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| **World Radiocommunication Conference (WRC-15)Geneva, 2–27 November 2015** |  |
| **INTERNATIONAL TELECOMMUNICATION UNION** |  |
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| PLENARY MEETING | **Addendum 16 toDocument 35-E** |
|  | **30 September 2015** |
|  | **Original: French** |
|  |
| Cameroon (Republic of) |
| Proposals for the work of the conference |
|  |
| Agenda item 1.16 |

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)**;

Introduction

The decision of WRC-12 to assign new channels of the RR Appendix 18 to digital communication has enabled the implementation and use of new digital communication means. Given the importance of AIS for the safety of maritime navigation and avoidance of collisions between vessels, it has to be ensured that new or improved applications for maritime data exchange based on AIS technology, which are currently proliferating, will not degrade the current AIS operations and other existing services.

To limit deleterious loading of the AIS VHF data link (VDL) and protect its integrity, it is beneficial to identify two of the four channels identified for data exchange in Appendix 18of the Radio Regulations by WRC-12 for application-specific messages (ASM). Thus, channels AIS 1 and AIS 2 will be reserved for “navigation safety/collision avoidance” (as required under the SOLAS Convention), with the consequential movement of ASM and other “non-critical communications” to new channels of RR Appendix 18. The option proposed consists in using the upper legs of channels 27 and 28 (channels 2027 and 2028) as ASM channels, based on the fact that these channels are close to the existing AIS 1 and AIS 2 channels.

Channels 27 and 28 of RR Appendix 18 will be split into four simplex channels: channels 1027, 1028, 2027 and 2028. Channels 2027 and 2028 will be identified for the ASM application. This will be achieved through a transitional period and an effective implementation date. To prevent blocking of the reception of the channels AIS 1, AIS 2, 2027 and 2028, administrations should take appropriate actions based on the results of ITU-R studies, and should have the necessary latitude for taking such actions. One of the possible options could be for transmissions from ships on channels 2078, 2019, 2079 and 2020 to be prohibited.

Proposals

– Regarding the issue relating to the designation for ASM (Issue A), the proposal is to split channels 27 and 28 of RR Appendix 18 into four simplex channels and designate channels 2027 and 2028 for ASM applications.

– Regarding the issue relating to new applications for maritime radiocommunication – terrestrial component (Issue B), Cameroon proposes the identification of channels 24, 82, 25 and 85 of RR Appendix 18.

The following modifications to the RR are proposed:

Issue A

MOD CME/35A16/1

APPENDIX 18 (REV.WRC‑15)

Table of transmitting frequencies in the
VHF maritime mobile band

(See Article 52)

.../...

| Channeldesignator | Notes | Transmittingfrequencies (MHz) | Inter-ship | Port operations and ship movement | Publiccorres-pondence |
| --- | --- | --- | --- | --- | --- |
| From ship stations | From coast stations | Single frequency | Two frequency |
| 15 | *g)* | 156.750 | 156.750 | x | x |  |  |
| 75 | *n), s)* | 156.775 | 156.775 |  | x |  |  |
| 16 | *f)* | 156.800 | 156.800 | DISTRESS, SAFETY AND CALLING |
| 76 | *n), s)* | 156.825 | 156.825 |  | x |  |  |
| 17 | *g)* | 156.850 | 156.850 | x | x |  |  |
| 77 |  | 156.875 |  | x |  |  |  |
| 18 | *m)* | 156.900 | 161.500 |  | x | x | x |
| 78 | *t), u), v)* | 156.925 | 161.525 |  | x | x | x |
| 1078 |  | 156.925 | 156.925 |  | x |  |  |
| 2078 | *t), u), v)* | 161.525 | 161.525 |  | x |  |  |
| 19 | *t), u), v)* | 156.950 | 161.550 |  | x | x | x |
| 1019 |  | 156.950 | 156.950 |  | x |  |  |
| 2019 | *t), u), v)* | 161.550 | 161.550 |  | x |  |  |
| 79 | *t), u), v)* | 156.975 | 161.575 |  | x | x | x |
| 1079 |  | 156.975 | 156.975 |  | x |  |  |
| 2079 | *t), u), v)* | 161.575 | 161.575 |  | x |  |  |
| 20 | *t), u), v)* | 157.000 | 161.600 |  | x | x | x |
| 1020 |  | 157.000 | 157.000 |  | x |  |  |
| 2020 | *t), u), v)* | 161.600 | 161.600 |  | x |  |  |
| .../... | .../... | .../... | .../... | .../... | .../... | .../... | .../... |
| 27 | *z)* | 157.350 | 161.950 |  |  | x | x |
| 1027 |  | 157.350 | 157.350 |  |  |  |  |
| 2027 |  | 161.950 | 161.950 |  |  |  |  |
| 87 | *z)* | 157.375 | 157.375 |  | x |  |  |
| 28 | *z)* | 157.400 | 162.000 |  |  | x | x |
| 1028 |  | 157.400 | 157.400 |  |  |  |  |
| 2028 |  | 162.000 | 162.000 |  |  |  |  |
| 88 | *z)* | 157.425 | 157.425 |  | x |  |  |
| AIS 1 | *f), l), p)* | 161.975 | 161.975 |  |  |  |  |
| AIS 2 | *f), l), p)* | 162.025 | 162.025 |  |  |  |  |

