For Discussion **SSAC Paper 5/2015**
on 15 October 2015

Hong Kong's Positions on Agenda Items for World Radiocommunication Conference 2015

Purpose

This paper covers Hong Kong's positions on the agenda items for the World Radiocommunication Conference 2015 (WRC-15), which will be held in Geneva from 2 to 27 November 2015.

Background

2. At previous meetings of the Radio Spectrum and Technical Standards Advisory Committee (SSAC), the Office of the Communications Authority (OFCA) has circulated SSAC Papers 11/2013, 1/2014 and 11/2014 for discussion about WRC-15 and its relevant agenda items, as well as Hong Kong's preliminary positions on these agenda items. Earlier this year, OFCA attended the 2nd session of the Conference Preparatory Meeting for WRC-15 (CPM15-2) and the 5th meeting of the Asia Pacific Telecommunity (APT) Conference Preparatory Group for WRC-15 (APG15-5) in order to keep abreast of relevant development.

3. At CPM15-2, the CPM Report proposes Methods[1] to satisfy the agenda items based on the results of relevant ITU-R studies. At APG15-5, the preliminary APT common proposals (PACPs) for the WRC-15 agenda items were developed. Having considered SSAC Members' comments, the CPM Report and the PACPs, OFCA met with the Ministry of Industry and Information Technology of the Mainland to exchange views on the WRC-15 agenda items.

[1] A Method to satisfy an agenda item refers to a solution on how to revise the ITU Radio Regulation to satisfy that agenda item.

Hong Kong's Positions

4. Having regard to the related work progress in paragraphs 2 and 3 above, OFCA formulated Hong Kong's positions on the WRC-15 agenda items as enclosed in the Annex.

Advice Sought

5. Members are invited to give their comments on Hong Kong's positions on the WRC-15 agenda items.

Office of the Communications Authority
October 2015

Annex

Agenda Item 1.1

*to consider additional spectrum allocations to the mobile service (MS) on a primary basis and identification of additional frequency bands for International Mobile Telecommunications (IMT) and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications, in accordance with Resolution **233 (WRC-12)**;*

Resolution **233 (WRC-12)** - *Studies on frequency-related matters on IMT and other terrestrial mobile broadband applications*

Key Points and Methods to Satisfy this Agenda Item

This agenda item considers additional spectrum allocations to the MS on a primary basis and identification of additional frequency bands for IMT and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications.

A list of "potential candidate frequency bands" for this agenda item is proposed as no consensus has been reached on the candidature of any of these bands for mobile broadband, including IMT. One or more of the following Methods are proposed for each of the candidate bands where applicable –

- Method A proposes no change to the Radio Regulations (RR).
- Method B-ToA proposes making an allocation to the MS on a primary basis in RR Table of Frequency Allocations.
- Method B-FN proposes making an allocation to the MS on a primary basis in RR footnote.
- Method C proposes identifying the frequency band for IMT in RR footnote.

These potential candidate bands together with the applicable Methods are tabulated below –

Bands (MHz)	Applicable Methods
470-698	A, B-ToA, B-FN, C
1350-1400	A, B-ToA, B-FN, C
1427-1452	A, C
1452-1492	A, C
1492-1518	A, C
1518-1525	A, C
1695-1710	A, B-ToA, B-FN, C
2700-2900	A, B-ToA, B-FN, C
3300-3400	A, B-ToA, B-FN, C
3400-3600	A, B-ToA, B-FN, C
3600-3700	A, B-ToA, B-FN, C
3700-3800	A, B-ToA, B-FN, C
3800-4200	A, B-ToA, B-FN, C
4400-4500	A, C
4500-4800	A, C
4800-4990	A, C
5350-5470	A
5725-5850	A
5925-6425	A, C

Consideration

According to relevant ITU-R study results, the compatibility between the MS for broadband applications and the existing services is infeasible in the abovementioned frequency bands, or no conclusion as to the practicability of the mitigation measures for sharing can be reached.

Hong Kong's Position

Hong Kong supports additional spectrum allocations to the MS and identification of additional frequency bands for IMT.

Agenda Item 1.2

*to examine the results of ITU-R studies, in accordance with Resolution **232 (WRC-12)**, on the use of the frequency band 694-790 MHz by the mobile, except aeronautical mobile, service in Region 1 and take the appropriate measure;*

Resolution **232 (WRC-12)** - *Use of the frequency band 694-790 MHz by the mobile, except aeronautical mobile, service in Region 1 and related studies*

Key Points

This agenda item considers allocating the band 694-790 MHz in Region 1 to the mobile, except aeronautical mobile, service and specifying the technical and regulatory conditions applicable to the allocation.

Consideration

This agenda item covers the use of the band 694-790 MHz by the mobile, except aeronautical mobile, service in Region 1. Hong Kong is located in Region 3.

Hong Kong's Position

Hong Kong's position on this agenda item is neutral.

Agenda Item 1.3

*to review and revise Resolution **646 (Rev.WRC-12)** for broadband public protection and disaster relief (PPDR), in accordance with Resolution **648 (WRC-12)**;*

Resolution **646 (Rev.WRC-12)** - *PPDR;*

Resolution **648 (WRC-12)** - *Studies to support broadband PPDR*

Key Points and Methods to Satisfy this Agenda Item

Resolution **648 (WRC-12)** invites ITU-R to study technical and operational issues relating to broadband PPDR and its further development, and to develop recommendations, as required, on technical requirements for PPDR services and applications, the evolution of broadband PPDR through advances in technology, as well as the needs of developing countries. This agenda item considers revising Resolution **646 (Rev.WRC-12)** for broadband PPDR, based on the results of the ITU-R studies. Four Methods are proposed.

Method A proposes updating Resolution **646 (Rev.WRC-12)** with editorial amendments instead of any broadband PPDR requirements. The broadband PPDR requirements will be addressed through ITU-R studies.

Method B proposes modifying Resolution **646 (Rev.WRC-12)** to address the broadband PPDR requirements and to update the list of non-harmonised bands which are currently used in some countries for PPDR. Three Options are proposed under this Method, all suggesting no additional identification of harmonised spectrum but rather removal of the band 5850-5925 MHz from the harmonised bands for PPDR in Region 3. Option 3 of this Method also proposes including a global tuning range 698/703-894 MHz for PPDR.

Method C proposes modifying Resolution **646 (Rev.WRC-12)** to address the broadband PPDR requirements and to replace all referenced frequency bands/ranges for PPDR operations with a cross reference to the forthcoming version of Recommendation ITU-R M.2015, which will contain the recommended regionally harmonised frequency bands/ranges for PPDR.

