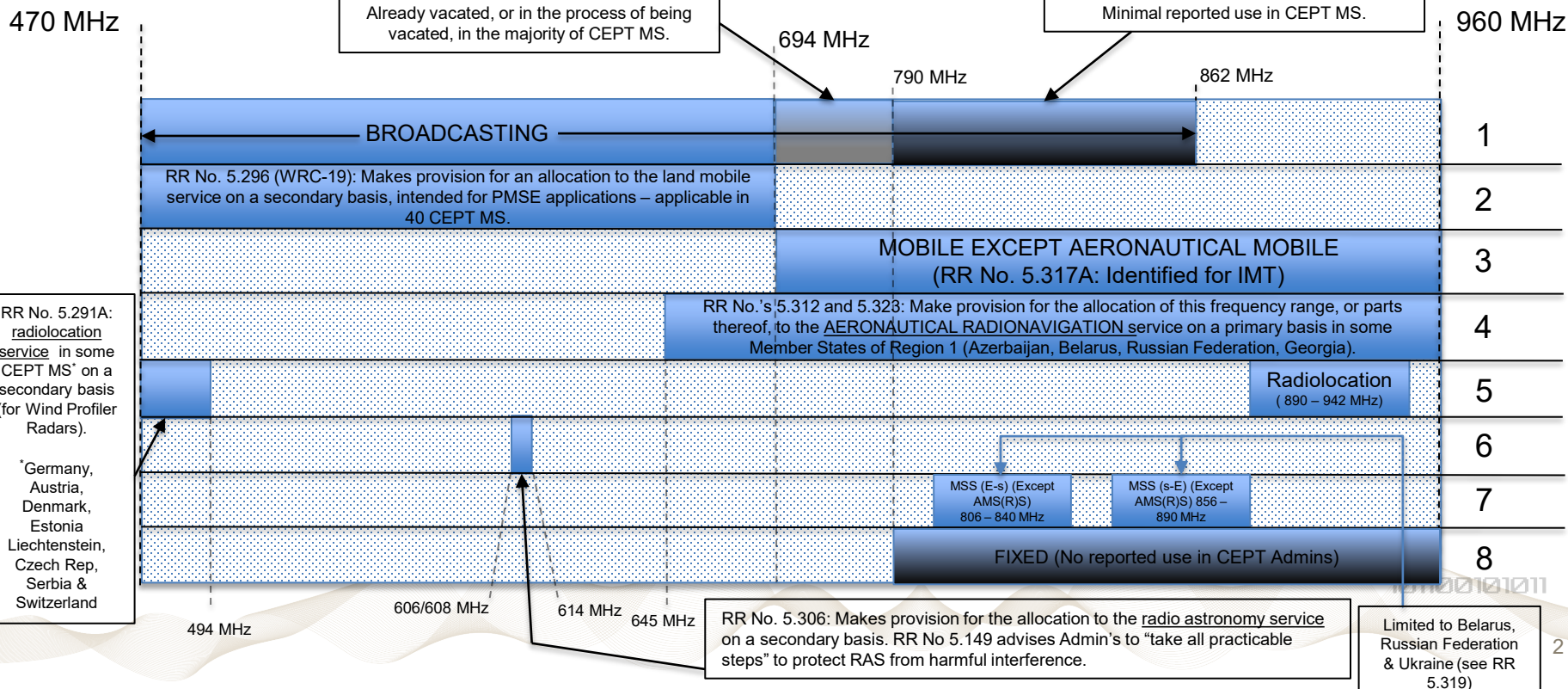


TASK GROUP 6/1 – PREPARATION FOR WRC-23 AGENDA ITEM 1.5

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**Workshop on the use of the sub-700 MHz band
30 March 2022**

470 – 960 MHz: Allocations as per ITU-R Radio Regulations



ITU-R Task Group 6/1 – context and goals

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- WRC-23 Agenda Item 1.5: “to review the spectrum use and spectrum needs of existing services in the frequency band 470-960 MHz in Region 1 and consider possible regulatory actions in the frequency band 470-694 MHz in Region 1 on the basis of the review in accordance with Resolution 235 (WRC-15)”.
- At ITU-R level, Agenda Item 1.5 is being considered under Task Group 6/1 (TG 6/1).
- At CEPT level, Agenda Item 1.5 is being considered under CPG Project Team D (PTD), which then has an opportunity to feed into the work of TG 6/1, as do other sub-Regional bodies and organisations.
- Key goals of TG 6/1:
 - Synthesis of results of studies reported to TG 6/1 to review the spectrum use and study the spectrum needs of existing services within the frequency band 470 – 960 MHz.
 - Conduct Sharing and Compatibility Studies for the development of draft CPM text under WRC-23 Agenda Item 1.5.
 - Develop Text for draft CPM Report for Chapter 1, Section 1.5.
- 4 meetings of TG 6/1 have so far been held, with the 5th and final meeting of the Task Group being scheduled to take place later this year in September.

Draft CPM Text

- General Chapter structure of the draft CPM Report, applicable to WRC-23 regarding WRC-23 Agenda Item 1.5:
 - 1 Executive Summary.
 - 2 Background.
 - 3 Summary and analysis of the results of ITU-R Studies.
 - 4 Methods to satisfy the Agenda item.
 - 5 Regulatory and procedural considerations.

