

Office of the Communications Authority
Major Tasks and Projects for 2016-17

(I) Priority Tasks/Projects

(1) Support to the Communications Authority

1. We will continue to provide the necessary support to the Communications Authority (CA) to enable it to assume the full spectrum of its regulatory functions.

(2) Review of Legislation

2. The Government will review the existing Broadcasting Ordinance (BO) (Cap. 562) and the Telecommunications Ordinance (TO) (Cap. 106) and work with the CA to devise a plan on the areas to be reviewed and the review timetable. We will support the Government and the CA in this exercise.

(3) Regulation of Telecommunications Services and Equipment

3. In February 2012, the licensee holding the Unified Carrier Licence (UCL) authorising it to provide broadcast-type mobile television service (Mobile TV Service) launched its service using the transmission standard of China Mobile Multimedia Broadcasting (CMMB). In December 2013, Hong Kong Television Network Limited (HKTV) acquired the UCL holder and changed its name to Hong Kong Mobile Television Network Limited (HKMTV). In January 2014, HKMTV indicated to us that it proposed to change the transmission standard from the original CMMB to Digital Terrestrial Multimedia Broadcast (DTMB) for the provision of its Mobile TV Service. As the executive arm of the CA, we consider that the objective effect of HKMTV's proposed change of transmission standard to DTMB would render its Mobile TV Service available for reception by an audience of more than 5 000 specified premises in Hong Kong and hence licensable under the BO. On 11 April 2014, HKMTV and HKTV applied for leave to commence judicial review proceedings against us concerning the interpretation of the BO and the Mobile TV policy. Leave was granted on 20 May 2014. The substantive hearing was held on 26 and 27 November 2014. On 29 September 2015, the Court of First Instance handed down its judgment in favour of Office of the Communications Authority (OFCA) and dismissed all the grounds of

judicial review brought by HKTV and HKMTV. We are processing the proposal from HKMTV to facilitate its provision of a Mobile TV Service that complies with the requirements of the relevant legislation and its UCL.

4. There are a number of licence conditions in the carrier licences issued under the TO imposing requirements which duplicate the relevant provision in cross-sectoral legislation and/or regulation enacted over the past years. On 5 September 2014, the CA and the Secretary for Commerce and Economic Development (SCED) jointly issued a consultation paper seeking the views of the industry and interested parties on the removal of these duplicated licence conditions from the carrier licences. The consultation ended on 20 October 2014. After careful consideration of the submissions received, the CA and the SCED issued a joint statement on 10 March 2015, promulgating their decisions on amendments to the general conditions (GCs) and special conditions (SCs) in the carrier licences. The CA decided to remove five SCs governing road opening works from the UCLs newly issued thereafter. As for the existing carrier licences, we issued a circular letter inviting the licence holders to return their licences for effecting the corresponding removal of the SCs. While we have completed the amendments to those licences returned for our action by the licence holders, we will continue to effect the amendments upon the request of the remaining licence holders. The SCED decided to remove a GC concerning restrictions on attachment to public buildings and trees from the carrier licences, and will introduce the necessary legislative amendments to effect the removal. We will provide the necessary assistance to the SCED.

5. In April 2013, the CA announced its decision that the regulatory guidance on the charging principles of fixed-fixed narrowband interconnection would cease to be effective starting from 16 October 2014, after an 18-month transitional period. The major fixed network operators have already established replacement fixed-fixed interconnection arrangements among themselves after the withdrawal of the regulatory guidance. We will continue to monitor developments and assist the industry in resolving interconnection issues, if any, that may arise.

6. The new local access charge (LAC) regime was introduced on 1 July 2013 after a transitional period of 18 months. Most of the major network operators have concluded their commercial negotiations and implemented the replacement arrangements under the new LAC regime. We will continue to monitor the market developments and assist the industry in resolving problems, if any, arising from the implementation of the new regime.

7. We appointed a consultant in 2011 to study the implications of the deployment of Next Generation Network (NGN) in Hong Kong on our regulatory regime. The consultant completed its study and put forward a number of recommendations. We reconvened the NGN working group to follow up the relevant recommendations made by the consultant and other issues pertaining to the development of NGN in Hong Kong. We will work closely with the industry to address various NGN issues to ensure the smooth roll out of NGN in Hong Kong.

8. Following our issue of the guidelines on mitigating the risk of gas explosion in telecommunications manholes in June 2010, fixed operators with manholes installed in public streets are required to follow the guidelines in conducting regular inspection and have been implementing mitigation measures and conducting sample inspections on their manholes in public streets. The mitigation measures set out in the guidelines are found to be effective in preventing gas explosion in telecommunications manholes. We will continue to monitor the preventive work of the operators in accordance with the requirements set out in the guidelines.

