

ITU-APT Foundation of India's Proposals for WRC-19 Agenda Items

ITU - World Radio Conferences

It is job of WRC to review, and, if necessary, revise the Radio Regulations, the international treaty governing the use of the radio-frequency spectrum and satellite orbits
WRC is held every 3 to 4 years. Each study cycle initiates just after the WRC

High level WRC process landscape diagram:



World Radio Conference 2019 (WRC-19)

- ✓ WRC-19 will be held at Sharm-al-Sheikh In Egypt from October 28 2019 to November 22-2019
- ✓ It is expected to be attended by over 3500 regulators, Ministers and Wireless Industry leaders from around the world
- ✓ We expect a strong India participation Estimated at over 20-30 delegates from Industry and government
- ✓ The final Preparatory meeting for the conference will be held in Geneva,
 Switzerland from 18-28 February 2019 which will finalize the CPM report.
- The Asia pacific Telecommunity will hold it's 4th Preparatory meeting in Busan Korea from 7th to 12th January 2019 to update APT preliminary views and also propose changes to the Draft CPM report.

WRC-19 preparation milestones



WRC-19 Preparatory Activities in Asia Pacific by APT



Structure of the CPM report to WRC-19

CPM Report Includes summary of studies and methods to resolve each of the 30 agenda items



CPM Report Chapter 1

Agenda items:

1.11,1.12, 1.14 and 1.15

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ITU-APT Proposals on AI 1.11 Railways

- Agenda Item 1.11: to take necessary actions, as appropriate, to facilitate global or regional harmonized frequency bands to support railway radiocommunication systems between train and trackside within existing mobile service allocations, in accordance with Resolution 236 (WRC-15);
- Our Preliminary Views: Harmonization of spectrum for *railway radiocommunication systems between train and trackside* (RSTT) can facilitate the development of rail transport. India supports Method C as the most suitable method that can **facilitate** the harmonization of frequency bands/ranges for RSTT. Some minor modifications to CPM19-2, Method C's resolution is proposed in our draft contribution.
- **Reason:** Harmonization of frequencies for railways can best be achieved through a combination of resolution and Recommendation

ITU-APT Proposals on AI 1.12 (ITS)

- Agenda Item 1.12: to consider possible global or regional harmonized frequency bands, to the maximum extent possible, for the implementation of evolving Intelligent Transport Systems (ITS) under existing mobile-service allocations, in accordance with Resolution 237 (WRC-15);
- Our Preliminary Views: India supports Method A of no changes to the Radio Regulations under this agenda item and satisfy this agenda item through ITU-R Recommendation s and/or Reports.
- Reason : Evolving ITS should not be limited to any particular ITS technology including LTE based V2X and its evolution technologies. The use of frequency bands by ITS should not impose additional constraints on other primary services to which these frequency bands are already allocated and should take appropriate account of the potential interference from other primary Services, including FSS earth station uplinks, in particular while considering the frequency band 5 850-5 925MHz a regional (or sub-regional) basis, could also be used by the new generation of cooperative ITS.

ITU-APT Proposals on AI 1.14 (HAPS)

- Agenda Item 1.14: to consider, on the basis of ITU-R studies in accordance with Resolution 160 (WRC-15), appropriate regulatory actions for high-altitude platform stations (HAPS), within existing fixed-service allocations
- **Our Preliminary Views:** India supports the following regulatory actions to facilitate use of broadband applications provided via HAPS:
 - A global identification through a new footnote for the frequency band 6440-6520 MHz for use by HAPS (HAPS to ground) through the adoption of Method B1 option 1
 - A global identification through a new footnote for the frequency bands 31-31.3GHz (HAPS to ground and ground to HAPS) for use by HAPS through the adoption of Method B1 option 2
 - Slightly updated Resolution 122 for the frequency range 47.2-47.5 GHz and 47.9-48.2 GHz bands to facilitate the use for HAPS through the adoption of Method B1
- **Reason :** Protection of Terrestrial fixed and Mobile systems including proposed 5G

ITU-APT Proposals on AI 1.15 (above 275 GHz)