Method D proposes modifying Resolution **646 (Rev.WRC-12)** to include 700/800 MHz tuning ranges for PPDR operations in order to achieve global harmonisation. Further details on regionally harmonised arrangements in those ranges, and specific frequency arrangements adopted by individual administrations, are to be described in the forthcoming version of Recommendation ITU-R M.2015. This Method proposes no additional

identification of harmonised spectrum but rather removal of the band 5850-5925 MHz from the harmonised bands for PPDR in Region 3.

Consideration

Among the harmonised bands currently identified in Resolution **646 (Rev.WRC-12)** for PPDR in Region 3, the bands 406.1-430 MHz and 4940-4990 MHz are allocated for PPDR applications in Hong Kong.

Since the band 5850-5925 MHz may be deleted from the harmonised bands for PPDR in Region 3 as proposed under Method B and Method D, it is considered that identification and addition of new frequency bands for PPDR is necessary in order to facilitate PPDR operation.

Hong Kong's Position

Hong Kong supports addition of new frequency bands used by individual administration for PPDR in the footnote of Resolution **646 (Rev.WRC-12)**.

Agenda Item 1.4

*to consider possible new allocation to the amateur service (ARS) on a secondary basis within the band 5250-5450 kHz in accordance with Resolution **649 (WRC-12)**;*

Resolution **649 (WRC-12)** - *Possible allocation to the ARS on a secondary basis at around 5300 kHz*

Key Points and Methods to Satisfy this Agenda Item

This agenda item considers possible allocation of an appropriate amount of spectrum, not necessarily contiguous, to the ARS on a secondary basis within the band 5250-5450 kHz, based on the results of ITU-R studies. Five Methods are proposed.

Method A1 proposes a secondary allocation to the ARS in the band 5275-5450 kHz.

Method A2 proposes a secondary allocation to the ARS in the range 5350-5450 kHz.

Method A3 (Option 1) proposes a secondary allocation to the ARS up to [xx] kHz in the range 5275-5450 kHz with provisions limiting the operation of ARS stations.

Method A3 (Option 2) proposes a secondary allocation to the ARS up to 15 kHz in the range 5275-5450 kHz with provisions limiting the operation of ARS stations.

Method A4 proposes a secondary allocation to the ARS at several specific channels in the range 5275-5450 kHz with provisions limiting the operation of ARS stations.

Method B proposes no change to the Radio Regulations.

Consideration

In Hong Kong, the band 5275-5450 kHz is allocated to the fixed service. The ITU-R study results draw no conclusions as to the compatibility of the ARS with the incumbent services including the fixed service in the band 5275-5450 kHz while some study results indicate that the sharing is difficult unless limitations are imposed on the operation of ARS stations.

Hong Kong's Position

Hong Kong supports allocation to the ARS in the band 5275-5450 kHz with necessary technical limitations to ensure sufficient protection for the existing services operating in this band.

Agenda Item 1.5

*to consider the use of frequency bands allocated to the fixed satellite service (FSS) not subject to Appendices **30**, **30A** and **30B** for the control and non-payload communications (CNPC) of unmanned aircraft systems (UAS) in non-segregated airspaces, in accordance with Resolution **153 (WRC-12)**;*

Resolution **153 (WRC-12)** - *The use of frequency bands allocated to the FSS not subject to Appendices **30**, **30A** and **30B** for the CNPC of UAS in non-segregated airspaces*

Key Points and Methods to Satisfy this Agenda Item

This agenda item considers possible regulatory actions to support the use of FSS frequency bands for the UAS CNPC links in non-segregated airspaces where separation of unmanned aircraft from manned aircraft is not assured, based on the results of ITU-R studies. Two Methods are proposed.

Method A proposes identifying, through a footnote and associated resolution of the Radio Regulations (RR), the conditions under which systems operating in the FSS could provide UAS CNPC links.

Method B proposes no change to the RR.

Consideration

The use of FSS frequency bands in the ranges 10.7-14.5 GHz and 17.3-30 GHz, not subject to Appendices **30**, **30A** and **30B** of the RR, for the UAS CNPC links in non-segregated airspaces should not adversely affect existing and future FSS services. On the other hand, the safety requirement of UAS should also be achieved.

Hong Kong's Position

Hong Kong supports ITU-R to complete the studies on the use of FSS frequency bands for the UAS CNPC links in non-segregated airspaces.

Agenda Item 1.6.1

*to consider possible additional primary allocations to the fixed satellite service (Earth-to-space and space-to-Earth) of 250 MHz in the range between 10 GHz and 17 GHz in Region 1, and review the regulatory provisions on the current allocations to the fixed satellite service (FSS) within each range, taking into account the results of ITU-R studies, in accordance with Resolution **151 (WRC-12)**;*

Resolutions **151 (WRC-12)** - *Additional primary allocations to the FSS in frequency bands between 10 and 17 GHz in Region 1*

Key Points

This agenda item considers possible allocation to the FSS of 250 MHz in both directions in Region 1 in the range 10-17 GHz, taking into account the results of the ITU-R studies.

Consideration

This agenda item covers additional allocation to the FSS within the band 10-17 GHz in Region 1. Hong Kong is located in Region 3.

Hong Kong's Position

Hong Kong's position on this agenda item is neutral.

Agenda Item 1.6.2

*to consider possible additional primary allocations to the fixed satellite service (Earth-to-space) of 250 MHz in Region 2 and 300 MHz in Region 3 within the range 13-17 GHz,and review the regulatory provisions on the current allocations to the fixed satellite service (FSS) within each range, taking into account the results of ITU-R studies, in accordance with Resolution **152 (WRC-12)**;*

Resolutions **152 (WRC-12)** - *Additional primary allocations to the FSS in the Earth-to-space direction in frequency bands between 13-17 GHz in Region 2 and Region 3*

Key Points and Methods to Satisfy this Agenda Item

This agenda item considers possible allocation to the FSS of 250 MHz in Region 2 and 300 MHz in Region 3 in the Earth-to-space direction in the range 13-17 GHz, taking into account the results of ITU-R studies.

Eleven Methods are proposed for the use by geostationary satellite networks. Methods D1, E1, F1, G1, H1, I1, J1 and K1 propose no change to the allocation in the bands 13.25-13.4 GHz, 13.4-13.75 GHz, 14.5-14.8 GHz, 14.8-15.35 GHz, 15.35-15.4 GHz, 15.4-15.7 GHz, 15.7-16.6 GHz and 16.6-17 GHz respectively. The rest are Methods E2, F2 and G2.

Method E2 proposes making an allocation of 250 MHz in Region 2 and 300 MHz in Region 3 in the band 13.4-13.75 GHz to the FSS (Earth-to-space).