9. The existing assignments of 118.4 MHz of paired frequency spectrum in the 1.9 – 2.2 GHz band will expire in October 2016. The CA announced its decision on 15 November 2013 to adopt a hybrid of administratively-assigned cum market-based approach to re-assign the spectrum, and the SCED promulgated the related arrangements for the spectrum utilisation fee (SUF) on the same day. We assisted the SCED in completing the necessary legislative amendments in July 2014 whereupon the CA offered the right of first refusal of 69.2 MHz of the spectrum in the 1.9 – 2.2 GHz band to the incumbent spectrum assignees. All of the incumbent spectrum assignees accepted the offers by August 2014. We also assisted the CA in finalising the auction rules and issued the related Information Memorandum to the industry in September 2014 for auction of the remaining 49.2 MHz of spectrum. The auction was completed in December 2014 and the 49.2 MHz of spectrum was successfully auctioned off to three mobile network operators at total SUF of HK\$2.42 billion. We will continue to follow up with all the mobile network operators as well as conduct publicity and consumer education during the run up to October 2016 so as to ensure a smooth changeover of the concerned radio spectrum among assignees.

10. Assignments of frequency spectrum of 198.6 MHz in the 900 MHz and 1800 MHz bands will expire during the period from November

2020 to September 2021. According to the Radio Spectrum Policy Framework promulgated by the Government and the Statement on minimum notice periods for variation or withdrawal of spectrum assignments issued by the former Telecommunications Authority, the CA should endeavour to notify the incumbent spectrum assignees its decision on the arrangements for spectrum re-assignment three years in advance of the expiry of the existing term of assignments, i.e. by November 2017. We will launch the first public consultation in early 2016 to solicit the views of the industry and other interested parties on the re-assignment arrangements, and commission a consultancy study to assess any impacts on service quality arising from different spectrum re-assignment options.

11. With the continuous growth in the number of mobile subscribers, it is estimated that the telecommunications numbers available for allocation to mobile services will be used up around October 2018. We have been in active dialogue with the industry on various measures to extend the lifespan of the existing 8-digit numbering plan, such as re-allocating the under-utilised number blocks to mobile services, raising the threshold of utilisation rate before operators can apply for new number blocks, etc. We launched a public consultation exercise from October to December 2015 to solicit views from the industry and the public on the proposed measures. We will study the views received and make recommendations to the CA on way forward so as to make available more number blocks for allocation to mobile services.

12. We have been discussing with the Ministry of Industry and Information Technology (MIIT) of China and the Guangdong Communications Administration (GCA) on the charges for mobile roaming service between Hong Kong and the Mainland. It is agreed that the one-card multiple-number service is an effective and affordable substitute to address the issue of high mobile roaming fees. Mobile operators in Hong Kong and the Mainland have reached commercial agreements among themselves on the provision of one-card-multiple-number service. Mobile operators are also offering day passes which enable mobile data roamers to cap the service charge. We will continue to monitor the market situation and liaise with MIIT and GCA with a view to addressing the concern on high mobile roaming charges.

(4) Facilitating Infrastructure Rollout

13. Since 2010, we have been offering a single-point-of-contact service to prospective applicants to assist them in applying for the necessary

statutory approvals for landing new submarine cables in Hong Kong. The overall response of the industry is positive. Two new submarine cable systems have already come into operation in Hong Kong since 2013. Two other new systems are under construction and will land in Hong Kong in 2016. We will continue to offer the service to facilitate the landing of new submarine cables in Hong Kong.

14. We have coordinated with the operators and liaised with the relevant Government departments and the Mainland authorities on the operators' proposals of utilising new cross-boundary infrastructures, such as the Hong Kong-Zhuhai-Macao Bridge for installation of cross-boundary optical fibre cables to increase the capacity and enhance the diversity of their cross-boundary facilities. We will continue to coordinate the matter with the parties concerned.

15. To help sustain Hong Kong's position as an advanced wireless city, we strive to assist mobile and fixed operators in deploying Government facilities, in particular lamp posts, for installing radio base stations and Wi-Fi systems respectively. We will work with the operators and relevant Government departments to streamline and fast track the application process. In tandem, we will continue to facilitate mobile operators to roll out their mobile broadband services by deployment of the hill-top sites and Government buildings in remote areas.

(5) Facilitating Access

16. We will continue to facilitate access to buildings by fixed operators for the installation of in-building telecommunications facilities for the conveyance of telecommunications and broadcasting services.

17. The Chief Executive in Council (CE in C) decided on 15 October 2013 to grant approval-in-principle to the free TV licence applications submitted by Fantastic Television Limited (Fantastic TV) and HK Television Entertainment Company Limited (HKTVE). In April 2015, the CE in C formally granted a free TV licence to HKTVE. We will render support and assistance to HKTVE to facilitate its access to buildings for the installation of in-building telecommunications facilities for the conveyance of its services.

(6) Consumer Protection

18. A voluntary Customer Complaint Settlement Scheme (CCSS),

which was set up and put on trial for two years by the telecommunications industry, has been implemented on a long-term basis starting from 1 May 2015. The CCSS aims to help resolve billing disputes in deadlock between telecommunications service providers and their customers by means of mediation. We will continue to support the CCSS by contributing the necessary funding, screening the applications against prescribed criteria for referral to the CCSS for conducting mediation, and monitoring the performance and the governance of the scheme.