- Agenda Item 1.15: to consider identification of frequency bands for use by administrations for the land-mobile and fixed services applications operating in the frequency range 275-450 GHz, in accordance with Resolution 767 (WRC-15);
- Our Preliminary Views: India supports the Method B of modifying the existing footnote RR No. 5.565 for FS/LMS applications in portions of the 275-450 GHz frequency range.
- Reasons: Studies that evaluated the entire 275-450 GHz frequency range show sharing is feasible between FS/LMS applications and the EESS (passive)/RAS in the particular bands. For frequencies in the range 275-450 GHz not [identified/designated] for use under Method B, current studies have shown that sharing between FS/LMS applications and EESS (passive)/RAS applications is not feasible. Method B identifies frequency bands for use by LMS and FS applications that meet the spectrum needs summarized in ITU-R studies as contained in section 1/1.15/3 above.

Making India 5G Ready

CPM Report Chapter 2

Agenda items:

1.13,1.16, 9.1 issue 9.1.1, 9.1.5, 9.1.8

Report of the 5G High Level Forum Prepared by The Steering Committee

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ITU-APT Proposals on AI 1.13

- Agenda Item 1.13: to consider identification of frequency bands for the future development of International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution 238 (WRC-15);
- Provisional Views: India supports the identification of the following bands globally for IMT under WRC-19 agenda item 1.13 as detailed in the Table on next page along with various conditions associated with relevant bands in the next slides.
 - 24.25-27.5
 - 37-40.5
 - 40.5-42.5
 - 42.5-43.5
- India also supports further studies and potential identification for IMT in the following bands if sharing is possible : 45.5-47 GHz, 47-47.2 GHz, 47.2-50.2 GHz and 50.4-52.6 GHz.

Proposed Preliminary India views on AI 1.13

	<u> </u>	<u> </u>			<u>i</u>		<u> </u>				<u></u>	<u></u>
	Frequency bands (GHz) mentioned in Resolution 238 (WRC-15)											
	24.25 -27.5	31.8- 33.4	37-40.5	40.5- 42.5	42.5- 43.5	45.5-47	47-47.2	47.2- 50.2	50.4- 52.6	66-71	71-76	81-86
Proposal for APG-4	I -32— 34/	No	Ι	Ι	Ι	X	Х	Х	X	NOC	NOC	NOC

- The frequency range 24.25-27.5 GHz is allocated to the EESS, FS, FSS, ISS, MS, RLSS, RNS and SRS. The frequency bands adjacent to this frequency range are allocated to the EESS (passive), RAS, RLS and SRS (passive). Studies indicate sharing is possible – some protection is needed for EESS. Also need some measures on FSS earth stations to protect IMT-2020.
- The frequency range 31.8-33.4 GHz is allocated to the FS, ISS, RNS and SRS. The frequency bands adjacent to this frequency range are allocated to the EESS (passive), RAS and SRS (passive). Studies have concluded that sharing between IMT-2020 systems and the RNS within 31.8-33.4 GHz is not feasible.
- The frequency range 37-42.5 GHz is allocated to the broadcasting service, BSS, EESS, FS, FSS, MS, MSS, RAS and SRS. The frequency bands adjacent to this frequency range are allocated to the EESS (passive) and SRS (passive). The frequency range 42.5-43.5 GHz is allocated to the FS, FSS, MS and RAS. Sharing studies support IMT identification with necessary protection to existing services

	<u>Methods</u>	Our View				
ltem A 24.25-27.5 GHz	 Method A1 NOC Method A2 Identify for IMT PFD Limits TBD -32—34/-2830 	Support Method A2 Alternative 2 condition A2A (option 1) Co-existence possible with proposed emission limits Most harmonized Band providing economies of scale				
Item B 31.8-33.4 GHz	• Method A NOC	Method A NOC Co-existence not feasible				
ltem C 37-40.5 GHz*	• C1 - NOC • C2 –Identify for IMT	Method C2-Identify for IMT Alternative 2 Shared band between passive and active services, so Resolution 750 (Rev.WRC-15) not applicable Footnote 5.550A and Res 752 (WRC-07) both apply in this case, as demonstrated by sharing studies				

