

---

**PLENARY MEETING**

**Addendum 4 to  
Document 6405(Add.24)-  
E  
9 September 2019  
Original: English**

**Member States of the Inter-American Telecommunication Commission (CITEL)**  
**PROPOSALS FOR THE WORK OF THE CONFERENCE**

Agenda item 10

*{Temporary information note to be deleted before the submission via CPI of this document to the WRC-19 Secretariat: In accordance with Resolution 804 (Rev. WRC-12), Administrations are invited to use the template provided in Annex 2 to that Resolution (TIES-protected) when proposing agenda items for WRCs. This template may be filled out for each of the proposed WRC agenda item and annexed to this document.}*

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.

**1. Background**

At WRC-15, a preliminary Agenda Item for WRC-23 “to consider possible spectrum needs and regulatory actions to support the Global Maritime Distress and Safety System modernization and the implementation of e navigation in accordance with Resolution **361 (WRC-15)**” was developed (item 2.1 of Resolution **810 (WRC-15)**).

The Global Maritime Distress and Safety System (GMDSS) is defined by the International Convention for the Safety of Life at Sea, 1974 (1974 SOLAS), and the International Maritime Organization (IMO) is considering the amendments of the SOLAS Convention for GMDSS modernization with the aim of finalizing it by June 2022.

Under the concept of e-navigation, studies have been conducted to realize safer and more efficient ship operation, and among them, IMO is required to develop a ground-based World-Wide Radionavigation System (WWRNS) that backs up PNT (Position, Navigation and Timing) systems using Global Navigation Satellite Systems (GNSS) such as GPS.

R-Mode is a concept of new terrestrial radio navigation system using timing information on existing maritime radio systems to provide GNSS independent PNT. It is therefore considered a possible candidate as a regional backup of GNSS. There are currently two carriers considered for providing timing information, MF using existing Differential GNSS (DGNSS) radio beacon frequencies and VHF using existing VDES frequencies.

IMO circular MSC.1/Circ.1595 “E-navigation strategy implementation plan update 1” identified one solution that improved reliability and resilience of onboard PNT information and other critical navigation data by integration with, and back up of, external and internal system (S4.3) and based on the solution, IMO adopted MSC.1/Circ. 1575 “Guidelines for shipborne position, navigation and timing (PNT) data processing” that included R-Mode as a future source for provision of PNT data.

IMO Maritime Safety Committee (MSC), at its ninety-fifth session (3 to 12 June 2015), adopted resolution MSC.401(95) on “Performance standards for multi-system shipborne radio navigation receivers (MSR)”. The MSR is appropriate to facilitate the combined use of satellite and terrestrial radio navigation systems to improve the usability of position, velocity and time (PVT) data and related integrity data. Ranging-Mode (R-Mode) could be suitable to be incorporated in the MSR.

The International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) is developing R-Mode for use in the maritime MF or VHF bands which is a ground-based radionavigation system intended to provide a contingency system in case of temporary disruption of GNSS, to support e-navigation.

## **Proposal**

It is necessary to consider possible radionavigation service allocations which can be used by the maritime mobile service for R-Mode.

**ADD IAP/6405A24A4/1**

**DRAFT NEW RESOLUTION [IAP/10(D) -2023]**

**Agenda for the 2023 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 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),

*resolves*

to recommend to the Council that a world radiocommunication conference be held in 2023 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-19 and the Report of the Conference Preparatory Meeting, and with due regard to the requirements of existing and future services in the bands under consideration, to consider and take appropriate action in respect of the following items:

2.1 to consider possible spectrum needs and regulatory actions to support Global Maritime Distress and Safety System (GMDSS) modernization and the implementation of e navigation, in accordance with Resolution **361 (rev. WRC-19)**;

*resolves further*

to activate the Conference Preparatory Meeting,

*invites the Council*

to finalize the agenda and arrange for the convening of WRC-23, 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-23,

**Reasons:**

MOD IAP/6405A24A4/2

RESOLUTION 361 (~~REV.~~WRC-195)

**Consideration of regulatory provisions for modernization of the  
Global Maritime Distress and Safety System and  
related to the implementation of e-navigation**

The World Radiocommunication Conference (~~Geneva~~Sharm el-Sheikh, 20159),

*considering*

- a) that there is a continuing need in the Global Maritime Distress and Safety System (GMDSS), on a global basis, for improved communications to enhance maritime capabilities;
- b) that the International Maritime Organization (IMO) is considering GMDSS modernization;
- c) that advanced maritime MF/HF/VHF data systems and satellite communication systems may be used to deliver Maritime Safety Information (MSI) and other GMDSS communications;
- d) that IMO is considering additional global and regional GMDSS satellite service providers;
- e) that WRC-19 ~~will have~~has commenced regulatory actions in regard to modernization of the GMDSS;
- f) that IMO is in the process of implementing e-navigation, defined as the harmonized collection, integration, exchange, presentation and analysis of marine information on board and ashore by electronic means to enhance berth-to-berth navigation and related services for safety and security at sea and protection of the marine environment;
- g) that GMDSS modernization may be influenced by the development of e-navigation;
- h) that the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) is developing Ranging-Mode (R-Mode) which is a radionavigation system intended to provide a contingency system in case of temporary global navigation satellite systems (GNSS) disruption, to support e-navigation.