19. In order to protect consumer interest and enhance transparency in the process of contract conclusion, we worked closely with the industry to draw up and implement self-regulatory measures in relation to telecommunications service contracts. After active discussions between OFCA and the industry, the Industry Code of Practice for Telecommunications Service Contracts, drawn up by the Communications Association of Hong Kong (CAHK), an industry association, and the major service providers, has come into operation in July 2011. Since then, the number of complaint cases in relation to disputes over telecommunications service contracts received by OFCA has reduced significantly. In May 2013, we commenced discussions with CAHK regarding suggestions for improving the Industry Code. After several rounds of discussion, CAHK promulgated the revised Industry Code in October 2014 and service providers have fully implemented the revised Industry Code by May 2015. We will continue to monitor the implementation and effectiveness of the revised Industry Code.

20. The Trade Descriptions Ordinance (TDO) (Cap. 362) as amended by the Trade Descriptions (Unfair Trade Practices) (Amendment) Ordinance 2012 (TD(A)O) has commenced operation since 19 July 2013. The CA is conferred concurrent jurisdiction to enforce the fair trading sections in respect of the commercial practices of the telecommunications and broadcasting licensees which are directly connected with the provision of a telecommunications or broadcasting service under the TO or the BO. We have worked closely with the Customs & Excise Department, the principal enforcement agency of the TDO, to ensure a coordinated approach to implementing the new regime to tackle unfair trade practices under the concurrent jurisdiction arrangement. Having regard to the experience of TDO enforcement in the two years since TD(A)O commenced operation, we will implement a number of measures to enhance the TDO investigation process and will propose possible legislative amendments to strengthen enforcement in the telecommunications and broadcasting sectors. We will continue to closely monitor developments in the telecommunications and

broadcasting markets, investigate cases involving unfair trade practices, and where circumstances warrant, take enforcement actions by exercising the powers conferred on the CA under the TDO against offending BO and TO licensees.

(7) Spectrum Management

21. A statement on “Spectrum Utilisation Fee for Spectrum Assigned Administratively” was jointly issued by the SCED and the former Telecommunications Authority in September 2011. SUF for the use of spectrum at congested frequency bands would be imposed after a grace period of two years. To implement the scheme, the Government will make the necessary amendment to the Telecommunications (Designation of Frequency Bands subject to Payment of SUF) Order (Cap. 106Y) and to specify through the making of a new regulation the level of SUF under section 32I(2) of the TO.

22. The World Radiocommunication Conference (WRC) of the International Telecommunication Union (ITU) was held in November 2015. We shall assist the CA in implementing the decisions of the WRC in consultation with the Radio Spectrum and Technical Standards Advisory Committee.

23. Spectrum to be used by or on behalf of the Government is managed administratively by OFCA. We completed the second review of the efficiency of the spectrum used by the Government in 2013 and posted our findings on our website. As deliverables of the second review, we have updated the Guidelines for Spectrum Assignment for Land Mobile Systems and Fixed Links Deployed by Government Users in Hong Kong and released four frequency bands, totalling 12.125 MHz of spectrum that has previously been reserved for government use, for shared use between the Government and the private sector. The next review will be conducted in 2016-17. In the meantime, we will continue to promote adoption of the abovementioned Guidelines by users of government spectrum in our frequency assignment work.

24. We installed a radio monitoring and direction finding system for our Radio Monitoring Unit back in 2001 to assist us in performing the radio monitoring and radio frequency interference investigations in Hong Kong. As the system has reached the end of its serviceable life, there is a need to procure a replacement system. We plan to conduct the tendering exercise for a new system in 2017.

(8) Regulation of Broadcasting Services and Equipment

25. In March 2011, the Government granted 12-year sound broadcasting licences to Digital Broadcasting Corporation Hong Kong Limited, Metro Broadcast Corporation Limited and Phoenix U Radio Limited for the provision of digital audio broadcasting (DAB) services. As required under their licences to formally launch their services within 18 months after grant of licences, i.e. by September 2012, all three licensees formally commenced services by the deadline. The CE in C approved in November 2015 the termination of the sound broadcasting licence of Phoenix U Radio Limited with effect from 7 November 2015. We will monitor the DAB services of the remaining licensees, including their technical performance and development of the DAB network, to ensure their compliance with licence requirements.

26. In October 2013, the CE in C approved in principle the applications of Fantastic TV and HKTVE for free TV licences. The CA had since proceeded with the follow-up work and submitted to the CE in C in January 2015 its recommendations on the licence applications. Having regard to inter alia the CA's recommendations, the CE in C formally granted a 12-year licence to HKTVE for the provision of free TV services by a fixed network in April 2015.¹ We will closely monitor the service roll-out of HKTVE and ensure its compliance with various milestones as stipulated in its free TV licence. As regards Fantastic TV's application, the CE in C, having taken into account the request of Fantastic TV, allowed time extension in May and September 2015 respectively for Fantastic TV to resolve all outstanding issues with and satisfactorily address the concerns of the CA in relation to its free TV licence application. The CE in C also invited the CA to further consider any relevant supplementary information and confirmation that Fantastic TV was required to provide and to submit further recommendations to the CE in C on Fantastic TV's application. The CA has reported to the CE in C via the Commerce and Economic Development Bureau (CEDB) its views and the latest developments in