* These bands are also allocated to FSS on co-primary basis and can be shared nationally through band segmentation or other sharing arrangements



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Methods

Our View

Item F /G/H/I 45.5-52.6 GHz

- Method
 F1/G1/H1/I1 NOC
- Method F2/G2/H2/I2 – Identify for IMT

45.5-47 Method F2 alternative 2*
47-47.2- Method G2 Alternative 2*
47.2-50.2- Method H2 Alternative
2 condition H2A option 3

50.4-52.6-Method I2 Alternative 2 quote Table I2A option 2

*While no studies done for this band, allocations in this band are same as in the band 66-71 GHz and same results be applicable for the sharing studies with ISS and MSS

Sharing & compatibility studies results support



ITU-APT Proposals on 1.16 (Wifi in 5 GHz)

- Agenda Item 1.16: to consider issues related to wireless access systems, including radio local area networks (WAS/RLAN), in the frequency bands between 5 150 MHz and 5 925 MHz, and take the appropriate regulatory actions, including additional spectrum allocations to the mobile service, in accordance with Resolution 239 (WRC-15)
- Our Preliminary Views: In view of India's existing and planned services, including ITS, in the band 5850 5 925 MHz, India supports Method E, with no change to the Radio Regulations, except suppression of Resolution 239 (WRC-15). In addition, India supports ongoing ITU-R studies in respect of other bands covered by this agenda item.
- **Reason :** Protection of FSS , Fixed links and Proposed ITS. Further India has already opened various bands covered by this agenda item for outdoor use, while protecting existing satellite and radio navigation services

ITU-APT Proposals Agenda Item 9.1 Issue 9.1.1:

- Agenda Item 9.1 Issue 9.1.1: Implementation of International Mobile Telecommunications in the frequency bands 1 885-2 025 MHz and 2 110-2 200 MHz
- Our Preliminary Views: NOC

ITU-APT Proposals Agenda Item 9.1 Issue 9.1.5:

- Agenda Item 9.1 Issue 9.1.5:– Consideration of the technical and regulatory impacts of referencing Recommendations ITU-R M.1638-1 and ITU R M.1849 1 in Nos. 5.447F and 5.450A of the Radio Regulations
- Our Preliminary Views:

ITU-APT Proposals Agenda Item 9.1 Issue 9.1.8:

- Agenda Item 9.1 Issue 9.1.8: Studies on the technical and operational aspects of radio networks and systems, as well as spectrum needed, including possible harmonized use of spectrum to support the implementation of narrowband and broadband machine-type communication infrastructures, in order to develop Recommendations, Reports and/or Handbooks, as appropriate, and to take appropriate actions within the ITU Radiocommunication Sector (ITU-R) scope of work, in accordance with Resolution 958 (WRC-15)
- **Our Preliminary Views:** India's is of the view that narrowband and broadband machine-type communication infrastructures should be able to use existing frequency bands allocated to MOBILE service. This includes frequency bands identified for IMT.
- Therefore, as concluded in the CPM text: there is no need to identify specific spectrum for those applications in the Radio Regulations and there is no need for any regulatory action in the Radio Regulations with regard to specific spectrum requirement for MTC.
- The study of technical and operational aspects including the potential harmonized spectrum usage to support the implementation of narrowband and broadband MTC infrastructures could be further accomplished through the course of the work in ITU-R Study Groups including the development of ITU-R Recommendations, Reports and/or Handbooks, as appropriate.

CPM Report Chapter 3

Agenda items:

1.4,1.5, 1.6 and 7

ITU-APT Proposals on AI 1.4 (BSS-FSS – APP30)

- Agenda item 1.4 : to consider the results of studies in accordance with Resolution 557 (WRC-15), and review, and revise if necessary, the limitations mentioned in Annex 7 to Appendix 30 (Rev.WRC-15), while ensuring the protection of, and without imposing additional constraints on, assignments in the Plan and the List and the future development of the broadcasting-satellite service within the Plan, and existing and planned fixed-satellite service networks;
- Our Preliminary Views: Method A is supported
- Reason :

ITU-APT Proposals on AI 1.5 (ESIM)