**Reasons:** Introduction of the VDES in RR Appendix 18 as follows:

– channels ASM 1 (161.950) and ASM 2 (162.000) are for non-navigation ASM.

– channels SAT Up1 (161.950) and SAT Up2 (162.000) are used for receiving ASM by satellite.

MOD CME/35A16/2

**Notes referring to the Table**

*Specific notes*

*t)* In Regions 1 and 3, the existing duplex channels 78, 19, 79 and 20 can continue to be assigned. These channels may be operated as single-frequency channels, subject to coordination with affected administrations. Administrations should take appropriate actions, including not allowing channels 2078, 2019, 2079 and 2020 to transmit from ships, to prevent blocking of the reception of the channels AIS 1, AIS 2, 2027 and 2028.     (WRC‑15)

MOD CME/35A16/3

*z)* Until 1 January 2019, these channels may be used for possible testing of future AIS applications without causing harmful interference to, or claiming protection from, existing applications and stations operating in the fixed and mobile services.

 From 1 January 2019, these channels are split into two simplex channels. The upper legs, 2027 and 2028, respectively designated as ASM 1 and ASM 2, are used for non-navigation ASM (application specific messages) as described in the most recent version of Recommendation ITU‑R M.[VDES].

 The channels 2027 and 2028 are also allocated to the maritime mobile-satellite service (Earth-to-space) for the reception of ASM messages from ships, as described in the most recent version of Recommendation ITU‑R M.[VDES], in which they are denominated respectively as SAT Up1 and SAT Up2.     (WRC‑15)

**Reasons:** Identification of two channels for ASM applications not neededc navigation safety in order to secure the VDL of channels AIS 1 and AIS 2.

Issue B

MOD CME/35A16/4

APPENDIX 18 (REV.WRC‑15)

Table of transmitting frequencies in the
VHF maritime mobile band

(See Article 52)

.../...

| Channeldesignator | Notes | Transmittingfrequencies (MHz) | Inter-ship | Port operations and ship movement | Publiccorres-pondence |
| --- | --- | --- | --- | --- | --- |
| From ship stations | From coast stations | Single frequency | Two frequency |
| .../... | .../... | .../... | .../... | .../... | .../... | .../... | .../... |
| 80 | *w), y)* | 157.025 | 161.625 |  | x | x | x |
| 21 | *w), y)* | 157.050 | 161.650 |  | x | x | x |
| 81 | *w), y)* | 157.075 | 161.675 |  | x | x | x |
| 22 | *w), y)* | 157.100 | 161.700 |  | x | x | x |
| 82 | *w), x), y)* | 157.125 | 161.725 |  | x | x | x |
| 23 | *w), x), y)* | 157.150 | 161.750 |  | x | x | x |
| 83 | *w), x), y)* | 157.175 | 161.775 |  | x | x | x |
| 24 | *w), ww), x), AAA)* | 157.200 | 161.800 |  | x | x | x |
| 1024 | *BBB)* | 157.200 |  |  |  |  |  |
| 2024 | *CCC)* | 161.800 | 161.800 |  |  |  |  |
| 84 | *w), ww), x), AAA)* | 157.225 | 161.825 |  | x | x | x |
| 1084 | *BBB)* | 157.225 |  |  |  |  |  |
| 2084 | *CCC)* | 161.825 | 161.825 |  |  |  |  |
| 25 | *w), ww), x), AAA)* | 157.250 | 161.850 |  | x | x | x |
| 1025 | *BBB)* | 157.250 |  |  |  |  |  |
| 2025 | *CCC)* | 161.850 | 161.850 |  |  |  |  |
| 85 | *w), ww), x), AAA)* | 157.275 | 161.875 |  | x | x | x |
| 1085 | *BBB)* | 157.275 |  |  |  |  |  |
| 2085 | *CCC)* | 161.875 | 161.875 |  |  |  |  |
| 26 | *w), ww), x), AAA)* | 157.300 | 161.900 |  | x | x | x |
| 1026 | *BBB)* | 157.300 |  |  |  |  |  |
| 2026 | *CCC)* | 161.900 | 161.900 |  |  |  |  |
| 86 | *w), ww), x), AAA)* | 157.325 | 161.925 |  | x | x | x |
| 1086 | *BBB)* | 157.325 |  |  |  |  |  |
| 2086 | *CCC)* | 161.925 | 161.925 |  |  |  |  |
| .../... | .../... | .../... | .../... | .../... | .../... | .../... | .../... |

