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| **World Radiocommunication Conference (WRC-15) Geneva, 2–27 November 2015** |  |
| **INTERNATIONAL TELECOMMUNICATION UNION** |  |
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| PLENARY MEETING | **Addendum 3 to Document 60-E** |
|  | **14 October 2015** |
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| Qatar (State of) | |
| PROPOSALS for the work of the CONFERENCE | |
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| Agenda item 1.3 | |

1.3 to review and revise Resolution **646** **(Rev.WRC‑12)** for broadband public protection and disaster relief (PPDR), in accordance with Resolution **648 (WRC‑12)**;

# 1 Introduction

Resolution **646 (Rev.WRC-12)** on Public Protection and Disaster Relief (PPDR) encourages administrations, for the purpose of achieving regionally harmonized frequency bands/ranges for advanced public protection and disaster relief solutions, to consider certain identified frequency bands/ranges or parts thereof when undertaking their national planning.

WRC-15, under agenda item 1.3, will review and revise, as appropriate, Resolution **646 (Rev.WRC‑12)** for broadband PPDR applications in accordance with Resolution **648 (WRC-12)**.

In accordance with ITU-R studies and a study by CEPT, it is expected that in some countries narrowband PPDR technology will continue to play an important role in the medium term (i.e. at least in the next 10‑15 years), even when future broadband technologies may be capable of meeting mission critical voice requirements.

Pursuant to the results of ITU-R studies and to provide administrations with sufficient flexibility to address the necessary requirements for broadband PPDR, the signatory parties propose addressing the requirements for PPDR, including broadband PPDR, by including a global tuning range and regional ranges in the revision of Resolution **646 (Rev.WRC-12)**. Further details and explanation on regionally harmonized arrangements in those ranges, and specific frequency arrangements adopted by individual administrations, are described in the most recent version of Recommendation ITU‑R M.2015.

This method also takes account of major technological breakthroughs as well as the evolution of existing technologies that have taken place since its initial adoption in 2003. The proposed revisions recognize that the use of data applications has gone beyond voice applications and is now supporting high speed data, Internet access and video applications, a trend that is considered to be continuously growing. The proposed changes also support the emerging IMT-based mobile broadband technologies, as described in Report ITU‑R M.2291.

Moreover, this proposal complies with *invites ITU-R* in Resolution 646 (Rev.WRC-12) and Resolution 648 (WRC-12) and also covers *resolves* in Resolution 648 (WRC-12), to review and revise Resolution 646 (Rev.WRC‑12) for broadband public protection and disaster relief (PPDR).

# 2 Proposals

Amendment of Resolution 646 (Rev.WRC-12) to encourage administrations to consider the band 698-869 MHz when undertaking national planning for the purpose of achieving regionally harmonized frequency bands for advanced public protection and disaster relief solutions. Specific information on frequency arrangements for public protection and disaster relief, in addition to particular details for regions and/or administrations, shall be presented in Recommendation ITU‑R M.2015.

MOD QAT/60A3/1

RESOLUTION 646 (rev.WRC‑15)

Public protection and disaster relief

The World Radiocommunication Conference (Geneva, 2015),

considering

*a)* that Report ITU-R M.2377 provides comprehensive details of systems and applications supporting PPDR operations in narrow-, wide- and broadband use, including but not limited to:

– the generic technical and operational requirements relating to PPDR;

– spectrum needs;

– mobile broadband PPDR services and applications including further developments and the evolution of PPDR through advances in technology;

– terms and definitions;

– promotion of interoperability and interworking; and

– the needs of developing countries;

*b)* that Report ITU-R M.2291 provides details of the capabilities of IMT technologies to meet the requirements of applications supporting broadband PPDR operations;

*c)* that the term “public protection radiocommunication” refers to radiocommunications used by responsible agencies and organizations dealing with maintenance of law and order, protection of life and property and emergency situations;

*d)* that the term “disaster relief radiocommunication” refers to radiocommunications used by agencies and organizations dealing with a serious disruption of the functioning of society, posing a significant widespread threat to human life, health, property or the environment, whether caused by accident, natural phenomena or human activity, and whether developing suddenly or as a result of complex, long-term processes;

*e)* the growing telecommunication and radiocommunication needs of public protection agencies and organizations, including those dealing with emergency situations and disaster relief, that are vital to the maintenance of law and order, protection of life and property, disaster relief and emergency response;

*f)* that existing public protection and disaster relief applications are mostly narrow-band supporting voice and low data-rate applications, which may continue to be available;

*g)* that new technologies for wideband and broadband public protection and disaster relief applications are being developed in various standards organizations, e.g. IMT systems supporting higher data rates and higher capacity for PPDR applications;