¹ In April 2015, HKTVE submitted an application for the CA's approval for employing spectrum as an additional means of transmission for the delivery of its licensed free TV services. Having considered the submissions of HKTVE including its agreement to comply with all the additional conditions imposed by the CA which are pertinent to spectrum assignment for the provision of licensed free TV services, the CA approved in January 2016 HKTVE's application for the use of spectrum as an additional means of transmission and the assignment of spectrum to HKTVE for the delivery of its licensed free TV service from 2 April 2016.

respect of Fantastic TV's application. We will continue to follow up with Fantastic TV and assist the CA in processing the additional information to be provided by Fantastic TV as required.

27. In April 2014, HKTV submitted an application for a free TV licence. We supported the CA in conducting a comprehensive assessment of HKTV's application in accordance with the BO and established procedures. The CA submitted its recommendations on the licence application to the CE in C in January 2016.

28. In April 2015, Forever Top (Asia) Limited (Forever Top) submitted an application for a free TV licence. We will continue to support the CA in processing the application of Forever Top in accordance with the BO and established procedures.

29. In April 2015, having regard to inter alia the recommendations of the CA, the CE in C decided not to renew the free TV licence of Asia Television Limited (ATV) and extend the term of ATV's current licence to 1 April 2016 to comply with the requirement of the BO. We will continue to support the CA in monitoring ATV's compliance with the relevant regulatory requirements for the remaining period of the validity of its current licence. As for the licence renewal application of Television Broadcasts Limited (TVB), the CE in C decided on 12 May 2015 to renew the free TV licence of TVB for a new term of 12 years, with effect from 1 December 2015. We will continue to support the CA in monitoring TVB's compliance with the relevant regulatory requirements under the BO and its renewed licence.

30. The pay TV licence of Hong Kong Cable Television Limited (HKCTV) is due to expire in June 2017. HKCTV submitted its licence renewal application on 29 May 2015. The CA is processing the application in accordance with the BO and the established procedures. We assisted the CA in conducting a public consultation exercise from 22 July to 21 August 2015 to collect public views on HKCTV's licence renewal application. We will support the CA in assessing HKCTV's performance during the validity period of its current licence, its financial capability and investment commitment as well as the views collected during the public consultation to enable the CA to submit to the CE in C by May 2016 its recommendations on the renewal or non-renewal of the licence and the conditions subject to which the licence may be renewed.

31. The current analogue sound broadcasting licences of Hong

Kong Commercial Broadcasting Company Limited (CRHK) and Metro Broadcast Corporation Limited (Metro) are due to expire in August 2016. The two licensees submitted applications for licence renewal in accordance with the requirement under their licences. We supported the CA in processing the applications in accordance with the TO, the licences and established procedures. The CA submitted its recommendations to the CE in C on the licence renewal applications in May 2015.

32. Since the launch of Digital Terrestrial Television (DTT) services in late 2007, TVB and ATV have constructed in phases a total of 29 transmitting stations, bringing the overall DTT coverage to around 98% of the population by the end of 2012. Under the approval granted by the CA in June 2012, the two broadcasters are required to extend their DTT coverage to at least 98% of the population before end of 2012, and at least 99% of the population, i.e. on a par with that of analogue television broadcasting, by the third quarter of 2013. In 2012-13, the two broadcasters were working to increase the transmitting power of 17 fill-in transmitting stations for further improving the coverage. The power increase exercise was completed in mid-2013. According to the data from the field survey exercise conducted by the broadcasters in early 2014, the DTT coverage has been extended to at least 99% of the population. With the expiry of ATV's licence on 1 April 2016, and a new licensee, HKTVE, being assigned spectrum as an additional means of transmission to provide DTT services from 2 April 2016, we will continue to work with the TVB and HKTVE to further improve the service coverage.

33. In view of the current DTT penetration rate and the arrangement for realisation of digital dividend in Hong Kong, the Government announced in December 2014 that the working target for switching off analogue terrestrial television (ASO) would be adjusted from end 2015 to end 2020, with a review of the target date to be conducted in 2017-18. We set up an expert group with the Mainland authorities in August 2012 for frequency coordination after ASO and will continue to explore whether the vacated radio spectrum can be allocated for new services. We will also provide technical support to CEDB in reviewing the working target for ASO and preparing for ASO implementation.

(9) Competition Affairs

34. In November 2011, we announced that we would conduct consultation on information exchange between competitors in the telecommunications industry as a potential form of conduct in breach of the

competition provisions of the TO, with a view to providing guidance to the industry. In view of the full commencement of the Competition Ordinance (CO) (Cap. 619) in December 2015 and the simultaneous repeal of the competition provisions of the TO, the relevant guidance on information exchange has been incorporated into the Guideline on the First Conduct Rule issued under the CO on 27 July 2015 following two rounds of public consultation.