- Agenda Item 1.5: to consider the use of the frequency bands 17.7-19.7 GHz (space-to-Earth) and 27.5-29.5 GHz (Earth-to-space) by earth stations in motion communicating with geostationary space stations in the fixed-satellite service and take appropriate action, in accordance with Resolution 158 (WRC-15)
- Our Preliminary Views: India supports Method B of the draft CPM Report.
- Further, India is of the view that ESIM should not cause harmful interference to and not claim any protection with respect to terrestrial services within 17.7-19.7 /27.5-29.5 GHz
 - M-ESIM should operate at a minimum distance from the low-water mark of a coastal state .
 - A-ESIM should operate at a minimum height above the ground level and should comply with a PFD mask
- **Reason :** Protection of Terrestrial fixed and Mobile systems including proposed 5G

ITU-APT Proposals on AI 1.6 (NGSO-FSS)

- Agenda Item 1.6: to consider the development of a regulatory framework for non-GSO FSS satellite systems that may operate in the frequency bands 37.5-39.5 GHz (space-to-Earth), 39.5-42.5 GHz (space-to-Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space), in accordance with Resolution 159 (WRC-15);
- All 4 CPM methods A B C D are proposing non-GSO/GSO sharing solution of: Single-entry definition of 3% unavailability and spectrum efficiency metric for systems operating using Adaptive Coding and Modulation (ACM); Aggregate definition of 10% unavailability and spectrum efficiency metric for systems operating using ACM; Resolution for non-GSO coordination tied to 10% aggregate protection for GSO systems; New resolution details processes for coordination to ensure and guarantee that GSO aggregate protection margins are not exceed;
- We can support method B that ensure that protection margins are not exceed and is verified by BR
- Reason : Protection of Terrestrial fixed and Mobile systems including proposed 5G

ITU-APT Proposals on AI 7

- Agenda Item 7: to consider possible changes, and other options, in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference, an advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks, in accordance with Resolution 86 (Rev.WRC-07) to facilitate rational, efficient, and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit:
- Currently, 13 issues (Issues A to M) are dealt under this Agenda item by the responsible group, Working Party 4A (WP 4A).
- This input provides India's preliminary views on Issues A, B, C, D, E, F, G and K.

ITU-APT Proposals on AI 7 (Issue A)

- Agenda Item 7: Issue A: Bringing into use of frequency assignments to NGSO satellite systems, and consideration of a milestone-based deployment approach for NGSO FSS satellite systems in certain bands
- Our Preliminary Views: concerning the continuous period for confirming the BIU of frequency assignments to a NGSO system, India would prefer A or B, and with Option B having for example 30 days, to ensure that the orbital resources are properly brought into use by a real satellite; we can also support a hybrid option , as shown below:
- Regarding milestone timing and minimum required percentage of satellites to be deployed to meet the milestone, India could support Options for which there exists a balance between the need to prevent warehousing of the orbital/spectrum resource and the operational requirements related to the deployment of a non-GSO satellite system.
- Regarding the transitional measures, we support Option 1 which applies identical milestones, associated timelines and required levels of deployment for all non-GSO systems brought into use before and after the end of WRC-19, typically coming into force of the RR (2 Jan 2021), or even better immediately after the WRC (23 Nov 2019).

ITU-APT Proposals on AI 7 (Issue B, C, D)

- Agenda Item 7: Issue B: Application of coordination arc in the Ka-band, to determine coordination requirements between the FSS and other satellite services
- **Preliminary Views :** India supports Method B as it could help to facilitate and improve the coordination procedures.
- Issue C: Issues for which consensus was readily achieved in the ITU-R
- **Preliminary Views:** India supports the single method in each of these sub issues within Issue C which provides clarity to the Radio Regulations.
- Issue D: Identification of those specific satellite networks and systems with which coordination needs to be effected under RR Nos. 9.12, 9.12A and 9.13
- **Preliminary Views:** India supports Method D2 which reduces the administrative workload related to the identification of potentially affected satellite networks and/or systems with which a new satellite network or system needs to effect coordination.