Method F2 proposes modifying the existing FSS allocation in the band 14.5-14.8 GHz to support FSS uplinks that are not limited to feeder links for the broadcasting satellite service (BSS).

Method G2 proposes allocating the band 14.8-15.1 GHz to the FSS (Earth-to-space).

Consideration

The band 14.5-15.1 GHz is currently allocated to the fixed service (FS) and the mobile service in Hong Kong. The ITU-R study results indicate that the sharing of FSS earth stations with FS stations in the band 14.5-15.1 GHz and with BSS feeder links in the band 14.5-14.8 GHz is possible whereas there are conflicting results on the compatibility between the FSS and the aeronautical mobile service in the band 14.5-15.1 GHz.

Regarding the band 13.4-13.75 GHz which is currently allocated to the radiolocation service (RLS) in Hong Kong, the ITU-R study results indicate that the existing provisions for the FSS in the band 13.75-14 GHz is applicable to the band 13.4-13.75 GHz to ensure protection for the RLS against the FSS (Earth-to-space) interference. However, the International Civil Aviation Organisation is of the view that the band 13.4-13.75 GHz is already allocated to the Earth exploration satellite service (EESS) (active) in Region 3 and the sharing between the EESS (active) and the FSS around 13.5 GHz is known impracticable.

Hong Kong's Position

Hong Kong supports the consideration of new allocation to the FSS (Earth-to-space) within the band 13-17 GHz and the mitigation measures for protection of the existing services.

Agenda Item 1.7

*to review the use of the band 5091-5150 MHz by the fixed satellite service (FSS) (Earth-to-space) (limited to feeder links of the non-geostationary mobile-satellite systems in the mobile satellite service (MSS)) in accordance with Resolution **114 (Rev.WRC-12)**;*

Resolution **114 (Rev.WRC-12)** - *Studies on compatibility between new systems of the aeronautical radionavigation service (ARNS) and the FSS (Earth-to-space) (limited to feeder links of the non-geostationary mobile-satellite systems in the MSS) in the frequency band 5091-5150 MHz*

Key Points and Method to Satisfy this Agenda Item

This agenda item considers necessary revision to No. **5.444A** of the Radio Regulations (RR), which currently provides that the FSS providing feeder links for non-geostationary satellite systems in the MSS can use the band 5091-5150 MHz on a primary basis prior to 1 January 2018, and will become secondary to the ARNS after 1 January 2018.

There is only one Method proposed. The Method is to maintain such FSS allocation in the band 5091-5150 MHz as a primary allocation without date limitations, revise RR No. **5.444A** to ensure the protection of the ARNS through the regulatory conditions already contained in Resolution **114 (Rev.WRC-12)**, and revise Resolution **748 (WRC-12)** to provide more flexibility for managing the potential interference from systems of the aeronautical mobile (route) service sharing the band 5091-5150 MHz with the FSS.

Consideration

In Hong Kong, the band 5091-5150 MHz is allocated to the ARNS. Since the International Civil Aviation Organisation does not foresee or plan any new ARNS systems in the band 5091-5150 MHz, the ITU-R study results indicate that the regulatory conditions contained in Resolution **114 (Rev.WRC-12)** and the technical and operational requirements contained in Recommendation ITU-R S.1342 are still applicable to ensure the compatibility of such FSS in the band 5091-5150 MHz with the ARNS in the band 5030-5091 MHz.

Hong Kong's Position

Hong Kong supports the single Method for maintaining the primary allocation to the FSS (Earth-to-space) (limited to feeder links of the non-geostationary mobile-satellite systems in the MSS) in the band 5091-5150 MHz without date limitations.

Agenda Item 1.8

*to review the provisions relating to earth stations located on board vessels (ESVs), based on studies conducted in accordance with Resolution **909 (WRC-12)**;*

Resolution **909 (WRC-12)** - *Provisions relating to ESVs which operate in fixed satellite service (FSS) networks in the uplink bands 5925-6425 MHz and 14-14.5 GHz*

Key Points and Methods to Satisfy this Agenda Item

This agenda item reviews the provisions relating to ESVs which operate in the FSS in the uplink bands 5925-6425 MHz and 14-14.5 GHz and consider possible modifications to the set of limitations on the operation of ESVs contained in Resolution **902 (WRC-03)**, by taking into account the results of ITU-R studies. Five Methods are proposed.

Method A proposes no change to the Radio Regulations (RR).

Method B proposes increasing off-shore protection distance (i.e. distance from shore/coast) in the C band, based on the increasing number of operational ESVs, while maintaining the maximum ESV transmitted equivalent isotropically radiated power (e.i.r.p.) densities unchanged with respect to the levels contained in Resolution **902 (WRC-03)**.

Method C proposes establishing different protection distances for different maximum e.i.r.p. density levels in the C and Ku bands, taking into account the increasing number of operational C band ESVs and the reduction in C band ESV minimum antenna diameter.

Method D proposes establishing different protection distances for different maximum e.i.r.p. density levels, taking into account the increasing number of operational ESVs in the C and Ku bands.

Method E proposes reviewing the regulatory regime governing the operation of ESVs to confirm to the principles and objectives of the RR.

Consideration

In Hong Kong, the band 5925-6425 MHz is allocated to the fixed service and the FSS (Earth-to-space) while the spectrum portions within the band 14-14.5 GHz are respectively allocated to the mobile satellite service (Earth-to-space), the FSS, the fixed service and the

mobile service.

There are conflicting views among administrations on this issue. Some administrations are of the view that the protection distances could be flexibly determined according to the e.i.r.p. of operational ESVs. However, some administrations consider that dynamic protection distances would impose additional burden on the coastal administrations.

Hong Kong's Position

Hong Kong supports reviewing Resolution **902 (WRC-03)**, taking into account the latest ESV development and the need to protect the existing services in the bands 5925-6425 MHz and 14-14.5 GHz.

Agenda Item 1.9.1

*to consider, in accordance with Resolution **758 (WRC-12)**, possible new allocations to the fixed satellite service (FSS) in the frequency bands 7150-7250 MHz (space-to-Earth) and 8400-8500 MHz (Earth-to-space), subject to appropriate sharing conditions;*

Resolution **758 (WRC-12)** - *Allocation to the FSS and the maritime mobile satellite service in the 7/8 GHz range*

Key Points and Methods to Satisfy this Agenda Item

This agenda item considers possible new allocations to the FSS, except the very small aperture terminal (VSAT)-like FSS, in the bands 7150-7250 MHz (space-to-Earth) and 8400-8500 MHz (Earth-to-space). Three Methods are proposed.