35. In September 2013, the CA announced the findings of its investigation into the complaints against the violation of the competition provisions of the BO by TVB and the sanction on TVB. The CA found TVB in breach of sections 13(1) and 14(1) of the BO, imposed on TVB a financial penalty of HK\$900,000, and directed TVB to end the concerned anti-competitive practices and to take a number of remedial actions. TVB lodged a statutory appeal with the CE in C in October 2013 against the CA's decision and applied in December 2013 for judicial review of the appeal mechanism to the CE in C under the BO as well as the CA's decision on the investigation.

36. The Court handed down its judgement on 29 January 2016. Of the seven grounds of review submitted by TVB, the Court ruled in favour of TVB on two grounds: (i) the appeal structure under section 34 of the BO (Appeal to CE in C) is in contravention of Article 10 of the Hong Kong Bills of Rights; and (ii) paragraph 277 of the CA's Decision, which required TVB to abandon all contractual clauses and policies in question and imposed other ancillary orders, went beyond what was necessary to redress the anti-competitive act of TVB. The Court concluded that the CA's Decision should be quashed. On 26 February 2016, the CE in C and the CA filed their Notices of Appeal to the Court of Appeal. We will continue to support the CA in handling the legal proceedings relating to the appeal.

37. We have issued a consultation paper in December 2013 in relation to the application for prior consent under section 7P of the TO for the proposed acquisition of CSL New World Mobility Limited, a carrier licensee under the TO, by Hong Kong Telecommunications (HKT) Limited. After considering the representations received and the findings of the competition analysis of the CA's economic consultant, the CA announced on 2 May 2014 its consent to the acquisition subject to conditions imposed on the carrier licensees concerned. We will continue to monitor the compliance by the licensees concerned with these conditions.

38. The CO was enacted by the Legislative Council (LegCo) in

June 2012. The CA is given concurrent jurisdiction with the Competition Commission (the Commission) to enforce the CO in respect of the conduct of telecommunications and broadcasting licensees, whilst the competition provisions in the BO and the TO will be repealed subject to transitional arrangements. On 27 July 2015, the CA and the Commission jointly issued a set of six guidelines on the enforcement and interpretation of the CO after two rounds of public consultation. We have also assisted the CEDB in preparing the Competition (Fees) Regulation setting out fees to be charged for applications made under the CO. With completion of all the preparatory work and signing of a Memorandum of Understanding between the CA and the Commission, the new cross-sector competition law commenced full operation on 14 December 2015. We will continue to enforce the repealed competition provisions of the BO and TO in relation to conduct of licensees which took place before the commencement date of the CO, pursuant to the transitional provisions stipulated thereunder, as well as a newly enacted section 7Q of the TO, on prohibition of exploitative conduct under the TO.

(II) Normal Tasks/Projects

(1) Regulation of Telecommunications Services and Equipment

39. As many licences for the provision of external facilities and/or services which were issued upon full liberalisation of Hong Kong's external telecommunications market in January 2000 expired in 2015, we received applications and issued a total of nine UCLs for replacement of these licences in 2015. Another six replacement UCLs were also issued in the year for the provision of internal fixed telecommunications services or internal and external fixed telecommunications services, and for the transmission of domestic television programme services. In addition, a new UCL was issued for the provision of internal fixed telecommunications services. We will continue to provide support to the CA on UCL applications.

40. In 2011, two incumbent mobile operators successfully bid for the radio spectrum in the 850 MHz and 900 MHz bands. Both have already fulfilled the rollout obligation. We will continue to coordinate with the successful bidder of the 900 MHz band, the railway operator for operating the Global System for Mobile Communications-Railway (GSM-R) system of the Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong-Express Rail link and mobile operators providing radio coverage in the country parks and remote areas, for the shared use of the overlapping

frequencies in order to avoid mutual interference.

41. In February 2012, we conducted an auction for assigning 90 MHz of radio spectrum in the 2.3 GHz band. Two incumbent mobile operators and one new entrant have successfully bid for the radio spectrum at a total sum of SUF of HK\$470 million. One of the successful bidders has fulfilled the rollout obligation using the radio spectrum assigned through the auction. We will continue to monitor the rollout progress of the other two successful bidders.

42. The CA approved in August 2015 the application by a fixed network operator to amend the network and service rollout requirement and the associated performance bond as incorporated into its UCL to facilitate its deployment of the 30 MHz of radio spectrum in the 2.3 GHz band that it had acquired through an auction in March 2012 for the provision of wireless fixed broadband services to village houses in the rural and remote areas. The operator committed to providing network and service coverage to 3 000 village houses by March 2017 and cumulatively 4 000 village houses by March 2018. We will monitor its progress in network and service rollout to the village house areas according to the committed milestones.

43. In March 2013, we conducted an auction for assigning 50 MHz of radio spectrum in the 2.5/2.6 GHz band for the provision of wireless broadband services. Four incumbent mobile operators have successfully bid for the radio spectrum at a total sum of SUF of HK\$1.54 billion. Two successful bidders have fulfilled the rollout obligation using the radio spectrum assigned through the auction. We will continue to monitor the rollout progress of the other two successful bidders.