ITU-APT Proposals on AI 7 (Issue E, F)

- Agenda Item 7: Issue E: Resolution related to RR Appendix 30B
- **Preliminary Views:** India supports the draft new Resolution containing a special one-time applied measure and procedure as an enhancement of equitable access to spectrum/orbital resources for developing countries to facilitate the processing of their submission in RR Appendix 30B.
- Issue F: Measures to facilitate entering new assignments into the RR Appendix 30B List
- Preliminary Views: India supports Method F1 as it helps to facilitate coordination of networks for newcomers by alleviating difficulties due to the conservative criteria used in RR Appendix 30B and from networks with unrealistic characteristics which are highly sensitive to interference from later submissions.

ITU-APT Proposals on AI 7 (Issue G, K)

- Agenda Item 7: Issue G: Updating the reference situation for Regions 1 and 3 networks under RR Appendices 30 and 30A when provisionally recorded assignments are converted into definitive recorded assignments
- **Preliminary Views:** India supports Method G1 which is to update the AP30 and 30A List reference situation only after reaching agreements in Regions 1 and 3.
- Issue K: Difficulties for Part B examinations under § 4.1.12 or 4.2.16 of RR Appendices 30 and 30A and § 6.21 c) of RR Appendix 30B
- Preliminary Views: India supports the only Method which is to add one more examination under § 6.21 c) for AP30B and under § 4.1.12, §4.2.16 for AP30/30A such that should any remaining affected networks whose assignments have been entered in the List before the submission under § 6.17 for AP30B and under §4.1.12, §4.2.16 of AP30/30A, the Bureau shall further examine if these assignments in the List are still being affected, using its Part B characteristics. This method avoids overprotection of networks based on characteristics that are no longer valid and could potentially reduce the application of provisions for provisional recording in the List.

CPM Chapter 4

Agenda items: 1.2, 1.3, 1.7

ITU-APT Proposals on AI 1.2 (SAT IN 400 MHz)

- Agenda item 1.2: to consider in-band power limits for earth stations operating in the mobilesatellite service, meteorological-satellite service and Earth exploration-satellite service in the frequency bands 401-403 MHz and 399.9-400.05 MHz, in accordance with Resolution 765 (WRC-15);
- Our Preliminary Views: currently we support further studies and Method A NOC
- **Reason :** There are six methods in the draft CPM report A,B, C, D, E, F and it seems there is no consensus on this agenda item. Therefore further studies are needed. IN addition impact of higher TX power may create additional out of band emission impacts on fixed and mobile systems in the adjacent bands.

ITU-APT Proposals on AI 1.3 (460-470 MHz)

- Agenda item 1.3 : to consider possible upgrading of the secondary allocation to the meteorologicalsatellite service (space-to-Earth) to primary status and a possible primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460-470 MHz, in accordance with Resolution 766 (WRC-15);
- Our Preliminary Views:, India supports Method A with NO CHNGE to this band.
- **Reason :** Consistent with the preliminary view of the previous APG meeting, and noting that Method B can't ensure the protection of existing mobile service and that it will constraint the future development of the mobile service in the frequency band 460-470 MHz, we don't support possible upgrading of the secondary allocation to the meteorological-satellite service (space-to-Earth) to primary status and a possible primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460-470 MHz

ITU-APT Proposals on AI 1.7 (NGSO-Space Opertion)

- Agenda item 1.7: to study the spectrum needs for telemetry, tracking and command in the space operation service for non-GSO satellites with short duration missions, to assess the suitability of existing allocations to the space operation service and, if necessary, to consider new allocations, in accordance with Resolution 659 (WRC-15);
- Method A proposes NOC, Method B1 proposes a new SOS (Earth-to-space) allocation for non-GSO SD systems in the frequency range 403-404 MHz; Method B2 proposes a new SOS (Earth-to-space) allocation for non-GSO SD systems in the frequency range 404-405 MHz; Method C proposes to use the SOS allocation in the frequency band 137-138 MHz for downlink and the band 148-149.9 MHz for uplink and to provide appropriate associated regulatory provisions in the Radio Regulations for telecommand links of non-GSO SD missions.
- Our Preliminary Views: we support method C
- Reason : This method meets the requirement without seeking new allocations for SO