**Reasons:** Introduction of the VDES in RR Appendix 18 as follows:

VDE 1 lower legs (channels 1024, 1084, 1025 and 1085) are ship-shore VDE.

VDE 1 upper legs (channels 2024, 2084, 2025 and 2085) are shore-ship and ship-ship VDE.

SAT Up3 (channels 1024, 1084, 1025, 1085, 1026 and 1086) is a ship-satellite VDE uplink.

SAT Downlink (channels 2024, 2084, 2025, 2085, 2026 and 2086) is the satellite-ship VDE downlink.

**Notes referring to the Table**

*General notes*

NOC CME/35A16/5

Notes *a)* to *e)*

*Specific notes*

NOC CME/35A16/6

Notes *f)* to *s)*

MOD CME/35A16/7

*w)* In Regions 1 and 3:

 Until 1 January 2017, the frequency bands 157.025-157.325 MHz and 161.625-161.925 MHz (corresponding to channels: 80, 21, 81, 22, 82, 23, 83, 24, 84, 25, 85, 26 and 86) may be used for new technologies, subject to coordination with affected administrations. Stations using these channels or frequency bands for new technologies shall not cause harmful interference to, or claim protection from, other stations operating in accordance with Article **5**.

 From 1 January 2017, the frequency bands 157.025‑157.175 MHz and 161.625-161.925 MHz (corresponding to channels: 80, 21, 81, 22, 82, 23 and 83) are identified for the utilization of the digital systems described in the most recent version of Recommendation ITU‑R M.1842. These frequency bands could also be used for analogue modulation described in the most recent version of Recommendation ITU‑R M.1084 by an administration that wishes to do so, subject to not claiming protection from other stations in the maritime mobile service using digitally modulated emissions and subject to coordination with affected administrations.

 From 1 January 2017, the frequency bands 157.200‑157.325 MHz and 161.800-161.925 MHz (corresponding to channels: 24, 84, 25, 85, 26, 86) are identified for the utilization of the VHF Data Exchange System (VDES) described in the most recent version of Recommendation ITU‑R M.[VDES].     (WRC‑15)

**Reasons:** The date of 1 January 2017 has been defined by WRC-12.

NOC CME/35A16/8

Note *ww)*

ADD CME/35A16/9

*AAA)* From 1 January 2019 the channels 24, 84, 25 and 85 may be merged in order to form a unique duplex channel with a bandwidth of 100 kHz in order to operate the VDES described in the most recent version of Recommendation ITU‑R M.[VDES].     (WRC‑15)

**Reasons:** The merging of these channels will permit a better data rate for the VDE terrestrial.

ADD CME/35A16/10

*BBB)* From 1 January 2019 the combination of the channels 1024, 1084, 1025, 1085, 1026 and 1086, which are also allocated to the maritime mobile-satellite service (Earth-to-space), shall be used for the reception of VDES messages from ships as described in the most recent version of Recommendation ITU‑R M.[VDES].     (WRC‑15)

**Reasons:** The channels are identified for the satellite uplink of the VDES.

ADD CME/35A16/11

*CCC)* From 1 January 2019 the combination of the channels 2024, 2084, 2025, 2085, 2026 and 2086, which are also allocated to the maritime mobile-satellite service (space-to-Earth), shall be used for the reception of VDES messages from satellites as described in the most recent version of Recommendation ITU‑R M.[VDES], in which this combination is denominated as SAT downlink.     (WRC‑15)

**Reasons:** The channels are identified for the satellite downlink of the VDES.

NOC CME/35A16/12

Notes *x)* and *y)*

SUP CME/35A16/13

RESOLUTION 360 (WRC‑12)

Consideration of regulatory provisions and spectrum allocations for
enhanced Automatic Identification System technology applications
and for enhanced maritime radiocommunication

**Reasons:** It is proposed to suppress Resolution 360 (WRC-12) since it will become superfluous given that the studies have been completed and that WRC-15 will have taken a decision on the identification of frequencies in order to enhance maritime radiocommunication.

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