44. The existing assignments of spectrum in the 1.9 – 2.2 GHz band will expire on 21 October 2016. Under the hybrid approach adopted by the CA as the re-assignment arrangements, all of the incumbent spectrum assignees accepted the offers to be re-assigned 69.2 MHz of the spectrum by August 2014, with the remaining 49.2 MHz of spectrum successfully auctioned off to three mobile network operators in December 2014. Amongst the three successful bidders, two of them are required to fulfil the rollout obligation using the concerned radio spectrum assigned through the auction, with the assignment period commencing on 22 October 2016. We will follow up with the issue of UCLs to effect the new spectrum assignment and monitor the progress of service roll-out.

45. The procedures for licensees to file interconnection

agreements with OFCA and the arrangements for their publication were updated in March 2012. A database has been developed for safekeeping the interconnection agreements received by OFCA. All the interconnection agreements received (including Type I and II interconnection, blockwiring and LAC, etc.) have been published at OFCA's website. We will continue to handle any new interconnection agreements received from interconnecting parties accordingly.

46. Mobile operators are required to pay royalties for the use of radio spectrum in the 900/1800 MHz bands and 1.9 - 2.1 GHz band for provision of telecommunications services. We will continue to monitor their regulatory accounting reports to ensure compliance with the accounting manual that specifies the accounting practices for separation accounting and reporting of network turnover.

47. Mandatory Type II Interconnection at exchange level and at buildings with more than one self-built customer access networks was withdrawn in full on 30 June 2008. We will continue to monitor the network rollout of the alternative self-built customer access networks of fixed operators.

48. To stimulate and promote further development of our broadband infrastructure, we launched a voluntary registration scheme for residential buildings connected with fibre-based access networks in November 2010. The scheme was extended to cover non-residential buildings in April 2013. Under the scheme, fibre-connected buildings are categorised into two classes, i.e. the fibre-to-the-home (FTTH) buildings and the fibre-to-the-building (FTTB) buildings. As of January 2016, 14 800 residential buildings were registered with the scheme, representing about 83% of the total number of households in Hong Kong. 1 400 non-residential buildings were also registered with the scheme. We will continue to encourage participation of industry players.

49. We will continue to combat unauthorised telecommunications activities, including the sale and use of unauthorised telecommunications systems and devices, which are in breach of the TO, the relevant regulations and the conditions of the various telecommunications licences.

50. By end September 2015, a total of 27 base stations serving country parks and the Hong Kong Geopark have been set up by mobile operators. We will continue to facilitate the installation of more base stations by these operators for improving mobile network coverage in

country parks, the Hong Kong Geopark and rural areas.

51. In order to provide hikers with the necessary information on mobile network coverage in country parks and the Hong Kong Geopark, we have prepared 171 digital maps which show such coverage in those areas and posted them on our website for public information. We will continue to update the maps when new base stations are installed.

52. As of 30 September 2015, a net amount of 7.2 million numbers had been returned by the operators since the implementation of the number fee regime in August 2008. We will continue to facilitate the operators' return of numbers and review the usage of the numbering resources in a timely manner to promote the effective and efficient use of telecommunications numbers and codes.

53. We will continue to discuss and exchange views with MIIT on further opening up and lowering of the entry barrier to the telecommunications market in the Mainland to Hong Kong Service Suppliers under the Mainland and Hong Kong Closer Economic Partnership Arrangement (CEPA).

54. With the implementation of the new regulatory framework for the Universal Service Obligation (USO) with effect from 1 May 2009, we have calculated the Universal Service Contribution (USC) based on an updated costing model. The last review of the level of USC for the years 2012 and 2013 has been completed with the results promulgated in July 2015. We will continue to liaise with the Universal Service Provider for a fair and reasonable calculation of the USC on a regular basis and promulgate the results to the contributing parties. Separately, with the implementation of the new funding arrangement under the USO also from 1 May 2009, we have requested the Universal Service Cost contributing parties to report the subscriber number on a quarterly basis and to certify such information on an annual basis. We will continue to follow up and liaise with the concerned contributing parties based on this new reporting requirement.

55. Following the implementation of a new computerised system for processing applications for and renewals of private mobile radio systems licences (the Electronic Licensing System), we will extend the system to cover other private telecommunications licences in 2015.

56. We commissioned an independent third party to design,

establish, operate and support a broadband speed test system in Hong Kong which enables and facilitates end users of fixed and mobile broadband services to test the performance of their broadband services. This test system sets a dedicated reference for local measurement and demonstration purposes. The system was launched in December 2010. In December 2013, we enhanced the system to support Internet Protocol version 6 (IPv6) and modified the iPhone Operating System (iOS) and Android apps to record location information in the test result logs. The system was further upgraded in December 2014 and January 2015 respectively to support measurement of fixed broadband connections up to 1 000 Mbps and mobile broadband connections up to 150 Mbps. As of September 2015, an accumulated total of more than 60 million tests were performed with an average daily hit rate of 34 726. We will continue to monitor the system performance and improve it taking into account market developments.