Method A proposes primary worldwide allocations of the bands 7150-7250 MHz (space-to-Earth) and 8400-8500 MHz (Earth-to-space) to the FSS, the use of which is limited to geostationary satellite networks.

Method B proposes primary worldwide allocations of the bands 7190-7250 MHz (space-to-Earth) and 8400-8500 MHz (Earth-to-space) to the FSS, the use of which is limited to geostationary satellite networks.

Method C proposes no change to the Radio Regulations.

Consideration

Hong Kong currently allocates the band 7150-7250 MHz to the fixed service (FS) and the mobile service and the band 8400-8500 MHz to the FS. According to ITU-R's latest report, the practicability of the operational measures for sharing between the space research service and the FSS has not been concluded.

Hong Kong's Position

Hong Kong supports no change to the Radio Regulations (i.e. Method C) under this agenda item.

Agenda Item 1.9.2

*to consider, in accordance with Resolution **758 (WRC-12)**, the possibility of allocating the bands 7375-7750 MHz and 8025-8400 MHz to the maritime mobile satellite service (MMSS) and additional regulatory measures, depending on the results of appropriate studies;*

Resolution **758 (WRC-12)** - *Allocation to the fixed satellite service and the MMSS in the 7/8 GHz range*

Key Points and Methods to Satisfy this Agenda Item

This agenda item considers possible allocations to the MMSS in the bands 7375-7750 MHz (space-to-Earth) and 8025-8400 MHz (Earth-to-space). Three Methods are proposed.

Method A proposes no change to the Radio Regulations.

Method B proposes allocating to the MMSS the bands 7375-7750 MHz (space-to-Earth) and 8025-8400 MHz (Earth-to-space), the use of which is limited to geostationary satellite networks. Under this Method, two Options are proposed to protect the existing services.

Method C proposes allocating to the MMSS the band 7375-7750 MHz (space-to-Earth), the use of which is limited to geostationary satellite networks, on a primary basis with conditions to protect the existing services.

Consideration

Hong Kong currently allocates the band 7375-7750 MHz to the fixed service (FS) and the mobile service and the band 8025-8400 MHz to the FS and the Earth exploration satellite service (EESS) (space-to-Earth). Although the ITU-R study results show sharing of the MMSS with the existing services can be achieved by the existing regulatory provisions or mitigation techniques in the 7 GHz band, it is not feasible in the 8 GHz band.

Hong Kong's Position

Hong Kong does not support any allocation to the MMSS in the band 8025-8400 MHz.

Agenda Item 1.10

*to consider spectrum requirements and possible additional spectrum allocations for the mobile satellite service (MSS) in the Earth-to-space and space-to-Earth directions, including the satellite component for broadband applications, including International Mobile Telecommunications (IMT), within the frequency range from 22 GHz to 26 GHz, in accordance with Resolution **234 (WRC-12)**;*

Resolution **234 (WRC-12)** - *Additional primary allocations to the MSS within the bands from 22 GHz to 26 GHz*

Key Points and Methods to Satisfy this Agenda Item

This agenda item considers allocations to the MSS in the band 22-26 GHz. There are a total of five Methods with Options identified. For each Method, conditions are proposed for protecting the existing services.

Method A proposes no change to the Radio Regulations.

Method B1 proposes allocation of the bands 23.15-23.4 GHz (space-to-Earth) and 25.25-25.5 GHz (Earth-to-space) to the MSS.

Method B2 proposes allocation of the bands 23.15-23.4 GHz (space-to-Earth) and 24.25-24.5 GHz (Earth-to-space) to the MSS.

Method C1 proposes two Options –

- Option C1a – Allocation of the band 24.25-24.55 GHz to the MSS (space-to-Earth)
- Option C1b – Allocation of the band 22.65-22.95 GHz to the MSS (space-to-Earth)

Method C2 proposes two Options –

- Option C2a – Allocation of the band 24.25-24.55 GHz to the MSS (Earth-to-space)
- Option C2b – Allocation of the band 25.25-25.5 GHz to the MSS (Earth-to-space)

Consideration

Hong Kong allocates the bands 22.65-22.95 GHz, 23.15-23.4 GHz and 25.25-25.5 GHz to the fixed service (FS), the band 24.25-24.45 GHz to the radionavigation service (RNS) and the band 24.45-24.55 GHz to the FS and the RNS. The ITU-R studies on sharing of the

MSS with the existing services including the FS and the RNS in the 22-26 GHz range have not been completed.

Hong Kong's Position

Hong Kong supports no change to the Radio Regulations (i.e. Method A) under this agenda item.

Agenda Item 1.11

*to consider a primary allocation for the Earth exploration satellite service (EESS) (Earth-to-space) in the 7-8 GHz range, in accordance with Resolution **650 (WRC-12)**;*

Resolution **650 (WRC-12)** - *Allocation for the EESS (Earth-to-space) in the 7-8 GHz range*

Key Points and Methods to Satisfy this Agenda Item

This agenda item considers a global primary allocation in the band 7-8 GHz to the EESS (Earth-to-space) for satellite telemetry, tracking and control (TT&C) with priority to the band 7145-7235 MHz. Three Methods are proposed.

Method A proposes a global primary allocation to the EESS in the band 7190-7250 MHz with provisions to protect the existing services and restrict the EESS usage to TT&C for spacecraft operations.

Method B is similar to Method A except that no restriction is applied to the EESS usage, operation of EESS systems in the band 7190-7235 MHz is subject to coordination with systems of the space operation service, and EESS space stations shall not claim protection from earth stations of the space research service in the band 7190-7235 MHz.

Method C proposes no change to the Radio Regulations.

Consideration

In Hong Kong, the band 7190-7250 MHz is allocated to the fixed service and the mobile service. The results of relevant ITU-R studies show that sharing between the EESS (Earth-to-space) and the existing services in the band 7190-7250 MHz would be feasible.

Hong Kong's Position

Hong Kong supports an allocation to the EESS in the band 7190-7250 MHz for satellite TT&C with provisions to protect the existing services.

Agenda Item 1.12

*to consider an extension of the current worldwide allocation to the Earth exploration satellite service (EESS) (active) in the frequency band 9300-9900 MHz by up to 600 MHz within the frequency bands 8700-9300 MHz and/or 9900-10500 MHz, in accordance with Resolution **651 (WRC-12)**;*

Resolution **651 (WRC-12)** - *Possible extension of the current worldwide allocation to the EESS (active) in the frequency band 9300-9900 MHz by up to 600 MHz within the frequency bands 8700-9300 MHz and/or 9900-10500 MHz*

Key Points and Methods to Satisfy this Agenda Item

This agenda item considers an extension of the current worldwide allocation to the EESS (active) in the band 9300-9900 MHz by up to 600 MHz on a primary and/or secondary basis, as appropriate, within the bands 8700-9300 MHz and/or 9900-10500 MHz, taking into account the results of ITU-R studies. Seven Methods are proposed.