*h)* that continuing development of new technologies and systems, such as International Mobile Telecommunications (IMT) and Intelligent Transportation Systems (ITS), may be able to further support or supplement advanced public protection and disaster relief applications;

*i)* that some commercial terrestrial and satellite systems are complementing the dedicated systems in support of public protection and disaster relief, that the use of commercial solutions will be in response to technology development and market demands;

*j)* that Resolution 36 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference urges Member States Parties to the Tampere Convention to take all practical steps for the application of the Tampere Convention and to work closely with the operational coordinator as provided for therein;

*k)* that Recommendation ITU‑R M.1637 offers guidance to facilitate the global circulation of radiocommunication equipment in emergency and disaster relief situations;

*l)* that Report ITU‑R BT.2299 provides a compilation of supporting evidence that terrestrial broadcasting plays an important role in disseminating information to the public in times of emergencies;

*m)* that some administrations may have different operational needs and spectrum requirements for public protection and disaster relief applications depending on the circumstances;

*n)* that the Tampere Convention on the Provision of Telecommunications Resources for Disaster Mitigation and Relief Operations (Tampere, 1998), an international treaty deposited with the United Nations Secretary-General and related United Nations General Assembly Resolutions and Reports are also relevant in this regard,

recognizing

*a)* the benefits of spectrum harmonization such as:

– increased potential for interoperability;

– a broader manufacturing base and increased volume of equipment resulting in economies of scale and expanded equipment availability;

– improved spectrum management and planning; and

– enhanced cross-border coordination and circulation of equipment;

*b)* that the organizational distinction between public protection activities and disaster relief activities are matters for administrations to determine at the national level;

*c)* that national spectrum planning for public protection and disaster relief needs to have regard to cooperation and bilateral consultation with other concerned administrations, which should be facilitated by greater levels of spectrum harmonization;

*d)* the benefits of cooperation between countries for the provision of effective and appropriate humanitarian assistance in case of disasters, particularly in view of the special operational requirements of such activities involving multinational response;

*e)* the needs of countries, particularly the developing countries[[1]](#footnote-2)1, for cost-efficient communication equipment;

*f)* that the adoption of IMT for broadband PPDR has the advantages and efficiencies that are achieved through standardization;

*g)* that Recommendation ITU-R M.2015 contains regionally harmonized frequency arrangements, as well as frequency arrangements in certain countries, for public protection and disaster relief;

*h)* that in order to achieve spectrum harmonization, an approach based on regional frequency ranges[[2]](#footnote-4)2 may enable administrations to benefit from harmonization while continuing to meet national planning requirements;

*i)* that in times of disasters, if most terrestrial-based networks are destroyed or impaired, amateur, satellite and other non‑ground-based networks may be available to provide communication services to assist in public protection and disaster relief efforts;

*j)* that the amount of spectrum needed for public protection on a daily basis differs significantly between countries, that certain amounts of spectrum are already in use in various countries, and that in response to a disaster, access to additional spectrum on a temporary basis may be required;

*k)* that not all frequencies within an identified common frequency range will be available within each country;

*l)* that the identification of common frequency ranges within which equipment couldoperate may ease the interoperability and/or inter-working, with mutual cooperation and consultation, especially in national, regional and cross-border emergency situations and disaster relief activities,

noting

*a)* that many administrations will continue using frequency bands below 1 GHz for narrow-band systems and applications supporting PPDR and may decide to use the same range for future PPDR systems taking account of the impact of such a new system on existing applications operating in, and adjacent to, the range;

*b)* that public protection and disaster relief agencies and organizations have an initial set of requirements, including but not limited to interoperability, secure and reliable communications, sufficient capacity to respond to emergencies, priority access in the use of non-dedicated systems, fast response times, ability to handle multiple group calls and the ability to cover large areas as described in Report ITU‑R M.2377;

*c)* that, while harmonization may be one method of realizing the desired benefits, in some countries, the use of multiple frequency bands can contribute to meeting the communication needs in disaster situations;

*d)* that many administrations have made significant investments in public protection and disaster relief systems;

*e)* that flexibility must be afforded to disaster relief agencies and organizations to use current and future radiocommunications, so as to facilitate their humanitarian operations;

*f)* that Recommendation ITU-R M.2015 contains specific frequency arrangements to provide for narrow-, wide-, and broadband PPDR operations as identified by individual countries as well as by regional organizations;

*g)* that IMT offers a high degree of flexibility for supporting broadband PPDR applications and there are a number of different approaches for using and deploying IMT to meet the broadband communications needs of PPDR agencies and organizations, which are outlined in Reports ITU‑R M.2291 and ITU‑R M.2377;