57. As a means to monitor the performance of telecommunications service providers and customer experience in a fully liberalised market, we have conducted a new round of telephone surveys in 2015 to gauge consumers' opinion on a number of measures implemented over recent years for enhancing consumer protection in the use of telecommunications services.

(2) Spectrum Management

58. To ensure the orderly development of new services and to minimise interference, we will continue to coordinate the use of radio spectrum for broadcasting and telecommunications services with neighbouring authorities.

(3) Regulation of Broadcasting Services and Equipment

59. We will continue to monitor the performance of the broadcasting licensees and ensure their compliance with the relevant legislative and licensing requirements.

60. All broadcasting licensees are required to observe the relevant codes of practice issued by the CA. By virtue of the Charter of Radio Television Hong Kong (RTHK) promulgated in August 2010, RTHK should also ensure that all its TV and radio services are in compliance with the relevant codes of practices of the CA. In particular, the programme codes set out the standards to be generally observed in programmes, covering issues such as taste and decency, the portrayal of sex and nudity,

the use of language, impartiality and fairness. The advertising codes deal with standards for the presentation and content of advertisements and sponsored programmes. The technical codes set out the technical standards of television and sound broadcasting services.

61. We review and revise the codes of practice for compliance by broadcasting licensees from time to time to ensure that they reflect changing community attitudes and standards and new broadcasting developments. In addition, to ensure the compliance with these codes by the licensees, we will continue to act on the complaints lodged by the public in a rigorous and transparent manner.

62. We will continue to liaise with the consumer electronics industry on the supply of compatible DTT receivers, and with building management offices and residents of buildings on the upgrading of their In-building Co-axial Cable Distribution Systems for DTT reception. To allow consumers to make an informed choice in purchasing DTT receiving equipment compliant with the local DTT standard, we will continue to operate the labelling scheme for DTT receivers.

63. We will continue to regulate the technical performance of the licensed broadcasters.

64. We will continue to improve the reception of the existing free terrestrial television and sound broadcasting in the territory, especially in areas where reception is not satisfactory.

65. We will continue to combat the import, export, trading and commercial use of unauthorised television decoders.

(4) Regulation of Unsolicited Commercial Electronic Messages

66. The Unsolicited Electronic Messages Ordinance (UEMO) (Cap. 593) has been in operation for eight years since December 2007. Based on our operational experience, we have made substantial revisions to the operational procedures. In September 2012, we computerised the complaint report management system to enhance the propriety and security control for our enforcement under the UEMO. The relevant code of practice (CoP) has also been updated and came into effect on 30 November 2013. The proposed amendments to the UEMO to allow service of notices issued by the CA by hand or by ordinary post, in addition to registered mail, were passed by the LegCo and came into effect on 5 December 2014. We

will continue to review and enhance the effectiveness of enforcing the UEMO.

67. We will continue to handle and investigate reports of suspected contravention of the UEMO and take appropriate action following the technology neutral principle. We will continue to review the report handling procedures. We will also provide support and advisory services to CEDB on spam related issues.

68. We will continue to maintain three Do-not-call Registers (DNCs) for use by the general public, and for businesses/organisations as senders of commercial electronic messages.

69. We will continue to publicise the regulations under the UEMO and the operation of the three DNCs to ensure that businesses and the public are aware of their obligations and rights under the UEMO.

70. We will continue to liaise with local, Mainland and overseas anti-spam organisations and enforcement agencies to facilitate cooperation in spam control and sharing of experience and intelligence of anti-spam issues.

(5) Advisory and Support Services

71. We will continue to provide support to the communications satellite operators registered in Hong Kong by attending satellite co-ordination meetings and issuing licences for the launching and operation of new or replacement satellites.

72. We will continue our coordination with local, Mainland and overseas satellite operators and administrations on satellite launching, coordination and interference matters.

73. We will continue to strengthen Hong Kong's participation, by both the Government and the private sectors, in international and regional telecommunications fora, and to provide support to regional/international telecommunications projects.

74. We will continue to provide support to CEDB and Trade and Industry Department (TID) on the implementation and further expansion of the CEPA and the closer co-ordination with Guangdong with respect to the cross-border provision of telecommunications services in the Mainland by

Hong Kong service suppliers.

75. We will continue to support CEDB and TID in establishing free trade agreements with other economies with a view to facilitating market access and the provision of telecommunications services.

(6) Technical Standards

76. We will continue to monitor the development of telecommunications standards and formulate and update the local standards where necessary.

77. We will continue to monitor the process and performance of local certification bodies (LCBs) in the provision of testing and certification services under the accreditation scheme administered by the OFCA.

78. We will continue to implement the Mutual Recognition Arrangement for telecommunications equipment led by the Asia Pacific Economic Cooperation Telecommunications and Information Working Group.

79. We will continue to monitor the electrical safety and the radiation exposure limit of uncertified mobile phones placed on the market. In 2014, we commissioned a laboratory to conduct measurement of the Specific Absorption Rate (SAR) for 15 uncertified mobile phones. The test indicated that the SAR values of all the 15 mobile phones were below the 2W/kg limit as recommended by the International Commission on Non-Ionizing Radiation Protection.