Method A1 (Option 1) proposes a primary EESS (active) allocation in the band 9900-10500 MHz.

Method A1 (Option2) is similar to Method A1 (Option 1) except that a transitional time period shall be provided for the amateur satellite service (ARSS) to prepare for the new EESS (active) allocation.

Method A2 is similar to Method A1 (Option 1) except that stations of the fixed service (FS) shall be protected by imposing a power flux density (pfd) limit on EESS stations.

Method B1 proposes a primary EESS (active) allocation in the bands 9200-9300 MHz and 9900-10400 MHz.

Method B2 is similar to Method B1 except that FS stations shall be protected by imposing a pfd limit on EESS stations.

Method C proposes a primary EESS (active) allocation in the bands 9200-9300 MHz and 10000-10100 MHz, and a secondary EESS (active) allocation in the band 9900-10000 MHz. This Method includes all provisions as proposed in Method B1 and B2.

Method D proposes no change to the Radio Regulations.

Consideration

Hong Kong allocates on a primary basis the band 10450-10500 MHz to the RLS, the band 9200-9300 MHz to the maritime radionavigation service (MRNS), the band 10150-10300 MHz to the FS while the allocation of the bands 9900-10150 MHz and 10300-10450 MHz is to be planned. The band 10450-10500 MHz is allocated on a secondary basis to the amateur service (ARS) and the ARSS.

According to the ITU-R study results, interference to RLS systems from EESS systems in the band 10000-10500 MHz is possible whereas the sharing of the EESS with the MRNS in the band 9200-9300 MHz, the FS and the ARS in the band 10000-10500 MHz and the ARSS in the band 10450-10500 MHz is feasible.

Hong Kong's Position

Hong Kong supports additional allocation of spectrum to the EESS (active) in the bands 9200-9300 MHz and/or 9900-10400 MHz.

Agenda Item 1.13

to review No. ***5.268*** *with a view to examining the possibility for increasing the 5 km distance limitation and allowing space research service (SRS) (space-to-space) use for proximity operations by space vehicles communicating with an orbiting manned space vehicle, in accordance with Resolution* ***652 (WRC-12)****;*

Resolution **652 (WRC-12)** - *Use of the band 410-420 MHz by the SRS (space-to-space)*

Key Points and Method to Satisfy this Agenda Item

This agenda item reviews No. **5.268** of the Radio Regulations (RR), which identifies the use of the band 410-420 MHz by SRS (space-to-space) for extra-vehicular activities to operate within 5 km of an orbiting manned space vehicle within the specified power flux density limits.

There is only one Method proposed. The Method is to modify RR No. **5.268** so as to remove the 5 km distance limitation and not solely limit the use of the frequency band for extra-vehicular activities.

Consideration

In Hong Kong, the band 410-420 MHz is allocated to the fixed service and the mobile service. The results of ITU-R studies support the removal of the 5 km distance limitation from the RR No. **5.268**.

Hong Kong's Position

Hong Kong supports the single Method proposing relevant modifications to RR No. **5.268**.

Agenda Item 1.14

*to consider the feasibility of achieving a continuous reference time-scale, whether by the modification of coordinated universal time (UTC) or some other Method, and take appropriate action, in accordance with Resolution **653 (WRC-12)**;*

Resolution **653 (WRC-12)** - *Future of the UTC time-scale*

Key Points and Methods to Satisfy this Agenda Item

This agenda item considers the feasibility of achieving a continuous reference time-scale, whether by the modification of UTC or some other Method, taking into account the results of ITU-R studies. Six Methods are proposed.

Method A1 proposes stopping the insertion of leap seconds in UTC with effect not earlier than five years after the date of entry into force of the Final Acts of WRC-15, retaining the name of UTC, and continuing to disseminate the difference between Universal Time 1 (UT1) and UTC.

Method A2 is similar to Method A1 except that the name of UTC will be changed.

Method B proposes keeping the current definition of UTC, disseminating both UTC time-scale and a continuous time-scale on an equal basis, and basing the continuous time-scale on the International Atomic Time (TAI) with an offset with respect to UTC.

Method C1 proposes keeping the current definition of UTC. Under this Method Recommendation ITU-R TF.460-6 would be amended to make clear that use of TAI is an acceptable alternative for systems requiring a continuous time-scale and that TAI can be derived from UTC using a difference figure, which is also being broadcasted.

Method C2 is similar to Method C1 except that Recommendation ITU-R TF.460-6 would be amended to include additional definitions, corrections and/or materials for systems requiring a continuous time-scale.

Method D proposes no change to the Radio Regulations.

Consideration

Hong Kong has no view on the Methods.

Hong Kong's Position

Hong Kong's position on this agenda item is neutral.

Agenda Item 1.15

*to consider spectrum demands for on-board communication stations in the maritime mobile service (MMS) in accordance with Resolution **358 (WRC-12)**;*

Resolution **358 (WRC-12)** - *Consideration of improvement and expansion of on-board communication stations in the MMS in the UHF bands*

Key Points and Method to Satisfy this Agenda Item

This agenda item consider identifying additional UHF channels in the bands already allocated to the MMS for on-board communication stations, based on the results of ITU-R studies.

Currently, six channels are identified in **No. 5.287** of the Radio Regulations (RR) for global MMS on-board communication stations using 25 kHz or 12.5 kHz channel spacing. These channels are 457.525 MHz, 457.550 MHz, 457.575 MHz, 467.525 MHz, 467.550 MHz and 467.575 MHz. RR No. **5.287** also allows that where needed, 457.5375 MHz, 457.5625 MHz, 467.5375 MHz and 467.5625 MHz may be used for on-board communications using 12.5 kHz channel spacing.

There is only one Method proposed. The Method is to amend RR No. **5.287**, making provision for 25 kHz, 12.5 kHz and 6.25 kHz channel spacing for on-board communication stations in the MMS.

Consideration

The ITU-R study results indicate that the identification of new spectrum for on-board communications in UHF is not justified. Use of spectrum-efficient technologies such as 12.5 kHz and 6.25 kHz channel spacing is supported.

Hong Kong's Position

Hong Kong supports the single Method to amend RR No. **5.287**.

