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|  | | CPG15(15)084 Annex IV-03 |
| Norway, Bergen, 14th - 18th September 2015 | | |  |
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| Date issued: | | 18th September 2015 | |
| Source: | | Minutes CPG15-8 | |

CEPT BRIEF ON 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);

# ISSUE

Resolution 648 (WRC‑12) “Studies to support broadband public protection and disaster relief” resolves to invite WRC-15 to consider ITU-R studies on broadband PPDR and take appropriate action with regard to revision of Resolution 646 (Rev.WRC-12) which 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 conduct further appropriate technical studies in support of possible additional identification of other frequency ranges to meet the particular needs of certain countries in Region 1 which have given their agreement, especially in order to meet the radiocommunication needs of public protection and disaster relief agencies.

# CEPT position

CEPT supports studies on the revision of Resolution 646 in accordance with Resolution 648. Regarding the question of frequency ranges to be identified in Region 1, specific account should be given to the requirements of broadband PPDR. These ranges can then be compared within the ITU process to facilitate regional or worldwide interoperability and to maximise economies of scale and the consequential effect on any revisions needed in Res. 646.

Although Method C from the CPM report was the original preferred CEPT option, CEPT will support Method D as a compromise option to address the requirements of WRC-15 Agenda Item 1.3 as it also provides a solution which links the handling of limited harmonised frequency tuning ranges in Resolution 646 (Rev. WRC-12) with the channelling arrangements shown in Recommendation ITU-R M.2015. CEPT will also oppose any moves to dilute Method D in the direction of Method B from the CPM Report. If Method D is not accepted then CEPT may consider moving back to Method C.

CEPT is also of the view that there should be a non-mandatory cross reference to a revised ITU-R Recommendation M.2015 that would contain a reference to any regionally harmonised frequency bands and their channelling arrangements for PPDR operations. This would enable the frequency bands to be reviewed and revised in the future without the need for a new WRC agenda item to be created to review and/or revise Resolution 646 (Rev.WRC‑12).

CEPT notes that a review and subsequent revision of Recommendation ITU-R M.2015, Recommendation ITU-R M.2009 should begin after the WRC-15, in order to minimise any duplication of content between the revisions of Resolution 646 (Rev.WRC‑12) and Recommendation ITU-R M.2015.

CEPT is of the view, that any action at WRC-15 needs to reflect that PPDR related radiocommunication matters are an issue of sovereignty of the member states, and that PPDR requirements may vary to a significant extent from country to country. Therefore CEPT will consider future harmonization of PPDR only if the action is flexible enough to consider different national circumstances such as the PPDR scenarios, the amount of available spectrum and the type of network which may be a dedicated, a commercial or a hybrid solution.

With regards to this need for a flexible solution CEPT is of the view that the concept of “frequency tuning range” already used in Resolution 646 (Rev.WRC‑12) includes the possibility to offer full flexibility for administrations to decide on their PPDR spectrum use to meet national needs.

CEPT is also of the view that this concept should enable PPDR organizations that are adopting a common broadband technology (e.g. LTE) to enable seamless cross border operations between countries using a number of different frequency bands that the common technology is designed for use within. This could include the use of frequencies allocated on a national basis, to the different types of networks, which provide a dedicated, commercial or a hybrid PPDR network solution. CEPT are proposing to add new noting in Resolution 646 (Rev.WRC‑12) to highlight that spectrum identified for IMT may also be considered as a solution for regionally harmonized measures for PPDR operations.

CEPT is of the view that there in Resolution 646 (Rev.WRC‑12), the term “frequency tuning range” should be updated by enhancing footnote number 4 from the original resolution as highlighted below:

“In the context of this Resolution, the term “frequency tuning range” means a range of frequencies over which a radio equipment is envisaged to be capable of operating but limited to specific frequency band(s) according to national conditions and requirements.”

CEPT also proposes suppressing ITU-R Resolution 648 due to the fact that Report ITU-R M.2377 has been approved and fully addresses the requirements of PPDR operations, as invited by the Resolution.

# Background

One objective within this Agenda item is to collect information on regional available frequency ranges in order to identify those able to be used on a worldwide basis. This is independent from the type of radiocommunication PPDR application, such as narrowband usage.

Another is the request of Resolution 648 to study in particular the development of broadband PPDR applications and their requirements, which includes a review of the available frequency ranges in Resolution 646 regarding the usability for broadband PPDR.