(7) Corporate Affairs and Handling of Consumer Complaints

80. In line with the OFCA's role in promoting Information and Communications Technology (ICT) applications over telecommunications networks, we will sponsor and fund special seminars, projects and campaigns for promoting the safe use of ICT for improving quality of life, operating efficiency and learning.

81. We will continue to promote the smart use of communications services, especially new services of which consumers may not have sufficient knowledge, through the launch of the annual consumer education campaign, which offers various activities and programmes for public participation such as public seminars, roving exhibitions etc., communications through the mass media, the OFCA's website and joint efforts with various user groups and industry organisations.

82. On the handling of consumer complaints, we will ensure that complaints involving possible contraventions of the provisions of the TO, the BO, the UEMO, the TDO and the CO or licence conditions are attended to promptly. For complaints that fall outside the scope of the legislative provisions and relevant licence conditions, we will ensure that they are promptly referred to the concerned operators in order that they may be dealt with swiftly and effectively.

83. To help the industry, the media and the public understand the new developments in the communications market and the OFCA's new initiatives, we will organise industry and media activities as necessary for effective communication.

84. We will continue to enhance the public complaint register such that we may keep track of the public complaints and generate complaint statistics in a more efficient manner.

(8) Consumer Protection

85. To safeguard consumer interests and increase the transparency of the pricing information related to mobile content services (MCS), the CAHK in January 2010 issued a voluntary code for the provision of chargeable mobile content services to govern the practices of third party content service providers (CSP). Established by the CAHK in March 2010, the Administrative Agency (AA) implements an industry self-regulatory scheme in accordance with the code. The OFCA Trading Fund sponsors the operation of the AA and monitors the effectiveness and the governance of the scheme. Since 2011, the number of complaints in relation to MCS has reduced, and remained low at an average of about two cases per month in 2014/15 and only a total of 2 cases for 2015/16 (up till September 2015, the full year figures will be reported later), reflecting the effectiveness of the scheme through collaboration with CAHK to address consumers' concerns.

86. Fixed and mobile broadband service providers may

implement Fair Usage Policies (FUP) to ensure their customers will be given a fair opportunity to access their broadband services. In order to provide guidance to broadband service providers on how they may implement FUP and to enhance the transparency of service information to facilitate better informed consumer choices, the CA promulgated a set of mandatory guidelines in November 2011, setting out the relevant guiding principles for compliance by service providers. The guidelines took effect from February 2012 and the number of complaints related to FUP has been decreasing since then. While many of the mobile operators have ceased to offer unlimited plans, we will continue to monitor the market developments and the compliance status of broadband service providers as applicable.

87. To tackle the problem of mobile bill shock, we promulgated in May 2010 a series of preventive measures for the industry to adopt, which include allowing customers to opt out of individual services; setting a charge ceiling; setting a usage cap for all kinds of usage-based mobile services; and alerting customers through short messages when their predetermined usage threshold is reached, or when their roaming data usage is triggered. To increase the transparency of the relevant service information, we have published the measures implemented by individual operators on our website and have been providing regular updates since August 2010. While the number of related complaints has been decreasing, we will continue to monitor the situation.

88. In order to enhance the transparency of the service level of the mobile broadband service market, mobile operators have published the performance pledges and the actual performance statistics of their mobile broadband services since September 2010 and January 2011 respectively. The performance pledges and statistics serve to inform the public of the standards of services that can be expected from the mobile operators, such as network availability, service restoration, customer complaint handling and technical performance. The performance pledges and statistics are updated quarterly, and are available on the respective websites of the mobile operators and via hyperlinks on our website. We will continue to monitor the performance of mobile operators.

89. With a view to enhancing the transparency of the pricing of chargeable items in the provision of telecommunications services by local fixed and mobile operators, we issued in October 2011 a voluntary Code of Practice in Relation to Billing Information and Payment Collection for Telecommunications Services. The Code of Practice requires telecommunications service providers to provide customers with itemised

billing information for verification of charges, take reasonable steps to ensure accuracy of billing and collection of payment, and report to the OFCA in a timely manner in the event of any incident involving systematic errors in these aspects. As of October 2015, seven local fixed and four mobile operators have pledged compliance with the Code of Practice. We have published on our website a consumer alert and will continue to monitor the compliance situation.

(9) Human Resources Management

90. We will continue to promote a learning culture in the office and provide training opportunities for staff at all levels to enhance their professional and managerial competencies and to keep pace with the advent of new technologies. We will also arrange overseas management programmes and explore opportunities for staff attachment to policy bureaux, overseas regulatory authorities and the relevant authorities in the Mainland to broaden the horizon of our staff and prepare them for greater challenges.

91. The recruitment exercise for Telecommunications Engineer is expected to be completed by the second quarter of 2016. We plan to launch a recruitment exercise for Assistant Inspector (Telecommunications) in the second quarter of 2016 after completion of the recruitment exercise for Telecommunications Engineer.

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