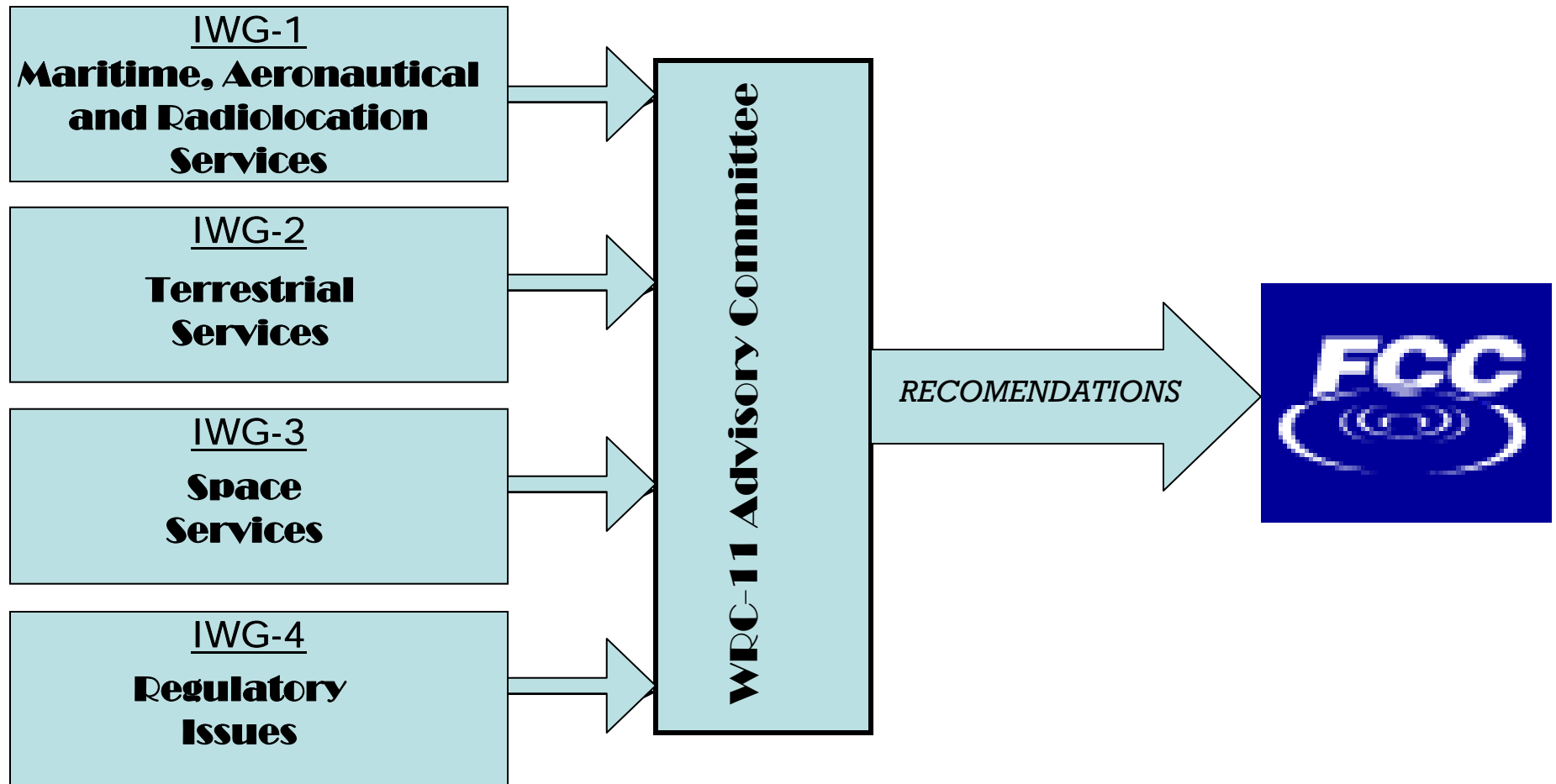




# **WRC-11 Advisory Committee OVERVIEW**

# *Advisory Committee Structure*



# *Informal Working Group 1*

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## **Maritime, Aeronautical and Radiolocation Services**

