the complaint case and published its decision on the CA website. Members may refer to the decision for details.¹

5. Concerning the case stated application before the Court of Appeal regarding the decision of the Telecommunications (Competition Provisions) Appeal Board, the Chairman updated Members that a hearing would be held in July 2015.

Item 3 of the Minutes of the 5th TRAAC Meeting - Arrangements for the Frequency Spectrum in the 1.9 - 2.2 GHz Band upon Expiry of the Existing Frequency Assignments for the Provision of 3G Mobile Services and the Spectrum Utilisation Fee

6. At the invitation of the Chairman, the Secretary updated Members that upon passage of the subsidiary legislation in July 2014, the CA offered to the three incumbent spectrum assignees right of first refusal for the re-assignment of the spectrum concerned and all of them accepted the CA's offer in August 2014. They would be reassigned with 69.2 MHz of spectrum in October 2016.

7. The CA made available the remaining 49.2 MHz of the spectrum for re-assignment through an open auction. The Information Memorandum was published on 19 September 2014. Three existing mobile network operators, namely Hutchison Telephone Company

¹ The CA decision is available at http://www.coms-auth.hk/filemanager/listref/en/upload/38/iPhone_Decision_20140630_e.pdf.

Limited, SmarTone Mobile Communications Limited and CMHK applied to participate in the auction. The bidding stage of auction would commence on 8 December 2014 and the result was expected to be known before Christmas.

[Post-meeting Note: The bidding stage of the auction was completed on 8 December 2014. 49.2 MHz of paired radio spectrum in the 1.9 – 2.2 GHz band was successfully auctioned off to three mobile network operators at total spectrum utilization fees (SUF) of HK\$2.42 billion.²]

Progress of the Next Generation Network Working Group (NGN WG) and its Subgroup

8. At the invitation of the Chairman, the Secretary updated Members that after the last TRAAC meeting, both the NGN WG and its subgroup had convened a meeting in August 2014. The meetings, among other regular items, focused on finalising the NGN development status template.

9. The Secretary updated that the interconnection test plan was still under discussion by members. As for the interconnection trials, some companies encountered technical issues which had to be resolved with suppliers. The trials were expected to be held in 2015.

Item 3 Better Utilisation of the 8-digit Numbering Plan (TRAAC Paper No. 4/2014)

10. At the invitation of the Chairman, Mr Sidney Tsan gave a presentation on the proposals to extend the lifespan of the 8-digit numbering plan which had been discussed in the Telecommunications Numbering Working Group (TNWG) meetings.³

² For details about the provisional successful bidders, the radio spectrum under bidding and the SUF determined in the auction, please refer to http://www.ofca.gov.hk/en/industry_focus/radio_spectrum/auctions/1_9_2_2_ghz_band_licensing/index.html.

³ The presentation slides are available at http://www.ofca.gov.hk/filemanager/ofca/en/content_757/traac4_2014_p.pdf.

11. Ms Agnes Tan queried if OFCA would first conduct an external consultancy study on migration to a longer-digit numbering plan. In response, the Chairman and the Secretary explained that this paper discussed on how to better utilize the existing 8-digit numbering plan. For longer term development of the numbering plan, OFCA would need to engage an external consultant to conduct a study at a later time in the future.

Proposals on the use of “7X” and “4X” numbers for mobile service

12. There were diverse views from Members in regard to the use of “7X” or “4X” numbers for mobile service. According to Mr Peter Lam, mobile operators were in favour of using “7X” numbers because (a) a larger quantity of numbers would be made available, and (b) the number of paging subscribers was relatively small and the impact to vacate existing users could be minimized through a gradual migration of the “7X” numbers.

13. On the other hand, Mr Raymond Wong explained that paging operators encountered difficulties in forcing the existing subscribers to change and use another number, if migration of paging subscribers was required. For instance, some users had embedded the paging numbers into their PABX systems. Changes to these systems had to be made if paging numbers were to be relocated.

14. In response to Mr Alex Cheng’s query, Mr Sidney Tsan explained that without migrating the existing paging subscribers, only a few vacant number blocks could be released for re-allocation to mobile services because the existing active paging numbers were scattered over the “7(1-9)X” number level. Mr TL Or opined that the regulator should handle such inefficient use of numbers. Mr Esmond Chiu said that operators might return discrete numbers to OFCA and that would result in the fragmentation issues such as in the number levels for paging services.

