



ICAO DAKAR UNITING AVIATION

25th Meeting of the Satellite Management Committee SNMC/25

Freetown, Sierra Leone 18-22 December 2017

Preparation for ITU WRC-19
ICAO Position

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Development of the Position

- **Draft Position developed with assistance of FSMP during 2016**
- **Reviewed by ICAO Air Navigation Commission (ANC) in November 2016**
- **Submitted to contracting States and international organizations**
- **Comments were addressed by FSMP at FSMP-WG/4**
- **Position approved by ICAO Council June 2017**
- **Likely that future updates will be recommended by FSMP as studies progress**





Main principles used in the development of the Positions

- To ensure that the ITU Radio Regulations do not compromise the safety of civil aviation
- The ITU Radio Regulations shall not be in conflict with ICAO Standards and Recommended Practices
- The frequency allocations to aeronautical safety services shall be protected in conformity with internationally agreed requirements;
- Changes to frequency allocations need to be supported by adequate studies in the ITU-R Sector or in ICAO, as appropriate





Dissemination of the position

- ICAO Sec Gen SL Ref.: E 3/5-17/82 dated 14 July 2017
- ICAO WACAF SL Ref.: TY7/7.9.1-0566 Dated 23 August 2017
- Location: <http://www.icao.int/safety/fsmp/documents/ITU-WRC19>



Importance of WRC-15 Agenda Items to ICAO

- **Agenda Items of particular importance**
 - * WRC-15 Agenda Items **1.10** and **9.1 (sub-item 4)**
- **Other WRC-15 Agenda Items of importance**
 - * 1.7, 1.8, 1.9, 1.11, 1.12, 1.13, 1.14, 1.16, 4, 8, 9.1 (issue 9.1.3), 9.1 (issue 9.1.6) and 10.
- **WRC-15 Agenda items with no expected impact**
 - * 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.15, 2, 3, 5, 6, 7, 9.1 (issue 9.1.1), 9.1 (issue 9.1.2), 9.1 (issue 9.1.5), 9.2 and 9.3.



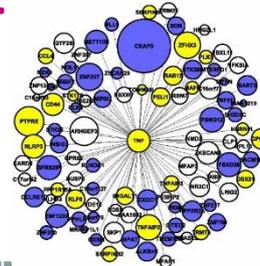
- **Usually a broad statement...**

- E.g., “to consider new radiolocation service allocations in the xx to yy GHz band”



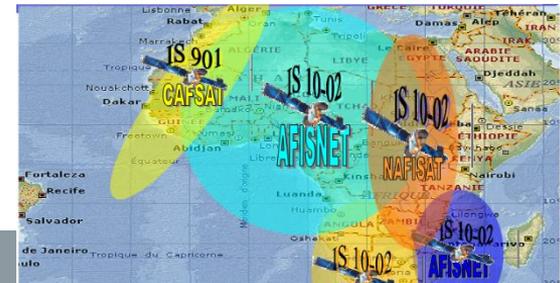
- **With an associated Resolution that provides details on how the studies should be done...**

- E.g., “Determine spectrum requirements; if those cannot be satisfied in existing bands ... ensure protection of existing and future systems ...”



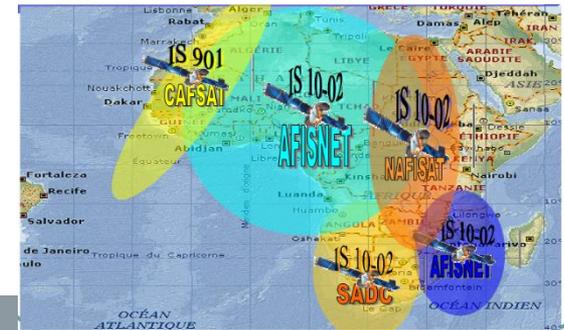
WRC-19 Agenda items (1 of 11)

- 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);
- 1.2 to consider in-band power limits for earth stations operating in the mobile-satellite 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);
- 1.3 to consider 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, in accordance with Resolution 766 (WRC-15);



WRC-19 Agenda items (2 of 11)

- 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-12), 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;
- 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);



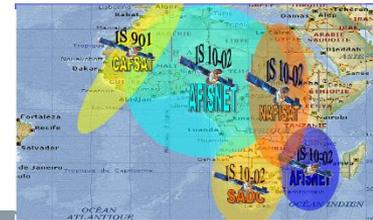
WRC-19 Agenda items (3 of 11)

- 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 \(WRC-15\)](#);
- 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 \(WRC-15\)](#);
- 1.8 to consider possible regulatory actions to support Global Maritime Distress Safety Systems (GMDSS) modernization and to support the introduction of additional satellite systems into the GMDSS, in accordance with [Resolution 359 \(Rev. WRC-15\)](#);
- 1.9 to consider, based on the results of ITU-R studies:
- 1.9.1 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 \(WRC-15\)](#);
- 1.9.2 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 \(Rev.WRC-15\)](#);



WRC-19 Agenda items (5 of X)

- 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);
- 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;
- 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);
- 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);



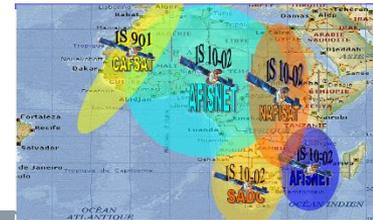
WRC-19 Agenda items (6 of 11)