Agenda Item 1.16

*to consider regulatory provisions and spectrum allocations to enable possible new Automatic Identification System (AIS) technology applications and possible new applications to improve maritime radiocommunication in accordance with Resolution **360 (WRC-12)**;*

Resolution **360 (WRC-12)** - *Consideration of regulatory provisions and spectrum allocations for enhanced AIS technology applications and for enhanced maritime radiocommunication*

Key Points and Methods to Satisfy this Agenda Item

Among the VHF maritime channels listed in Appendix **18** of the Radio Regulations (RR), channels AIS 1 (161.975 MHz) and AIS 2 (162.025 MHz) are currently identified for AIS use worldwide.

VHF data exchange system (VDES) communications integrates the functions of AIS, application specific messages (ASM) and VHF data exchange (VDE). In order to reserve channels AIS 1 and AIS 2 for "Navigation Safety/Collision Avoidance" purposes and avoid adverse loading of the AIS data links, this agenda item considers identifying other channels of RR Appendix **18** or the frequencies of the mobile satellite service (MSS) for non-critical data communications using AIS technology. Four Issues are identified.

Issue A – ASM designation

This Issue is to identify possible channels for ASM. Three Methods are proposed.

Method A1 proposes splitting each of channels 27 (157.35 MHz / 161.95 MHz) and 28 (157.4 MHz / 162.0 MHz) of RR Appendix **18** into two simplex channels 1027 and 2027, as well as 1028 and 2028 respectively. Channels 2027 (i.e. 161.95 MHz) and 2028 (i.e. 162.0 MHz) will be identified for ASM applications with an effective date allowing a transitional period. To ensure protection of channels AIS 1, AIS 2, 2027 and 2028, transmission from ship on channels 2078, 2019, 2079 and 2020 (161.5125-161.6125 MHz) will not permitted.

Method A2 proposes identifying channels 87 (157.375 MHz) and 88 (157.425 MHz) of RR Appendix **18** for ASM applications with an effective date. To ensure protection of channels AIS 1 and AIS 2, power limitation for transmission from ship on channels 2078,

2019, 2079 and 2020 will be applied.

Method A3 is similar to Method A1 except that administrations should take appropriate actions to protect channels AIS 1, AIS 2, 2027 and 2028. One of the Options would be that transmission from ship on channels 2078, 2019, 2079 and 2020 will not be permitted.

Issue B – New applications for the maritime radiocommunication – terrestrial component

This Issue is to identify possible channels for the terrestrial component of VDES. Two Methods are proposed.

Method B1 proposes identifying channels 24, 84, 25 and 85 (157.1875 MHz-157.2875 MHz / 161.7875-161.8875 MHz) of RR Appendix **18** for the terrestrial component of the VDES.

Method B2 proposes identifying channels 24, 84, 25, 85, 26 and 86 (157.1875 MHz-157.3375 MHz / 161.7875-161.9375 MHz) of RR Appendix **18** for the terrestrial component of the VDES.

Issue C – New application for the maritime radiocommunication – satellite component

This Issue is to identify possible channels for the satellite component of VDES. Three Methods are proposed.

Method C1-A proposes splitting each of channels 24, 84, 25, 85, 26, 86, 27 and 28 of RR Appendix **18** into two simplex channels 1024 and 2024, 1084 and 2084, 1025 and 2025, 1085 and 2085, 1026 and 2026, 1086 and 2086, 1027 and 2027, as well as 1028 and 2028 respectively. The Method also proposes identifying a secondary allocation for the maritime mobile-satellite service (MMSS) (Earth-to-space) on channels 1024, 1084, 1025, 1085, 1026, 1086, 2027 and 2028 and for the MMSS (space-to-Earth) on channels 2024, 2084, 2025, 2085, 2026, 2086. A new power flux density (pfd) mask is proposed in a new footnote to RR Article **5** for protection of the mobile service and the fixed service. To ensure protection of the radio astronomy service in the adjacent band, modification of RR No. **5.208A** and RR No. **5.208B** is proposed.

Method C1-B is similar to Method C1-A except that the new pfd mask is proposed in Annex 1 to RR Appendix **5** (instead of a new footnote to RR Article **5**) for protection of the mobile service and the fixed service. To ensure the application of RR No. **9.14** in coordination with the terrestrial services, modification of RR No. **5.226B** is proposed.

Method C2 proposes identifying the band 148-150 MHz (Earth-to-space) for the VDES satellite uplink and the band 137-138 MHz (space-to-Earth) for the VDES satellite downlink. As these bands are already allocated for the MSS, no additional allocations and RR changes are required to the MSS for this Method.

Issue D – VDES regional solution

This Issue is to identify channels for different types of VDES as regional use. Only one Method is proposed.

Method D proposes providing a regional VDES solution by utilizing channels 80, 21, 81, 22, 82, 23 and 83 (157.0125 MHz-157.1875 MHz / 161.6125-161.7875 MHz).

Consideration

In Hong Kong, the above mentioned frequency channels are allocated to the maritime mobile service. Spectrum allocation for possible new AIS applications to improve maritime radiocommunication is supported.

Hong Kong Position

Hong Kong supports spectrum allocation for enhanced AIS technology applications and for enhanced maritime radiocommunication.

Agenda Item 1.17

*to consider possible spectrum requirements and regulatory actions, including appropriate aeronautical allocations, to support wireless avionics intra-communications (WAIC), in accordance with Resolution **423 (WRC-12)**;*

Resolution **423 (WRC-12)** - *Consideration of regulatory actions, including allocations, to support WAIC*

Key Points and Method to Satisfy this Agenda Item

This agenda item considers, based on the results of ITU-R studies, possible regulatory actions, including appropriate aeronautical allocations, to support the implementation of WAIC systems.

Only one Method is proposed. The Method is to add a primary aeronautical mobile (Route) service (AM(R)S) allocation to the band 4200-4400 MHz, limiting its use to WAIC systems.

Consideration

In Hong Kong, the band 4200-4400 MHz is currently allocated to the aeronautical radionavigation service. The results of the ITU-R studies indicate that the sharing of proposed WAIC systems with systems of the existing services in the band 4200-4400 MHz is feasible.

Hong Kong Position

Hong Kong supports the single Method proposing a primary AM(R)S allocation to the band 4200-4400 MHz and limiting the use to WAIC systems.

Agenda Item 1.18

to consider a primary allocation to the radiolocation service (RLS) for automotive applications in the 77.5-78.0 GHz frequency band in accordance with Resolution ***654 (WRC-12)****;*

Resolution **654 (WRC-12)** - *Allocation of the band 77.5-78 GHz to the RLS to support automotive short-range high-resolution radar operations*

Key Points and Methods to Satisfy this Agenda Item

This agenda item considers a primary allocation to the RLS in the band 77.5-78 GHz band, taking into account the results of ITU-R studies. Two Methods are proposed.