CPM Chapter 5

Agenda items:

1.1, 1.8. 1.9.1, 1.9.2, 1.10, 9.1 issue 9.1.4

ITU-APT Proposals on AI 1.1 (50-54 MHz – Amateur R1)

- Agenda Item 1.1: to consider an allocation of the frequency band 50-54 MHz to the amateur service in Region 1, in accordance with Resolution 658 (WRC-15)
- Our Preliminary Views:, We support Method B2-An allocation to the amateur service on a secondary basis in part of the frequency band 50-54 MHz in Region 1, with appropriate footnotes or appropriate regulatory text to provide protection to services which already have an allocation in the band.
- Reason : Under Radio Regulation 5.167, the band 50-54 MHz is allocated to fixed, mobile and broadcasting services on a primary basis. Therefore any changes made to the Radio Regulations under WRC-19 Agenda Item 1.1 shall not adversely impact the current and future broadcasting, fixed and mobile services in the 50 – 54 MHz frequency band and adjacent frequency bands in India.

ITU-APT Proposals on 1.8 (GMDSS – Issue A)

- Agenda Item 1.8: to consider possible regulatory actions to support Global Maritime Distress Safety System (GMDSS) modernization and to support the introduction of additional satellite systems into the GMDSS, in accordance with Resolution 359(Rev.WRC-15); Issue A: GMDSS modernization;
- Our Preliminary Views on Issue A: we support method A2 so that the frequency band 495-505 kHz could be used for international MF NAVDAT. The limitation on the use of the bands 415-495 kHz and 505-526.5 kHz (505-510 kHz in Region 2) in the maritime mobile service only by radiotelegraphy should be removed.
- For HF Navdat, It is needed to modify RR Appendix 17 to allow the frequency bands described in the most recent version of Recommendation ITU-R M.2058 to be used for the HF NAVDAT system. Therewith, proper regulatory provisions should be developed to ensure compatibility of HF NAVDAT systems with digital maritime mobile systems operating the frequency bands concerned subject to relevant existing allocations.

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ITU-APT Proposals on 1.8 (GMDSS – Issue B)

- Agenda Item 1.8: to consider possible regulatory actions to support Global Maritime Distress Safety System (GMDSS) modernization and to support the introduction of additional satellite systems into the GMDSS, in accordance with Resolution 359(Rev.WRC-15); Issue B" on introduction of additional satellite systems into the GMDSS.
- **Our Preliminary Views:** while in principle we support addition of one more satellite system into GMDSS, the addition of Iridium system could impact other services in L band. We therefore support further studies to asses the impact of the Iridium frequencies on other services .
- **Reason :** The current CPM report has many options indicating no clear agreement on adding iridium system . Further studies can provide clear inputs on how existing users will be impacted

ITU-APT Proposals Agenda Item 1.9.1:GMDSS-AIS-156 MHz

- Agenda Item 1.9.1: to consider, based on the results of ITU-R studies, regulatory actions within the frequency band 156-162.05 MHz for autonomous maritime radio devices to protect the GMDSS and automatic identifications system (AIS), in accordance with Resolution 362 (WRC-15);
- The aim of this agenda item is to prevent unregulated operation of autonomous maritime radio devices (AMRD) in order to enhance safety of navigation and to ensure the integrity of the global maritime distress and safety system (GMDSS) which is the only system for distress, urgency, safety and routine communication for general shipping. Furthermore, the integrity of the collision avoidance system, automatic identification system (AIS), including the AIS VHF data link needs to be ensured.
- Our Preliminary Views: We support Method A for AMRDs that enhance the safety of navigation, to allow AMRD Group A to operate on frequency channels 156.525 MHz (channel 70), 161.975 MHz (AIS 1) and 162.025 MHz (AIS 2).
- For method B for AMRDs that do not enhance the safety of navigation, we support B1, B2 and B3 that provide necessary regulatory framework for use of AMRD for AIS, non AIS and other technologies