## ***WRC-11 Agenda Item 1.3 -- Unmanned Aircraft Systems (UAS)***

- Spectrum requirements and possible regulatory actions, to support Unmanned Aircraft Systems (UAS):
  - spectrum requirements and possible regulatory solutions for:
    - Air traffic control
    - Command and Control (remote piloting)
    - Sense and Avoid
    - Payload Functions
- Resolution **421 (WRC-07)**

## ***WRC-11 Agenda Item 1.4 -- Aeronautical Mobile (R) Service (AM(R)S)***

- regulatory measures to facilitate introduction of new AM(R)S systems in the bands:
  - Frequency bands under consideration:
    - 112 -117.975 MHz
    - 960 -1164 MHz and
    - 5000 - 5030 MHz
  - Adjacent band sharing with FM broadcasting below 108 MHz
  - **Preliminary** indication from ICAO:
    - 60 MHz in the band 960 – 1024 MHz
    - 60 to 100 MHz in frequency range 5000 – 5150 MHz
- WRC-07 Resolutions **413**, **417** and **420**

## ***WRC-11 Agenda Item 1.9 -- digital technologies for maritime mobile service***

- Revise frequencies and channelling arrangements of Appendix 17 to the Radio Regulations in order to implement new digital technologies for the maritime mobile service
  - Timing and scope in transition arrangements
  - Coexistence between analog and digital systems
  - Consequential impact to Appendix **25**
  - Requirement for worldwide interoperability of equipment on ships.
- Resolution **351 (Rev.WRC-07)**

## ***WRC-11 Agenda Item 1.10 -- safety systems for ships and ports***

- Examine frequency allocations and related regulatory provisions with regard to operation of ship and port security and maritime safety systems
  - additional allocations for maritime mobile service:
    - below 1 GHz
    - between 156 and 162.025 MHz maritime mobile-satellite service (e.g. 3<sup>rd</sup> AIS frequency for satellite reception)
  - may lead to possible upgrade of WRC-07 secondary allocations for AIS satellite reception to primary status
  - compatibility with fixed and land mobile service
  - allocations for downlink of AIS data from satellites
- Resolution **357 (WRC-07)**

## ***WRC-11 Agenda Item 1.12 – aeronautical mobile service in 37-38 GHz***

- protect primary services in the band 37-38 GHz from possible interference resulting from aeronautical mobile service operations
  - Space Research Service (s-to-E)
  - Ground based Fixed and Mobile services
  - Fixed-Satellite Service (s-to-E) in 37.5-38 GHz portion
- is there a need for change in Art. 1 definition for aeronautical mobile service to account for onboard communications
- Resolution **754 (WRC-07)**



## ***WRC-11 Agenda Item 1.14 -- Radiolocation Service in VHF***




- Allocations or regulatory provisions for implementation of new applications in the radiolocation service in the range 30-300 MHz
  - sharing conditions between radiolocation systems and existing services in 30 - 300 MHz
  - Requirements for radiolocation systems for space-object detection: 2 MHz bandwidth or wider frequency range
  - Bands currently under consideration: 138-144 MHz and 154-156 MHz
  
- Resolution **611 (WRC-07)**

## ***WRC-11 Agenda Item 1.15 -- oceanographic radar applications***

- new allocations in the range 3-50 MHz to the radiolocation service for oceanographic radar :
  - Applications: monitor sea surface, wave heights, ocean currents, tracking of large objects
  - bands not exceeding 600 kHz
  - sharing conditions between oceanographic radar systems and existing services
- Resolution **612 (WRC-07)**

***WRC-11 Agenda Item 1.21 -- radiolocation service in 15.4-15.7 GHz band***



- Radiolocation service in band 15.4 -15.7 GHz sharing with:
  - aeronautical radionavigation service (ARNS), safety service
  - NGSO MSS feeder uplinks in 15.43 -15.63 GHz band (agenda item 1.25?)
  - RAS in adjacent band 15.35-15.40 GHz
- Resolution **614 (WRC-07)**

