**Outcome of the World Radiocommunication Conference 2015 (WRC-15)**

Int. Organization: International Telecommunication Union - World Radiocommunication Conference 2015 (WRC-15)

IALA interest: Maritime mobile service including Global Maritime Distress and Safety System (GMDSS) and radiodetermination service

Specific: Spectrum allocation for VDES

IALA participation Stefan Bober

The ITU World Radiocommunication Conference 2015 was held in Geneva, Switzerland, from 2 to 27 November 2015. The Conference was attended by more than 3800 delegates from 162 member states and 130 international organizations and sector members.

The main purpose of the conference was:

* to coordinate the world wide use of frequencies in the radio spectrum, to
* to address the global demand for spectrum for the growth and development of information and communication technologies
* to update ITU Radio Regulations (RR) which regulates the world wide use of the radio spectrum.

The results of the WRC-15 are documented in the provisional Final Acts of the World Radiocommunication Conference 2015 (WRC-15), 2nd to 27th November 2015 (see ENAV18-11.1.1).

The specific interest of IALA was the spectrum allocation for VDES.

**a) Outcome of WRC-15 regarding VDES**

The results regarding VDES are reflected in two sections of the document:

- APPENDIX 18 (REV.WRC-15) Table of transmitting frequencies in the VHF maritime mobile band (see ENAV18-11.1.1page 116 ff)

- RESOLUTION 360 (REV.WRC-15) Consideration of regulatory provisions and spectrum allocations to the maritime mobile-satellite service to enable the satellite component of the VHF Data Exchange System and enhanced maritime radiocommunication (see ENAV18-11.1.1page 242 ff)

To summaries the results of the IALA initiatives regarding VDES in short:

- channel allocation for ch 2027 and ch 2028 for ASM terrestrial

- channel allocation for ch 2027 and ch 2028 for ASM earth to space

- channel allocation for ch 24, 84, 25, 85, 26, 86 for VDES (without satellite)

- channel allocation for ch 24, 84, 25, 85 with 100 kHz bandwidth for VDE terrestrial

- channel 2078, 2019, 2079 and 2020 are omitted from tx from ship stations (exemptions allowed)

Unfortunately WRC 15 couldn’t agree on the allocation of ch 24, 84, 25, 85, 26, 86 for VDE Sat uplink and downlink has been delayed until WRC19.

Appendix 18 is not easy to read and to identify what has been changed for VDES. Document ENAV18-11.1.2 contains a draft version on Appendix 18 where the changes are highlighted in MS track changes. This is not an output document from WRC-15.

There is a new agenda item for WRC 19 which as a matter of urgency, and in time for WRC-19, requires further sharing and compatibility studies between VDES satellite components and incumbent services in the same and adjacent frequency bands. Please see RESOLUTION 360 in the attached R-ACT-WRC.11-2015-PDF-E.pdf.

So IALA gained approval on most of the initiatives, i.e. ASM and VDE TER. However the plans for a satellite up/down link on the VDE channels has been delayed until WRC19.

IALA is expected to present studies proving that the VDE satellite aspects do not interfere with existing services in either maritime, land mobile or radiolocation.

**b) New agenda items for WRC-19**

WRC-15 has identified a number of urgent issues requiring further examination by WRC-19.

Following agenda items of WRC-19 might be of specific interest for IALA ENAV Committee.

**Agenda item 1.8: “Modernization and update of the GMDSS”**

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:

**Agenda Item 1.9.1 “Maritime radio devices”**

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 [COM6/10] (WRC 15);

**Agenda Item 1.9.2 “VDE satellite component”**

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);

Annex:

RESOLUTION 809 [COM6/16] (WRC‑15)

Agenda for the 2019 World Radiocommunication Conference

The World Radiocommunication Conference (Geneva, 2015),

considering

*a)* that, in accordance with No. 118 of the ITU Convention, the general scope of the agenda for a world radiocommunication conference should be established four to six years in advance and that a final agenda shall be established by the ITU Council two years before the conference;

*b)* Article 13 of the ITU Constitution relating to the competence and scheduling of world radiocommunication conferences and Article 7 of the Convention relating to their agendas;

*c)* the relevant resolutions and recommendations of previous world administrative radio conferences (WARCs) and world radiocommunication conferences (WRCs),

recognizing

*a)* that this conference has identified a number of urgent issues requiring further examination by WRC‑19;

*b)* that, in preparing this agenda, some items proposed by administrations could not be included and have had to be deferred to future conference agendas,

resolves

to recommend to the Council that a world radiocommunication conference be held in 2019 for a maximum period of four weeks, with the following agenda:

1 on the basis of proposals from administrations, taking account of the results of WRC‑15 and the Report of the Conference Preparatory Meeting, and with due regard to the requirements of existing and future services in the frequency bands under consideration, to consider and take appropriate action in respect of the following items:

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 [COM6/6] (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 Resolution765 [**COM6/7] (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 [COM6/8] (WRC‑15);

1.4 to consider the results of studies in accordance with Resolution 557 [**COM6/9] (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 [**COM6/17] (WRC‑15)**;

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 [**COM6/18] (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 [**COM6/19]** **(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 [**COM6/10] (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**);

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 [**COM6/11] (WRC‑15)**;

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 [**COM6/12] (WRC‑15)**;

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 [**COM6/13] (WRC‑15)**;

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 [**COM6/20] (WRC‑15)**;

1.14 to consider, on the basis of ITU‑R studies in accordance with Resolution 160 [**COM6/21] (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 [COM6/14] (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 [**COM6/22] (WRC‑15)**;

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;

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;

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;

9.2 on any difficulties or inconsistencies encountered in the application of the Radio Regulations[[1]](#footnote-1)\*; and

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

10to 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,

resolves further

to activate the Conference Preparatory Meeting,

invites the Council

to finalize the agenda and arrange for the convening of WRC‑19, and to initiate as soon as possible the necessary consultations with Member States,

instructs the Director of the Radiocommunication Bureau

to make the necessary arrangements to convene meetings of the Conference Preparatory Meeting and to prepare a report to WRC‑19,

instructs the Secretary-General

to communicate this resolution to international and regional organizations concerned.

1. \* This agenda item is strictly limited to the Report of the Director on any difficulties or inconsistencies encountered in the application of the Radio Regulations and the comments from administrations. [↑](#footnote-ref-1)