*h)* that spectrum identified for IMT may also be considered as a solution for harmonized measures for PPDR operations,

emphasizing

*a)* that the frequency ranges that are covered by the *resolves* part of this Resolution are allocated to a variety of services in accordance with the relevant provisions of the Radio Regulations and are currently used intensively by several different services;

*b)* that PPDR applications in the ranges listed in *resolves* 2 are intended to operate in the mobile service;

*c)* that flexibility must be afforded to administrations to determine:

– how much spectrum to make available at a national level for public protection and disaster relief from the ranges that are covered by the *resolves* part of this Resolution in order to meet their particular national requirements; as well as

– the need and timing of availability as well as the conditions of usage of the bands identified in the most recent version of Recommendation ITU‑R M.2015 for PPDR in order to meet specific regional or national situations;

*d)* that not all of the frequency bands listed in the most recent version of Recommendation ITU‑R M.2015 may be suitable for every type of PPDR applications (narrow‑band, wideband or broadband);

*e)* that when planning the use of PPDR in the 400 MHz range, administrations should take into account the provisions contained in RR No. 5.266 and in RR No. 5.267 and Resolution **205**,

resolves

1 to strongly recommend administrations to use regionally harmonized bands for public protection and disaster relief to the maximum extent possible, taking into account the national and regional requirements and also having regard to any needed consultation and cooperation with other concerned countries;

2 to encourage administrations to consider the 698-869 MHz frequency tuning ranges[[3]](#footnote-6)3 as described in the most recent version of ITU-R M.2015, or parts thereof, for the provision of PPDR solutions in order to achieve global harmonization;

3 to encourage administrations to consider the following regionally harmonized frequency tuning ranges, or parts thereof, for their planned and future PPDR operations:

– in Region 1: 380-470 MHz;

– in Region 2: 4 940-4 990 MHz;

– in Region 3: 406.1-430 MHz, 440-470 MHz, 4 940‑4 990 MHz;4 that specific information on the frequency arrangements for public protection and disaster relief in these ranges, as well as the specific details of the Regions and/or administrations be described in Recommendation ITU‑R M.2015;

5 that the inclusion of frequency ranges for public protection and disaster relief in this Resolution, as well as the inclusion of frequency arrangements for PPDR operations in these frequency ranges, as described in the most recent version of Recommendation ITU‑R M.2015, does not preclude the use of these frequencies by any application within the services to which these frequencies are allocated and does not preclude the use of nor establish priority over any other frequencies for public protection and disaster relief in accordance with the Radio Regulations;

6 to encourage administrations, in emergency and disaster relief situations, to satisfy temporary needs for frequencies in addition to what may be normally provided for in agreements with the concerned administrations;

7 that administrations encourage PPDR agencies and organizations to utilize both existing and new technologies, systems and solutions, to the extent practicable, to satisfy interoperability requirements and to further the goals of public protection and disaster relief;

8 to encourage administrations to facilitate cross-border circulation of radiocommunication equipment intended for use in emergency and disaster relief situations through mutual cooperation and consultation without hindering national legislation;

9 that administrations encourage public protection and disaster relief agencies and organizations to utilize relevant ITU‑R Recommendations and Reports in planning spectrum use and implementing technology and systems supporting public protection and disaster relief;

10 to encourage administrations to continue to work closely with their public protection and disaster relief community to further refine the operational requirements for public protection and disaster relief activities;

11 that manufacturers should be encouraged to take this Resolution and related ITU‑R Recommendations and Reports into account in future equipment designs, including the need for administrations to operate within different parts of the frequency arrangements described in the most recent version of Recommendation ITU‑R M.2015,

invites ITU‑R

1 to continue its technical studies and to make recommendations concerning technical and operational implementation, as necessary, for advanced solutions to meet the needs of public protection and disaster relief radiocommunication applications, taking into account the capabilities, evolution and any resulting transition requirements of the existing systems, particularly those of many developing countries, for national and international operations;

2 to review and, as appropriate, revise Recommendation ITU‑R M.2015 and other relevant ITU‑R Recommendations and Reports.

SUP QAT/60A3/2

RESOLUTION 648 (WRC‑12)

Studies to support broadband public protection and disaster relief

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1. 1 Taking into account, for example, the ITU‑D updated Handbook on disaster relief (Appendix 1 of the Report of Question 22-1/2). [↑](#footnote-ref-2)
2. 2 In the context of this Resolution, the term “frequency range” means a range of frequencies over which radio equipment is envisaged to be capable of operating but limited to specific frequency band(s) according to national conditions and requirements. [↑](#footnote-ref-4)
3. 3 In the context of this Resolution, the term “frequency tuning range” means a range of frequencies over which radio equipment is envisaged to be capable of operating but limited to specific frequency band(s) according to national conditions and requirements. [↑](#footnote-ref-6)