## *Informal Working Group 2*

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# **Terrestrial Services**

## ***WRC-11 Agenda Item 1.5 – spectrum for ENG***



- Worldwide/regional harmonization of spectrum for electronic news gathering (ENG)
  - Review needs of ENG systems
  - May lead to possible harmonization of ENG frequencies (in which bands?)
  - May lead to requests from administrations for additional allocations
  
- Resolution **954 (WRC-07)**

## ***WRC-11 Agenda Item 1.8 – fixed service in between 71 GHz and 238 GHz***

- Fixed service in frequencies between 71 GHz and 238 GHz
  - Compatibility between passive and active services
  - Study spectrum requirements of emerging active services
  - May lead to possible revision of Radio Regulations to accommodate emerging requirements of active services and existing requirements of passive services
- Resolutions **731 (WRC-2000)** and **732 (WRC-2000)**

## ***WRC-11 Agenda Item 1.16 – lightning detection***

- Consideration of “the needs of passive systems for lightning detection”
  - recognition of systems in meteorological aids service in frequency range below 20 kHz and possible allocations
  - may lead to possible constraints on existing services:
    - fixed and maritime mobile services in band 14-19.95 kHz
    - standard frequency and time signal (20 kHz) service in band 19.95-20.05 kHz
    - radionavigation service in band 9-14 kHz and 14-17 kHz in some countries (RR5.55)
    - Other allocated services in frequencies between 9 kHz to 20kHz
- Resolution **671 (WRC-07)**

***WRC-11 Agenda Item 1.17 – Mobile service in the band 790-862 MHz in Regions 1 and 3***

- sharing between mobile service and other services in band 790-862 MHz in Regions 1 and 3
  - terrestrial broadcasting services
    - GE06 Agreement
    - Possible extension of GE06 regulatory constraints to countries in Region 3
  - aeronautical radio navigation (No. **5.312**)
- Resolution **749 (WRC-07)**



## ***WRC-11 Agenda Item 1.19 – SDR and CRS***

- Regulatory measures to enable introduction of software-defined radio (SDR) and cognitive radio systems (CRS)
  - What, if any, regulatory measures are required for introduction of SDR or CRS
    - Regulatory definition for SDR or CRS
    - Harmonization
  - May lead to possible allocation/identification of supporting Pilot Channel
- Resolution **956 (WRC-07)**

## ***WRC-11 Agenda Item 1.22 – SRDs***



- Examine effect of emissions from short-range devices on radiocommunications services
  - Sharing in Industrial, Scientific and Medical (ISM) bands (e.g., 900-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz)
  - What regulatory actions may be required at WRC-11?
- Resolution **953 (WRC-07)**

## ***WRC-11 Agenda Item 1.23 – new allocations for amateur service***

- allocation of about 15 kHz in parts of the band 415-526.5 kHz to the amateur service on a secondary basis
  - Sharing with Maritime and other services
  - Does allocation need to be contiguous?

# *Informal Working Group 3*

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## **Space Services**

## ***WRC-11 Agenda Item 1.7 – spectrum for AMS(R)S***

- Current and future spectrum requirements for aeronautical mobile-satellite (Radio) service (AMS(R)S)
- Under Res. 222, generic allocation to the mobile-satellite service in bands 1 525-1 559 MHz and 1 626.5-1 660.5 MHz must remain unchanged
  - Is there need for new or modified allocations for AMS(R)S?
  - AMS(R)S requirements for UAS (agenda item 1.3?)
  - AMS(R)S requirements that may be considered in the context of agenda item 1.25?
- Resolution **222 (Rev.WRC-07)**

## ***WRC-11 Agenda Item 1.11 – spectrum for SRS***

- primary allocation for space research service (SRS) (Earth-to-space) in band 22.55-23.15 GHz
  - sharing between high-eirp SRS (E-to-s) and:
    - fixed and mobile services in band 22.55-23.15 GHz
    - adjacent bands:
      - IRIDIUM in 23.15-23.55 GHz
      - EESS (passive) in bands 22.21-22.5 GHz and 23.6-24 GHz
- Resolution **753 (WRC-07)**