Both Methods provide a primary allocation to the RLS in the band 77.5-78 GHz on a worldwide basis, which can be used for automotive applications. While Method A limits the use of the new allocation to automotive radars, Method B offers an unrestricted allocation which also supports the use of automotive radars. Two Options are proposed under Method A, with Option 1 further limiting the use of the new allocation to automotive radars with technical characteristics given in Recommendation ITU-R M.2057 and Option 2 not limiting so.

Consideration

In Hong Kong, the band 77.5-78 GHz is allocated to the amateur service and the amateur satellite service on a primary basis. The ITU-R study results indicate that sharing between automotive radars and stations of the incumbent services in the 77.5-78 GHz band is feasible.

The International Civil Aviation Organisation supports the use of the band 77.5-78 GHz for radars installed on the wing tips of aircraft to aid the pilot in avoiding collisions whilst taxiing. It is considered that limiting the use of the band 77.5-78 GHz to the automotive applications may impede the usage of short-range radars for other applications.

Hong Kong's Position

Hong Kong supports an allocation to the RLS in the band 77.5-78 GHz, for the use of radars that comply with the requirements of relevant ITU-R Recommendations.

Agenda Item 7

This agenda item is a standing item dealing with "deficiencies and improvements" in publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks. It covers 12 Issues, namely Issues A, B, C, D, E, F, G, H, I, J, K and L. Having regard to industry input and the implications on radiocommunication services, OFCA has identified Issues A and H for consideration.

Issue A – Informing the Bureau of a suspension under No. 11.49 of the Radio Regulations (RR) beyond six months

Key Points and Methods to Satisfy this Issue

WRC-12 modified RR No. **11.49** to allow administrations to suspend the use of frequency assignments of satellite networks for a maximum period of three years. Pursuant to RR No. **11.49**, when an administration suspends a frequency assignment lasting longer than 6 months, the administration must inform the Radiocommunications Bureau (BR) of the suspension as soon as possible, but in any case no later than six months from the start date of the suspension. WRC-12 did not include specific regulatory procedures to address the possible situation of an administration failing to meet the six-month deadline. To address this situation, two Methods are proposed.

Method A1 proposes no change to the RR.

Method A2 proposes reduction of the three year time period with two Options –

- Option A – day-for-day reduction after 6 months
- Option B – day-for-day reduction after 6 months up to 12 months followed by two times reduction thereafter

Consideration

The implementation of Method A2 will create an incentive for the notifying administration to report a suspension as soon as possible. On the other hand, RR No. **13.6** provides a method for the BR to query an administration and address the situation when it appears that an administration has not informed the BR of a suspension within the six-month period specified in RR No. **11.49.** Under Method A1, it is believed that the current regulatory procedures (RR No. **13.6**) are sufficient to ensure the compliance with the provisions in RR No. **11.49** especially those related to the period of suspension.

Hong Kong's Position

Hong Kong supports Method A2 Option A which reduces the three year time period. Considering that RR No. **13.6** would be sufficient to ensure the compliance with the provisions in RR No. **11.49** especially those related to the period of suspension, Hong Kong also accepts Method A1.

Issue H – Using one space station to bring frequency assignments at different orbital locations into use within a short period of time

Key Points and Methods to Satisfy this Issue

This Issue covers the use of one space station to bring into use (BIU) frequency assignments at different orbital locations within a short period of time. Six Methods are proposed.

Method H1 is to continue the current practice which is to make an enquiry to an administration that brings into use frequency assignments at a given orbital location using an already in-orbit satellite and makes such information available. Two Options are available –

- Option A – to record the procedure above or to endorse the minutes of WRC-12 in the minutes of the Plenary of WRC-15
- Option B – to adopt a new WRC Resolution to enable the BR to perform certain procedures and to invite ITU-R to address this Issue

Method H2 is no change to the RR.

Method H3 is to make changes to the bringing into use provisions to extend the period from 90 days to 12 months and proposes the use of at least three space monitoring facilities in order to verify that a satellite has indeed been brought into use.

Method H4 is to reduce the time available for suspension to the cumulative number of days that the satellite network has been in use, up to a limit of three years.

Method H5 proposes that an administration should provide the BR with additional information that would be published on the ITU website within 30 days if it wishes to BIU or bring back into use a frequency assignment.

Method H6 is to add a new resolution that referring to in RR No. **11.44B** and solely dedicated to the issue of "satellite hopping". Apart from requesting additional information in case the space station that is performing the BIU is an already in-orbit satellite, the new resolution also provides a definition of satellite hopping as "that the same space station shall not be used to BIU, or resume the use after suspension of, frequency assignments to geostationary satellite networks at more than (2-3) different orbital locations within (any 1 year)", noting that the numbers in round brackets are indicative and subject to further discussions to achieve, as much as possible, a consensual explanation of what constitutes undesirable "satellite hopping".

Consideration

There are legitimate reasons for an administration/operator to move a spacecraft to a new orbital position and care should be taken not to constrain the legitimate use of satellite manoeuvres and management.

It is noted that there is an existing mechanism to address the difference between actual use and the recorded information in the International Master Frequency Register, so that the BR may apply RR No. **13.6** if reliable information suggests otherwise than what is recorded.

Hong Kong's Position

Hong Kong supports Method H2.

Agenda Items 9.1 and 9.3

At WRC-12, the Radiocommunication Bureau (BR) was instructed to report to WRC-15 on the results of relevant ITU-R studies under agenda item 9. Of the eight Issues identified in agenda item 9.1, Issues 9.1.1, 9.1.2, 9.1.3, 9.1.5 and 9.1.8 concern regulatory considerations for satellite matters. Agenda item 9.3 focuses on a single issue of "due diligence", which aims to achieve equitable access to and efficient use of geostationary-satellite orbit. Having regard to industry input and the implications for radiocommunication services, OFCA has identified Issues 9.1.1 and 9.1.2 for consideration.

Issue 9.1.1 (Res. 205) – Protection of the systems operating in the mobile satellite service in the band 406-406.1 MHz

Key Points and Method to Satisfy this Issue

The band 406-406.1 MHz is exclusively allocated to the mobile satellite service (MSS), which is currently used by the Cospas-Sarsat system for search and rescue space segment instruments. To ensure adequate protection of MSS systems, a Method is proposed to revise Resolution **205** to request administrations not to make new frequency assignments within the bands 405.9-406 MHz and 406.1-406.2 MHz under the mobile and fixed services.

Consideration

In Hong Kong, the band 406-406.1 MHz is allocated to the MSS. Both the International Civil Aviation Organisation and the World Meteorological Organisation support protection of Cospas-Sarsat systems in the band 406-406.1 MHz.

