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| **The APT Conference Preparatory Group for WRC-15** |  |  | **Document:****APG15-2/OUT-28** |
|  |  |  | **04 July 2013** |

Source: APG15-3/OUT-30

**preliminary views on WRC-15 agenda item 1.16**

**Agenda Item 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)***

**4. APT Preliminary Views**

**4.1 Preliminary Views**

* Supports ITU-R studies towards new applications using the AIS and enhanced maritime radiocommunication in the maritime mobile service in accordance with Resolution **360 (WRC-12)**.
* No modifications are required to existing AIS equipment on board existing vessels, but rather allow for new applications using AIS technology to evolve, supported by communication primarily on the new frequencies identified by WRC-12, while protecting the integrity of the original operational purpose of AIS as the primary function on the existing AIS frequencies.
* That the frequency band identified for VDES should accommodate the expected future AIS VDL loading.
* It is needed to take full account of the outcomes of WRC-12 on digital communication channel arrangements in RR Appendix **18** for the global and regional channel allocation for VDES. Different types of VDES applications and equipment in different scenarios and operating in different frequency arrangement plan could be considered.
* Any new allocation for the future applications, including satellite application, to the frequency bands listed in the Appendix **18** should be based on issued ITU-R Recommendation(s) to contain gap analysis, sharing and compatibility, experiments and tests, applications, system architecture, characteristics, shipborne equipment standards, performance or managing requirements, etc.
* Transitional arrangements are required to minimize the impact of use of new applications on the existing services using frequencies listed in the Appendix **18**. The VDES equipment should provide backwards compatibility for existing AIS, the installation costs should be minimized and the proper transitional period should be considered.
* New VDES should not adversely impact VHF radiotelephony channels used for maritime safety at sea and ports.
* Operation of designated ASM channels should not adversely impact AIS 1 and AIS 2 channels.
* VDES Satellite downlinks should not adversely impact AIS 1 and AIS 2 channels, and terrestrial component of VDES.
* It is desirable to consider the possibility of VDES involvement in the future modernized GMDSS.
* The channels AIS 1, AIS 2, ASM 1 and ASM 2 should not be subject to harmful interference and blocking from transmissions from ships.
* The two channels 2027 and 2028 should be used for new AIS applications, the usage of remaining channels 1027 and 1028 should be taken into account.

**4.2 APT Preliminary Views on methods to satisfy this Agenda item**

**4.2.1 On issue of ASM designation**

Support Method A1.

* + 1. **On issue of new applications for maritime radiocommunication – terrestrial component:**

It was agreed that more technical studies of the VDES terrestrial and satellite components are necessary to identify these digital communication channels in RR Appendix **18** to VDES.

* + 1. **On issue of new application for maritime radiocommunication – satellite component**

Noting the progress of studies at ITU-R WP 5B, the administrations will make final decision at further APG meeting.

It was agreed that more technical studies of the VDES terrestrial and satellite components are necessary to identify these digital communication channels in RR Appendix **18** to VDES.

* + 1. **On issue of VDES regional solution**

Support Method D1.

* 1. **Regulatory and procedural considerations**

Appendix **18 (Rev.WRC-12)** Table of transmitting frequencies in the VHF maritime mobile band

| Channeldesignator | Notes | Transmittingfrequencies (MHz) | Inter-ship | Port operations and ship movement | Publiccorres-pondence |
| --- | --- | --- | --- | --- | --- |
| From ship stations | From coast stations | Single frequency | Two frequency |
| … |  | … | … |  |  |  |  |
| 78 | t), u), v) | 156.925 | 161.525 |  | x | x | x |
| 1078 |  | 156.925 | 156.925 |  | x |  |  |
| 2078 | t), u), v) |  | 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 |  | x |  |  |
| 79 | t), u), v) | 156.975 | 161.575 |  | x | x | x |
| 1079 |  | 156.975 | 156.975 |  | x |  |  |
| 2079 | t), u), v) |  | 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 |  | x |  |  |
| 80 | *w), y), xx)* | 157.025 | 161.625 |  | x | x | x |
| 1080 | *w), y), xx)* | 157.025 | 157.025 | x | x |  |  |
| 2080 | *w), y), xx)* | 161.625 | 161.625 | x | x |  |  |
| 21 | *w), y), xx)* | 157.050 | 161.650 |  | x | x | x |
| 1021 | *w), y), xx)* | 157.050 | 157.050 | x | x |  |  |
| 2021 | *w), y), xx)* | 161.650 | 161.650 | x | x |  |  |
| 81 | *w), y), xx)* | 157.075 | 161.675 |  | x | x | x |
| 1081 | *w), y), xx)* | 157.075 | 157.075 | x | x |  |  |
| 2081 | *w), y), xx)* | 161.675 | 161.675 | x | x |  |  |
| 22 | *w), y), xx)* | 157.100 | 161.700 |  | x | x | x |
| 1022 | *w), y), xx)* | 157.100 | 157.100 | x | x |  |  |
| 2022 | *w), y), xx)* | 161.700 | 161.700 | x | x |  |  |
| 82 | *w), x), y)* | 157.125 | 161.725 |  | x | x | x |
| 1082 | *w), x), y)* | 157.125 | 157.125 | x | x |  |  |
| 2082 | *w), x), y)* | 161.725 | 161.725 | x | x |  |  |
| 23 | *w), x), y),*  *xxx)* | 157.150 | 161.750 |  | x | x | x |
| 1023 | *w), x), y),*  *xxx)* | 157.150 | 157.150 | x | x |  |  |
| 2023 | *w), x), y),*  *xxx)* | 161.750 | 161.750 | x | x |  |  |
| 83 | *w), x), y), xxx)* | 157.175 | 161.775 |  | x | x | x |
| 1083 | *w), x), y),*  *xxx)* | 157.175 | 157.175 | x | x |  |  |
| 2083 | *w), x), y),*  *xxx)* | 161.775 | 161.775 | x | x |  |  |
| … |  |  |  |  |  |  |  |
| 27 | *z)* | 157.350 | 161.950 |  |  | x | x |
| 1027 |  | 157.350 | 157.350 |  | x |  |  |
| 2027 |  | 161.950 | 161.950 |  | x |  |  |
| 87 | *z)* | 157.375 | 157.375 |  | x |  |  |
| 28 | *z)* | 157.400 | 162.000 |  |  | x | x |
| 1028 |  | 157.400 | 157.400 |  | x |  |  |
| 2028 |  | 162.00 | 162.000 |  | x |  |  |
| 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 |  |  |  |  |

**Method A1**

**MOD**

*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. However, existing duplex channel assignments may be preserved for coast stations and retained for vessels, subject to coordination with affected administrations. Channels 2078, 2019, 2079 and 2020 are not available for transmitting from ships. (WRC‑15)

*u)* In Region 2, these channels may be operated as single-frequency channels, subject to coordination with affected administrations.  Channels 2078, 2019, 2079 and 2020 are not available for transmitting from ships. (WRC‑15)

*v)* After 1 January 2017, in the Netherlands, these channels may continue to be operated as duplex frequency channels, subject to coordination with affected administrations.  Channels 2078, 2019, 2079 and 2020 are not available for transmitting from ships. (WRC‑15)

**MOD**

*z)* [TBD], 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.

[TBD], 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 the 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 the Recommendation ITU-R M.[VDES] in which they are denominated respectively as SAT up1 and SAT up2. (WRC‑15)

**Method D1**

**ADD**

*xx)* Assignable for wide-band digital system operation using multiple 25 kHz contiguous channels.

*xxx)* Assignable for 50 kHz bandwidth digital system operation using two 25 kHz contiguous channels.

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