## ***WRC-11 Agenda Item 1.13 – BSS in 21.4-22 GHz band in Regions 1 and 3***

- Spectrum for broadcasting-satellite service in 21.4-22 GHz band in Regions 1 and 3
  - Regulatory procedures concerning protection of Fixed and Mobile services in Region 2 (US)
    - Applicability of No. 9.11
- Resolution **525** and **551 (WRC-07)**

## ***WRC-11 Agenda Item 1.18 – RDSS in 2 483.5-2 500 MHz band***

- radiodetermination-satellite service (RDSS) (space-to-Earth) allocations in the band 2 483.5-2 500 MHz
  - Currently China and India provide national navigation and timing signals
  - Global allocation to RDSS will need to account for:
    - GLOBALSTAR
    - Terrestrial Services
- Resolution **613 (WRC-07)**




## ***WRC-11 Agenda Item 1.20 – HAPS in 5 850-7 075 MHz***

- spectrum identification for gateways of high altitude platform stations (HAPS) in the 5 850-7 075 MHz frequency range
  - Preliminary requirement - two 80 MHz channels
  - FSS C-band uplink band, includes ESVs
  - Fixed and Mobile
- **Resolution 734 (Rev.WRC-07)**

## ***WRC-11 Agenda Item 1.24 – NGSO MetSats in 7850-7900 MHz***

- allocation to non-geostationary meteorological satellites in the space-to-Earth direction in the band 7 850 - 7 900 MHz
  - Extension of existing NGSO MetSat allocation in the band 7 750-7 850 MHz
  - Sharing with Fixed service
- Resolution **672 (WRC-07)**

## ***WRC-11 Agenda Item 1.25 – allocations MSS***



- additional allocations to the mobile-satellite service
  - focus on 4 GHz to 16 GHz range
  - “candidate bands” not yet identified
- Resolution **231 (WRC-07)**

# *Informal Working Group 4*

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## **Regulatory Issues**

## *WRC-11 Agenda Item 1.2 – enhancing the international regulatory framework*



- Make Radio Regulations more responsive to new technologies
  - Example: convergence vs. regulatory definitions, allocations and procedures
- Resolution **951 (Rev.WRC-07)**

## ***WRC-11 Agenda Item 1.6 – spectrum use above 275 GHz***


- spectrum use by the passive services between 275 GHz and 3 000 GHz
  - not allocated in Table of Frequency allocations
  - No. **5.565** identifies 275-1000 GHz for passive services applications
  - Possible regulatory procedures for free-space optical-links above 3000 GHz
- Resolution **950 (Rev.WRC-07)**
- Resolution **955 (WRC-07)**

## ***WRC-11 Agenda Item 2 – Recommendations incorporated by reference***



- examine the revised ITU-R Recommendations incorporated by reference in the Radio Regulations
- Resolution **28 (Rev.WRC-03)**
- Annex 1 to Resolution **27 (Rev.WRC-07)**;

## ***WRC-11 Agenda Item 4 – review resolutions and recommendations***




- review resolutions and recommendations of previous conferences with a view to their possible revision, replacement or abrogation
- Resolution **95 (Rev.WRC-07)**



## ***WRC-11 Agenda Item 7 – Regulatory procedures for satellite networks***


- to consider possible changes in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference:  
“Advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks”, in accordance with **Resolution 86 (Rev.WRC-07)**
  - Possible action on Res 86 at Plenipotentiary Conference in 2010

## ***WRC-11 Agenda Item 8.1 – Report of the Director***



- consider Report of the Director of the Radiocommunication Bureau

## ***WRC-11 Agenda Item 8.2 – Proposals for agenda items for future conference***



### ***Agenda Item 8.2 – assigned to all IWGs***

- Regional proposals take precedent over country proposals
- Adoption of proposal by CITEEL takes time

# ***WRC-11 Advisory Committee Website***



**[www.fcc.gov/ib/wrc-11](http://www.fcc.gov/ib/wrc-11)**