15. Mr York Mok opined that both proposals should be executed at the same time to extend the lifespan of the existing 8-digit numbering plan. The Chairman remarked that in that case, it might foreclose the

option to migrate to 9-digit numbering plan in the future.

16. Mr Esmond Chiu explained that in considering the issue, OFCA had to take into account three areas: (a) availability of numbers, (b) impact on existing users, and (c) future migration option. OFCA was inclined to adopt proposal 2 as “4X” number level would be immediately available while it took time to vacate the “7X” numbers; there might be service disruption to existing paging users and mission critical systems including the paging systems in hospitals; and the option of allocating “7X” numbers for mobile service might restrict the option available for future migration. He supplemented that even if the “4X” number level was chosen for mobile numbers, OFCA would continue to work with paging operators to migrate the existing paging customers gradually to vacate the “7X” numbers.

17. Mr TL Or suggested the TNWG to conduct further study on the exact lead time required in implementing the two proposals. He also suggested the TNWG to further study the actual quantity of numbers that would be made available by September 2017.

18. Mr York Mok and Mr Peter Lam considered that the monthly mobile number consumption rate of 145k might be overestimated. Mr Lam said that the average amount of mobile numbers allocated to mobile operators in 2013 and for the first nine months of 2014 were only 72.5k per month and 49k per month⁴ respectively. The mobile number consumption rate was also decreasing over the past two years. Mr Mok opined that by making use of both “4X” and “7X” numbers and increasing the number utilisation threshold, the existing numbering plan might last for a much longer time. In response, the Secretary and Mr Sidney Tsan explained that the current estimation was derived from the consumption rates over the past four years. OFCA needed to make use of a long-run average consumption rate in its estimation so as to plan ahead for the future migration of the numbering plan and cater for any unexpected upsurge in demand, such as the launch of new smartphones which might significantly stimulate the demand for mobile numbers.

⁴ According to the record of OFCA, the average amount of mobile numbers allocated to mobile operators for the period from January 2014 to September 2014 was 44k per month.

19. Prof Xu Yan opined that numbers for both fixed and mobile services should be considered altogether in the fixed-mobile convergence environment. In response, the Secretary explained that such an idea would be useful if there were plenty of fixed numbers available. However, as a matter of fact, the current amount of unallocated fixed numbers was 1.1 million which was just adequate to cater for the demand on fixed services. The Chairman pointed out that there had not been any actual implementation of fixed-mobile number portability in Hong Kong. As regards whether different digit length would be adopted for fixed and mobile numbers, this issue could be further explored under an external consultancy study in the future.

Tightening up of the criterion for application for additional number block by raising the threshold of utilization rate from 70% to 80%

20. Mr Peter Lam had reservation about imposing a higher threshold of utilization rate as it would undermine the growth of the pre-paid SIM market. According to his knowledge, few or none operators invested in using over-the-air number assignment method. At present, a number would be pre-assigned to a pre-paid SIM card and the operator had no knowledge of when a pre-paid SIM card would be activated and used. He added that with the utilisation rate of mobile numbers at about 70%, mobile operators had been utilizing the allocated numbers effectively.

21. The Chairman concluded that no consensus could be reached on the issue. He would like TNWG to further study the questions raised by Members, in particular, to review the utilization of paging numbers in a detailed manner to see if it would be technically possible to migrate paging users with minimal disruption to them, as well as the cost implication on the paging operators in the migration. The proposals to adopt new number level for mobile services and to revise the criterion for application for additional number block would be reviewed and further discussed in the next meeting.

Item 4 **Numbering Arrangement for Machine-to-Machine Communications (TRAAC Paper No. 5/2014)**

22. At the invitation of the Chairman, Mr Sidney Tsan presented OFCA’s proposal to allocate “4500X” numbers with 12-digit length for machine-to-machine (M2M) communications services and to reserve “450(1-9)X” numbers with 12-digit length to meet the future demand, as well as the proposed regulatory arrangement on these numbers.⁵

23. Mr TL Or queried if the proposal involved any technical issue since the topic was previously referred to the former Technical Standards Advisory Committee (TSAC) by the former Telecommunications Numbering Advisory Committee (NAC) in 2011. The Secretary clarified that the TSAC had in 2012 concluded that there was no concern on the technical aspects of the issue.⁶

24. Regarding Mr Sutton Cheung’s query about the charge to be imposed on 12-digit “4500X” M2M numbers, the Chairman and the Secretary clarified that these numbers would not be subject to the number fee because they were subject to certain restrictions and were not considered as subscriber numbers.