Within CEPT, led by FMPT49, the ECC Report 199 on User requirements and spectrum needs for the future European broadband PPDR system (Wide Area Network) has been elaborated. This has been developed with the support of European PPDR agencies, organizations and industry, ETSI and especially based on inputs coming from the Law Enforcement Working Party of the European Council. Highlights include a two-step concept for European Broadband PPDR with a Wide Area Network (WAN) and ad-hoc networks for temporary additional capacity and detailed scenario-based capacity studies within the 400 and the 700 MHz band.

The subject of a new ECC Report 218 (PPDR solutions), developed in FM PT49, will identify, among other issues, options how spectrum requirements can be implemented within the candidate bands for the future European PPDR BB systems. ECC Report 218 is currently going through a Public Consultation exercise and the final Report is expected to be approved in October 2015. Having regard to Resolution 648 noting-c) and with the possible identification of worldwide available frequency ranges to ensure worldwide interoperability and maximise economies of scale, this could impact on Agenda item 1.3 as well.

ECC Reports 218 and 199 together with the results earlier studies given in ECC Report 102 on Public Protection and Disaster Relief Spectrum Requirements (e.g. introduction of harmonisation through the concept of a tuning range for PPDR) substantial work has already been carried out to reflect and to evaluate European PPDR needs.

Implementation of Broadband PPDR solutions will depend upon on national decisions and it is expected that in some counties within CEPT narrowband PPDR technology will still play an important role in the medium term (e.g. at least the next 10 - 15 years). However, broadband PPDR technology is expected to be able to include voice requirements, therefore some other countries within CEPT may move to a more comprehensive broadband solution which will include communications currently carried on narrowband solutions sooner. As a result, it is recognised that the broadband PPDR needs of the CEPT member states may vary to a significant extent and this will be regardless of who operates and/or owns the PPDR networks (i.e. government, commercial operators or hybrid networks with a mixture of both).

As CEPT was of the view that there was no need for direct references to any regionally harmonised frequency bands/ranges for PPDR operations in Resolution 646 (Rev.WRC‑12) at the last CPM meeting CEPT supported Method C of the CPM Report for the revision of Resolution 646 (Rev.WRC-12) which proposes that all referenced frequency bands/ranges for PPDR operations from Resolution 646 (Rev.WRC-12) be removed and be replaced with a cross reference to the latest version of Recommendation ITU-R M.2015, which will contain the recommended regionally harmonized frequency bands/ranges for PPDR operations.

At CPM in order to try to reach a possible compromise solution with the other regional organisations CEPT also indicated it was willing to explore the possibility of a proposed new method during CPM-02. The results of these discussions from the CPM-02 can be seen in the Method D contained in the CPM Report. The Method proposes to modify Resolution 646 (Rev.WRC-12), to include suitable global and regional frequency tuning ranges for PPDR operations with their specific frequency arrangements and any national use covered through non-mandatory reference to Recommendation ITU-R M.2015. Method D provides the possibility of a globally harmonised tuning range as well as limiting the number of regional tuning ranges included in the future version of Resolution 646. CEPT have consistently opposed Method B.

# List of relevant documents

ITU-Reports:

* ITU-R Report M.2377 “Objectives and requirements for Public Protection and Disaster Relief radiocommunications systems”. 2015

ITU-Recommendations:

* ITU-R Recommendation M.2009. "Radio interface standards for use by public protection and disaster relief operations in some parts of the UHF band in accordance with Resolution 646". 2012
* ITU-R Recommendation M.2015. "Frequency arrangements for public protection and disaster relief radiocommunications systems in UHF bands in accordance with Resolution 646". 2012

Further ITU documents:

* ITU-R Resolution 53. "The use of radiocommunications in disaster response and relief".

ECC, ERC or CEPT-Reports:

* ECC Report 102. "Public Protection and Disaster Relief Spectrum Requirements". 2007.
* ECC Report 199. "User requirements and spectrum needs for the future European broadband PPDR system (Wide Area Network)"
* ECC Report 218. “Harmonised conditions and spectrum bands for the implementation of future European broadband PPDR systems”

# Actions to be taken

none

# Relevant information from outside CEPT (examples of these are below)

## European Union (date of proposal)

Statement from Radio Communications Experts Group of the Law Enforcement Working Party[[1]](#footnote-1)

“Having recognized that frequency bands in the 700 MHz band are increasingly identified on a global scale (outside CEPT/EU) for broadband PPDR communications, LEWP-RCEG strongly encourage CEPT / ECC to take all regulatory actions possible to ensure that also European nations prepare and adopt a common position supporting the identification of the 700 MHz band in Region 1 under Agenda Item 1.3 of the World Radio Conference 2015 (WRC-15), recognising it will be a national decision which band(s) is/are selected for mobile broadband PPDR in each country. In this respect, assuming there will be a positive decision for PPDR Broadband frequencies, an amendment of the PPDR frequencies for Region 1 listed in WRC Resolution 646 would be logic, to include those new frequencies. In this way the European Law Enforcement organisations can be safeguarded the future access to affordable, capable of roaming into commercial networks when necessary, and cross-border interoperable broadband communications equipment.”