While the bands 390-406 MHz and 406.1-420 MHz are mainly used for the mobile service in Hong Kong, the exclusion of just 200 kHz within the bands 405.9-406.0 MHz and 406.1-406.2 MHz from new frequency assignment is acceptable.

Hong Kong's Position

Hong Kong supports the single Method (i.e. not to make new assignments within the frequency bands 405.9-406.0 MHz and 406.1-406.2 MHz under the mobile and fixed services).

Issue 9.1.2 (Res. 756) – Studies on possible reduction of the coordination arc and technical criteria used in application of No. 9.41 in respect of coordination under No. 9.7

Key Points and Options to Satisfy this Issue

Coordination arc refers to the orbital separation between satellite networks within which the coordination procedure is triggered. Coordination triggers such as coordination arc are currently used to identify administrations with which coordination is to be effected and the associated satellite networks to be considered. For orbital separation greater than the corresponding coordination arc, an administration needs to provide technical reasons to request for coordination.

The use of orbit spectrum resources is increasing and the difficulty in getting access to spectrum for new satellite networks is increasing accordingly. For this reason, improved ways to accommodate new networks, and at the same time facilitating more efficient use of the spectrum resources and ensuring adequate protection of existing networks, are sought. Resolution **756** (WRC-12) resolves to invite ITU-R

1. to carry out studies to examine the effectiveness and appropriateness of the current criterion ($\Delta T/T > 6\%$) used in the application of No. **9.41** and consider any other possible alternatives for the bands listed in Table 5-1 to Appendix **5** of the Radio Regulations (RR) where the current $\Delta T/T$ criterion is used in application of No. **9.41** for coordination sought under No. **9.7**;
2. to study whether additional reductions in the coordination arcs in Appendix **5** of the RR are appropriate for the 6/4 GHz and 14/10/11/12 GHz frequency bands, and whether it is appropriate to reduce the coordination arc in the 30/20 GHz band.

Seven Options are proposed in respect of *resolves* 1 and *resolves* 2 of Res. **756**.

Resolves 1 of Res. 756

Option 1A is to retain the existing *carrier to interference* ratio (C/I) for the examination under No. **11.32A** and also base the examination under Nos. **9.7** and **9.41** on the same C/I assessment.

Option 1B is no change to RR Article **9**, including Nos. **9.7** and **9.41**, or RR Appendix **5**. Furthermore, in respect of RR Article **11**, changes are proposed only for the 6/4 GHz and 10/11/12/14 GHz bands and only in respect of No. **11.32A** where the criterion is proposed to be changed from C/I to power flux density (pfd) levels.

Option 1C is similar to Option 1B, but it proposes to apply pfd thresholds for the 6/4 GHz and 10/11/12/14 GHz bands only in respect of satellite networks outside the coordination arc.

Option 1D is no change to the RR.

***Resolves* 2 of Res. 756**

Option 2A is to reduce the size of the coordination arc by 2 degrees in the 6/4 GHz and 10/11/12/14 GHz bands (i.e., items 1) and 2) of Table 5-1 of the RR Appendix **5**, respectively) and to leave unchanged the size of the arc elsewhere.

Option 2B is to reduce the size of the coordination arc by 2 degrees in the 6/4 GHz and 10/11/12/14 GHz and 30/20 GHz bands (i.e., items 1), 2), 3) and 7) of Table 5-1 of RR Appendix **5**, respectively) and to leave unchanged the size of the arc elsewhere.

Option 2C is no change to the RR.

***For Resolve 1 of Res. 756*:**

Consideration

Hong Kong supports efficient use of spectrum resources. Option 1C proposes to apply pfd thresholds for the 6/4 GHz and 10/11/12/14 GHz bands only in respect of satellite networks outside the coordination arc that will ease coordination work for new comers and lighten the burden of administrations. Regarding Options 1A and 1B, it is uncertain if the proposed changes of coordination triggers in the two Options would significantly affect the existing satellite networks.

Hong Kong's Position

Hong Kong supports Option 1C.

***For Resolve 2 of Res. 756*:**

Consideration

Options 2A and 2B propose to reduce coordination arcs for the heavily loaded 6/4 GHz and 14/10/11/12 GHz frequency bands. As a result, the number of satellite networks inside the coordination arc that identified as potentially affected by a proposed incoming network would be decreased and thus the reduction of the coordination arc increases the burden on administrations to self-identify under RR No. **9.41** their affected satellite networks not within the coordination arc, if any.

Hong Kong's Position

Hong Kong supports Option 2C.

Agenda Items 2, 3, 4, 5, 6, 8, 9.1.4, 9.1.6, 9.1.7, 9.2 and 10

Agenda items 2, 3, 4, 5, 6, 8, 9.1.4, 9.1.6, 9.1.7, 9.2 and 10 are mainly related to the administrative work of WRC-15 or the general issues.

Hong Kong's Position

Hong Kong's positions on these agenda items are neutral.

Global Flight Tracking (GFT) for Civil Aviation

As instructed by Resolution **185 (Busan, 2014)** adopted in the ITU Plenipotentiary Conference of 2014, the GFT issue is added for WRC-15, as a matter of urgency.

Key Points and Options to Satisfy this Issue

There is now a range of terrestrial and satellite systems operating in accordance with the provisions of Article 5 of the Radio Regulations and contributing to GFT. Along with these systems, satellite reception of Automatic Dependent Surveillance-Broadcast (ADS-B) is being developed by the International Civil Aviation Organisation (ICAO). To address the GFT issue, the Director of the Radiocommunication Bureau issued a report in July 2015 proposing four Options for consideration by WRC-15.

Option 1 proposes no change to the Radio Regulations.

Option 2 proposes a primary allocation in the band 1087.7-1092.3 MHz to the aeronautical mobile satellite (Route) service (Earth-to-space), limited to the satellite reception of ADS-B in the Earth-to-space direction.

Option 3 is similar to Option 2 except that the allocation is subject to not claiming protection from systems operating in the aeronautical radionavigation service (ARNS) and aeronautical mobile (Route) service in the band 960-1164 MHz.

Option 4 proposes a secondary allocation in the band 1087.7-1092.3 MHz to the mobile satellite service (Earth-to-space), limited to the satellite reception of ADS-B in the Earth-to-space direction.

Consideration

In Hong Kong, the band 960-1164 MHz is allocated to ARNS. ICAO supports consideration of all possible Options under the GFT issue. The ITU-R studies on the technical and operational aspects of aircraft flight tracking have not been completed.

Hong Kong's Position

Hong Kong supports consideration of the proposed Options to address the GFT issue.