25. Concerning the eligibility for applying for 12-digit “4500X” M2M numbers, the Chairman and the Secretary said that mobile network operators, fixed network operators, MVNOs, SBOs providing Class 1 or Class 2 services as well as paging operators were eligible to apply for the 12-digit “4500X” M2M numbers. Other entities such as manufacturers could work with these operators for the use of M2M numbers.

26. Mr Kelvin Ma asked if there was any specification in supporting the use of 12-digit “4500X” M2M numbers in roaming situations, such as country code digits. In response, Mr Sidney Tsan said that the support of M2M communications in roaming situations would depend on the commercial roaming arrangement between the concerned operators.

⁵ The presentation slides are available at http://www.ofca.gov.hk/filemanager/ofca/en/content_757/traac5_2014_p.pdf.

⁶ Please refer to the discussion of the M2M numbers in the TSAC’s meeting in 2012 at http://tel_archives.ofca.gov.hk/en/ad-comm/tsac/minutes/tsm55.pdf.

27. Prof Xu Yan considered that the proposal was a good initiative to encourage innovation. He added that apart from M2M, the Internet of things included connections between machine-to-people, people-to-machine and people-to-people. He suggested OFCA to look into numbers for those scenarios. The Chairman noted the suggestion and clarified that the current paper focused on M2M communications. He further updated that the international recommendation on the use of M2M numbers was not yet confirmed and OFCA would keep in view of the international development in this area.

28. With no objection raised, the Chairman concluded that Members supported the proposal.

Item 5 Development of TV White Space Technology (TRAAC Paper No. 6/2014)

29. At the invitation of the Chairman, Mr TS Chew gave a presentation on the development of TV White Space (TVWS) in some relevant countries and OFCA's preliminary assessment on the availability of TVWS for telecommunications applications in Hong Kong for Members' information.⁷ Based on OFCA's assessment, only a small number of TV channels might be available for TVWS for use in certain outdoor areas.

30. The Chairman pointed out that it might be difficult to deploy TVWS before the analogue switch off. Furthermore, he said that the international frequency allocation for TV services had been changing. For instance, there were discussions in the International Telecommunication Union (ITU) to allocate part of the UHF spectrum band currently allocated for TV broadcasting service to be used for mobile service in view of the growing demand for mobile data. This issue would be discussed in the upcoming World Radiocommunication Conference in 2015. OFCA would keep in view of the developments in the ITU and other relevant international standardisation bodies and try to follow the international trends in determining the use of TVWS in Hong

⁷ The presentation slides are available at http://www.ofca.gov.hk/filemanager/ofca/en/content_757/traac6_2014_p.pdf.

Kong.

31. Mr Fred Lam suggested OFCA to consider allocating frequency spectrum in the 700 MHz band for mobile service like what had been considered in the United States. Mr Kelvin Ma also asked if OFCA would consider allocating frequency spectrum in the 400 MHz band for mobile services. In response, the Chairman advised that OFCA would try to follow the ITU recommendations in frequency allocation and would discuss in the Radio Spectrum and Technical Standards Advisory Committee (SSAC) meeting before making any decision in frequency allocation. Mr CK Cheng supplemented that according to the Radio Regulations of the ITU, Hong Kong and the United States belonged to different regions and had different plans on frequency allocation. In Region 3 (where Hong Kong belonged), the ITU had adopted a harmonised channelling plan in the sub-band 698 - 806MHz for mobile service.

Item 6 Any Other Business

32. In concluding the meeting, the Chairman announced that the next TRAAC meeting would tentatively be convened about three to four months later. There being no other business, the meeting was adjourned at 5:00 pm.

33. The Chairman wished Members a merry Christmas and a happy new year.

**Office of the Communications Authority
December 2014**