ITU-APT Proposals Agenda Item 1.9.2: MMSS IN 156 MHz

- Agenda Item 1.9.2: to consider, based on the results of ITU-R studies, modifications of the Radio Regulations, including new spectrum allocations to the maritime mobile-satellite service (Earth-to-space and space-to-Earth), preferably within the frequency bands 156.0125-157.4375 MHz and 160.6125-162.0375 MHz of Appendix 18, to enable a new VHF data exchange system (VDES) satellite component, while ensuring that this component will not degrade the current terrestrial VDES components, applications specific messages (ASM) and AIS operations and not impose any additional constraints on existing services in these and adjacent frequency bands as stated in recognizing d) and e) of Resolution 360 (Rev.WRC-15);
- Our Preliminary Views: We support Method D, which proposes new secondary allocations for the MMSS(Earth-to-space and space-to-Earth) with addition of pfd limits in RR Article 5 in order to protect the terrestrial service.
- Reason: Terrestrial fixed, mobile including maritime mobile services in this band need to be
 protected from MMSS. Methods B/E/F that propose primary allocations and method C that
 proposes secondary allocation without PFD limits, do not meet this requirement. Method A –
 NOC will not meet the requirements of VDES

ITU-APT Proposals on 1.10 (GADSS)

- AGENDA 1.10: to consider spectrum needs and regulatory provisions for the introduction and use of the Global Aeronautical Distress and Safety System (GADSS), in accordance with Resolution 426 (WRC-15);
- **CPM Methods**: Method A:modification to RR Article 30 and a new RR Article 34A to recognize GADSS in the RR are suggested./ Method B: different modifications to RR Article 30, a different new RR Article 34A, and a Resolution requiring the development of ITU-R Recommendations to list the frequency bands of the systems contributing to GADSS, and their technical characteristics and protection criteria are suggested.
- Preliminary Views: Method B is recommended

CPM Chapter 6

Agenda items:

Coverage and Capacity ban

2,4, 9.1 Issues 9.1.6, 9.1.7 and Agenda item 10

ITU-APT Proposals Agenda Item 9.1 Issue 9.1.7:

• Agenda Item 9.1 Issue 9.1.7: "Issue 2) in the Annex to Resolution 958 (WRC-15) Studies to examine:

- a) whether there is a need for possible additional measures in order to limit uplink transmissions of terminals to those authorized terminals in accordance with No. 18.1;
- b) the possible methods that will assist administrations in managing the unauthorized operation of earth station terminals deployed within its territory, as a tool to guide their national spectrum management programme, in accordance with Resolution ITU-R 64 (RA 15)."
- Our Preliminary Views: on Issue 2a in Annex to Resolution 958 (WRC-15): consistently with Option 1 in the draft CPM Report (Document 1B/303 Annex 1), India is of the view that any unauthorized earth stations and related issues should be considered as national matters and no changes to the Radio Regulations are necessary, as Article 18 sufficiently addresses the required international regulatory measures.
- Issue 2b in Annex to Resolution 958 (WRC-15): consistently with the only Option in the draft CPM Report (Document 1B/303 Annex 1), India is of the view that further assistance to administrations in managing unauthorized operation of earth station terminals, can be accommodated with guidelines on satellite monitoring capabilities, ITU-R Reports and/or Handbooks as appropriate.
- Accordingly, number 2) of the Annex to Resolution 958 (WRC-15) can be suppressed.

ITU-APT Proposals on AI 10

- Agenda Item 10: to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, in accordance with Article 7 of the Convention
- Our Preliminary Views: Following new agenda items are proposed for consideration under Agenda item 10
 - 1. Identification of the band 614-698 MHz in the MOBILE service for IMT in Region 3
 - 2. Identification of the frequency band 118 137 MHz for space-based VHF voice communication services.
 - 3. Allocation of the frequency bands 1518-1559 MHz, 1626.6-1660.5 MHz and 1668-1675 MHz to the mobile-satellite service (space-to-space)
 - 4. HAPS-IMT below 3GHz
 - 5. Revision of footnote No.5.522B relating to the use of 18.6-18.8 GHz for FSS non-GSO systems to facilitate the deployment of non-GSO systems operating with an apogee below 20000 km in this band



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