*noting*

- a) that WRC-12 reviewed Appendix 17 and Appendix 18 to improve efficiency and introduce frequency bands for new digital technology;
- b) that WRC-12 has reviewed the regulatory provisions and spectrum allocations for use by maritime safety systems for ships and ports,

*further noting*

that WRC-12, WRC-15 and this conference have reviewed Appendix 18 to improve efficiency and introduce frequency bands for new digital technology for data communications, e.g., for the introduction of the VHF data exchange system (VDES), and that VDES has the capacity and capability to support R-Mode with no consequential changes to Appendix 18 of the Radio Regulations.

*recognizing*

- a) that advanced maritime communication systems may support the implementation of GMDSS modernization and e-navigation;
- b) that IMO efforts to implement GMDSS modernization and e-navigation may require a review of the Radio Regulations to accommodate advanced maritime communication systems;
- c) that, due to the importance of these radio links in ensuring the safe operation of shipping and commerce and security at sea, they must be resilient to interference;
- d) that IALA efforts to implement R-Mode to support the implementation of e-navigation may require a review of the Radio Regulations,

*resolves to invite the 2023 World Radiocommunication Conference*

- 1 to take into consideration the activities of IMO, as well as information and requirements provided by IMO, in order to determine the regulatory actions to support GMDSS modernization;
- 2 to consider possible regulatory actions, including spectrum allocations based on the ITU Radiocommunication Sector (ITU-R) studies, for the maritime mobile service and for the radionavigation service for R-Mode, supporting e-navigation,

*invites ITU-R*

to conduct studies taking into consideration the activities of IMO, in order to determine spectrum needs and regulatory actions to support GMDSS modernization and the implementation of e-navigation,

*invites*

- 1 IMO to actively participate in the studies by providing requirements and information that should be taken into account in ITU-R studies;
- 2 the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), the International Civil Aviation Organization (ICAO), the International Electrotechnical Commission (IEC), the International Hydrographic Organization (IHO), the International Organization for Standardization (ISO) and the World Meteorological Organization (WMO) to contribute to these studies,

*instructs the Secretary-General*

to bring this Resolution to the attention of IMO and other international and regional organizations concerned.

**Reasons:**

**SUP IAP/6405A24A4/3**

## RESOLUTION 810 (WRC-15)

### **Preliminary agenda for the 2023 World Radiocommunication Conference**

The World Radiocommunication Conference (Geneva, 2015),

**Reasons:** This Resolution must be suppressed, as WRC-19 will create a new Resolution that will include the agenda for WRC-23.

**ATTACHMENT**

**Subject:** Proposal to maintain consideration on regulatory provisions for modernization of the Global Maritime Distress and Safety System and related to the implementation of e-navigation on the WRC Agenda for WRC-2023

**Origin: the CITEL Member States**

---

**Proposal:** to consider possible spectrum needs and regulatory actions to support Global Maritime Distress and Safety System (GMDSS) modernization and the implementation of e-navigation, in accordance with Resolution **361 (REV.WRC-19)**

---

**Background/reason:**

At WRC-15, preliminary Agenda Item for WRC-23 “to consider possible spectrum needs and regulatory actions the Global Maritime Distress and Safety System modernization and the implementation of e navigation in accordance with Resolution **361 (WRC-15)**” was developed.

The Global Maritime Distress and Safety System (GMDSS) is defined by the International Convention for the Safety of Life at Sea, 1974 (1974 SOLAS), and the International Maritime Organization (IMO) is considering to modernization of the GMDSS. IMO is considering the amendments of the SOLAS Convention for GMDSS modernization with the goal of finalizing it by June 2022.

Under the concept of e-navigation, studies have been conducted to realize safer and more efficient ship operation, and among them, IMO is required to develop a ground-based World-Wide Radionavigation System (WWRNS) that backs up PNT (Position, Navigation and Timing) systems using Global Navigation Satellite Systems (GNSS) such as GPS.

The International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) is developing Ranging-Mode (R-Mode) for use in the maritime MF or VHF bands which is a ground-based radionavigation system intended to provide a contingency system in case of temporary disruption of GNSS, to support e-navigation.

---

**Radiocommunication services concerned:** Maritime mobile service and radionavigation service

---

**Indication of possible difficulties:**

Appendix **18** identifies frequencies to be used for distress and safety communications and other maritime communications on an international basis.

---

**Previous/ongoing studies on the issue:**

Resolution **359 (WRC-15)**, Resolution **361 (WRC-15)**

---

**Studies to be carried out by:**

ITU-R Working Party 5B

**with the participation of:**

IMO, IALA

---

**ITU-R Study Groups concerned:** ITU-R Study Group 5

---

**ITU resource implications, including financial implications (refer to CV126):**

Minimal

---

**Common regional proposal:** Yes/No

**Multicountry proposal:** Yes/No

**Number of countries:**

---

**Remarks**