## Regional telecommunication organisations:

APT (July 2015)

APT support modification of Res 646 and suppression of Res 648.

APT have proposed a new proposal to satisfy the agenda item which is very similar to Method B.

ATU (July 2015)

There is no common position in ATU, although most countries or sub-regional organisations have indicated support for either Method B or Method D.

Arab Group (August 2015)

ACP: MOD Res 646 as per Method B of CPM {Modify Resolution 646 (Rev.WRC-12) to include spectrum for broadband PPDR and frequency bands/ranges to facilitate harmonization):

Option B for footnote 3 to recognizing G & Option 1 for Resolves 2.

CITEL (August 2015)

IAP: MOD Res 646 as per Method D of the CPM Report with the inclusion of the frequency range 694 – 869 MHz in Resolves 2.

RCC (Preliminary position April 2015)

The RCC Administrations recognize that requirements for PPDR systems such as the volume of available and used spectrum, applicable scenarios of PPDR use, could substantially vary depending on the country’s national interests.

The RCC Administrations consider it possible to use the IMT family standards for the purposes of building networks for public protection and disaster relief, at the same time allocation of new bands to the MS and/or their identification in the Radio Regulations to provide operation of these networks is not supported.

The RCC Administrations support the modification of Resolution 646 (Rev. WRC-12) to identify requirements to broadband PPDR systems. However the RCC Administrations consider that the Resolution should not contain directly the list of frequency bands and ranges which are identified within the land mobile service for both narrowband and broadband PPDR systems.

## International organisations

IATA (date of proposal)

ICAO (date of proposal)

IMO (date of proposal)

NATO (September 2015)

NATO supports the review and revision of Resolution 646, taking into account that military access to radio spectrum will not be constrained.

In Region 1 NATO opposes any new identification of broadband PPDR spectrum in the band 380 MHz to 400 MHz. The implementation of advanced technology in the bands 380-385 MHz and 390-395 MHz should take into consideration the impact of the out-of-band emission into the adjacent bands by a recommendation in accordance with Resolution 648.

In Region 2 NATO opposes any new identification of broadband PPDR spectrum in the bands 380 - 470 MHz and 5 850 - 5 925 MHz.

SFCG (Sept 2015)

SFCG supports the protection of existing space science service allocations. No additional identification of spectrum to support PPDR should be made in space science service bands unless acceptable sharing criteria are developed. SFCG should monitor the evolution of the agenda item in order to avoid PPDR identification immediately above 406.1 MHz (noting the connection with AI 9.1.1).

WMO (March 2014)

WMO is of the view that regulations for PPDR should not impact on the operation of meteorological systems.

## Regional organisations

ESA (September 2014)

Supports SFCG positions

EUMETNET (September 2014)

Supports WMO positions

CRAF (September 2015)

CRAF opposes the use of broadband PPDR within and immediately adjacent to the RAS band 406.1–410 MHz. In order to protect the RAS in the band 406.1–410 MHz PPDR should not be used in bands including or adjacent to the RAS band unless acceptable compatibility criteria for the RAS are developed and included in subsequent regulation. CRAF is of the opinion that Resolution 646 should explicitly mention the primary RAS allocation in the band 406.1-410 MHz.

## OTHER INTERNATIONAL AND REGIONAL ORGANISATIONS

EBU (January 2015)

EBU considers that PPDR applications should be accommodated within spectrum already allocated to mobile Services.

EBU does not support the identification of parts of the band 694-790 MHz explicitly to PPDR applications. In case of PPDR deployments, there might be significant risk of harmful interference to broadcasting services. Broadcasting services might require additional technical constraints in order to protect PPDR applications on a national or international basis.

GSMA (date of proposal)

1. The Law Enforcement Working Party reports to the European Council of the Justice and Home Affairs Ministers. [↑](#footnote-ref-1)