- 2 to examine the revised ITU-R Recommendations incorporated by reference in the Radio Regulations communicated by the Radiocommunication Assembly, in accordance with Resolution 28 (Rev.WRC-15), and to decide whether or not to update the corresponding references in the Radio Regulations, in accordance with the principles contained in Annex 1 to Resolution 27 (Rev.WRC-12);
- 3 to consider such consequential changes and amendments to the Radio Regulations as may be necessitated by the decisions of the conference;
- 4 in accordance with Resolution 95 (Rev.WRC-07), to review the resolutions and recommendations of previous conferences with a view to their possible revision, replacement or abrogation;
- 5 to review, and take appropriate action on, the Report from the Radiocommunication Assembly submitted in accordance with Nos. 135 and 136 of the Convention;



WRC-19 Agenda items (7 of 11)

- 6 to identify those items requiring urgent action by the radiocommunication study groups in preparation for the next world radiocommunication conference;
- 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), in order to facilitate rational, efficient and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit;



WRC-19 Agenda items (8 of 11)

8 to consider and take appropriate action on requests from administrations to delete their country footnotes or to have their country name deleted from footnotes, if no longer required, taking into account Resolution 26 (Rev.WRC-07);

9 to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the Convention:

9.1 on the activities of the Radiocommunication Sector since WRC-15;

Issue 9.1.1: Resolution 212 (Rev.WRC-15) Implementation of International Mobile Telecommunications in the frequency bands 1 885-2 025 MHz and 2 110-2 200 MHz

Issue 9.1.2: Resolution 761 (WRC 15) Compatibility of International Mobile Telecommunications and broadcasting-satellite service (sound) in the frequency band 1 452-1 492 MHz in Regions 1 and 3





WRC-19 Agenda items (9 of 11)

Issue 9.1.3: Resolution 157 (WRC 15) Study of technical and operational issues and regulatory provisions for new non-geostationary-satellite orbit systems in the 3 700-4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz and 6 725-7 025 MHz frequency bands allocated to the fixed-satellite service

Issue 9.1.4: Resolution 763 (WRC 15) Stations on board sub-orbital vehicles

Issue 9.1.5: Resolution 764 (WRC 15) 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





WRC-19 Agenda items (10 of 11)

Issue 9.1.6: Issue 1) in the Annex to Resolution 958 (WRC 15) Studies concerning Wireless Power Transmission (WPT) for electric vehicles: a) to assess the impact of WPT for electric vehicles on radiocommunication services; b) to study suitable harmonized frequency ranges which would minimize the impact on radiocommunication services from WPT for electrical vehicles.

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 (RA15)



WRC-19 Agenda items (11 of 11)

9.2 on any difficulties or inconsistencies encountered in the application of the Radio Regulations*; and

9.3 on action in response to Resolution 80 (Rev.WRC-07);

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

Red = of primary interest to aviation

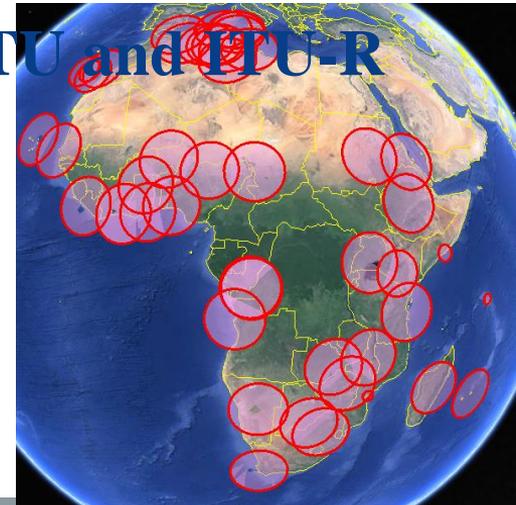
Orange = Aviation should participate in studies

Green = No impact on aeronautical services has been identified



Support of ICAO Position

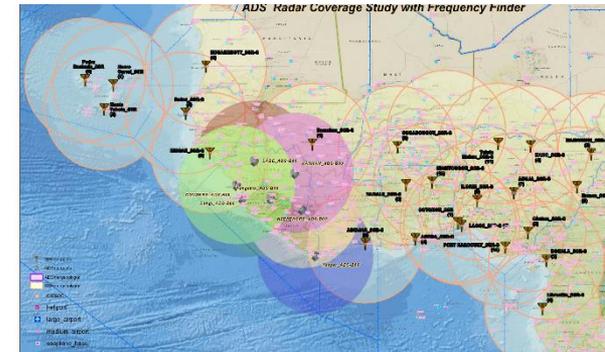
- **Dissemination of the position to stakeholders**
- **Work with national radio regulators to secure a national/ATU position in line that of ICAO**
- **Where possible participate in the work of the ATU and ITU-R**





Next Steps

- **WRC-19 Workshop and FSMP WG/6 Mexico City, Mexico, 6 – 15 February 2018**
- **WRC-19 Workshop and FSMP WG/7 South Africa, September 2018**
- **WATRA Preparatory Meeting for WRC-19, WACAF State during year 2018 ,**
- **ICAO Position to be promoted**
- **Future actions to be conducted**





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THANK YOU