TG 6/1 – Consideration of Spectrum Use and Needs within the band 470 – 694 MHz

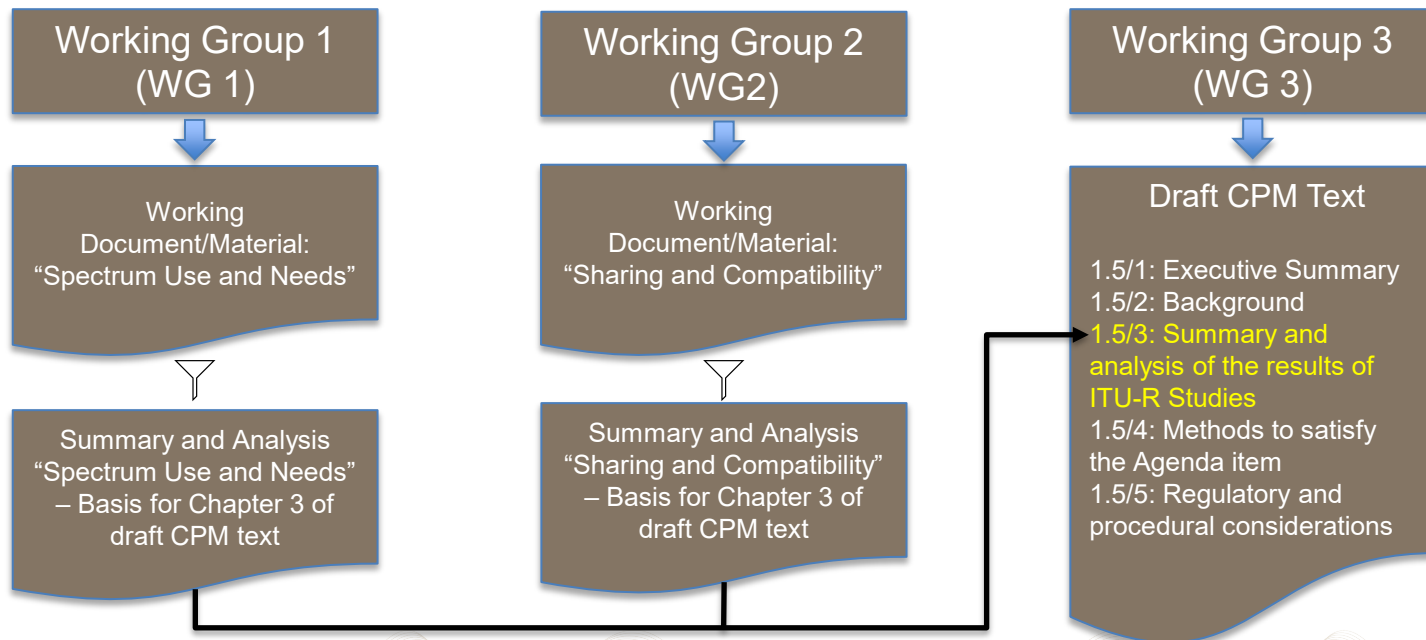
- Current use within 470 – 694 MHz: Broadcasting service (Primary), Mobile Service (SAB/SAP - Secondary), Radio Astronomy Service (606/608 – 614 MHz - Secondary), Radiolocation Service (470 – 494 MHz - Secondary), Radionavigation Service (645 – 700 MHz - Primary).
- The following 3 points of particular note emerge from the analysis thus far carried out at TG 6/1:
 - Analysis of responses to ITU-R Circular Letter 6/LCCE/104* suggests that the current amount of spectrum for Broadcasting below 694 MHz is sufficient and necessary, with the majority of responding Administrations indicating that they intend to continue in their usage of the band for Broadcasting Services.
 - Needs have also been expressed for the continued operation of SAP/SAB (PMSE), RAS in the band 606/608 – 614 MHz, Radiolocation Service (WPR) in the band 470 – 494 MHz and Aeronautical Radionavigation Service in the band 645 – 694 MHz.
 - Interest exists in the allocation of additional spectrum for IMT, PPDR and non-IMT trunked Ad-Hoc land mobile systems in the band below 694 MHz.

* Questionnaire on spectrum use and spectrum needs for terrestrial television broadcasting in the UHF frequency band in connection with WRC-23 agenda item 1.5

TG 6/1: Sharing and Compatibility

- Take advantage of pre-existing studies already carried out which have applicability to TG 6/1's work.
- Additional Assessment being carried out on the potential Impact from, for example:
 - Mobile to Broadcasting/DTTB, and vice versa;
 - IMT into SAB/SAP (PMSE);
 - Mobile to Radioastronomy;
 - Wind Profiler Radars to Broadcasting;
 - Mobile to other services (TBC).

Working Structure of TG 6/1



Level of progress at TG 6/1 – Some key points of note

WG 1: Spectrum Use and Needs

- Text for the working document has been largely agreed, but a limited number of outstanding issues still remain to be resolved. In order to reach resolution on these issues, some informal correspondence work will therefore be conducted where consensus on the text in the WD still needs to be found. The expectation is that the outcomes from this work will then be submitted for consideration to the next TG 6/1 Meeting.
- Text for the summary document, which has been proposed by WG 1 for inclusion in Chapter 3 of the draft CPM text, was agreed for submission to WG 3. However, this text remains within square brackets within Chapter 3 of the latest version of the draft CPM text thus far developed through WG 3.

WG 2: Sharing and Compatibility

- A number of formal views have been expressed within the Working Document where the following fundamental differences exist between various proponents within TG 6/1:
 - Treatment of Secondary Services, with opposing views as to whether such services should be included in studies falling under the scope of WRC-23 Agenda Item 1.5 (Majority view: secondary services fall within the scope for studies – this understanding is in line with advice as issued on the matter by the ITU-R Legal Affairs Unit)
 - The consideration of studies of interference from existing services using the 470 – 694 MHz band into any potential future Mobile Service using the band, as well as interference from the Mobile Service into those existing services (Majority view: interference studies from existing services into a potential new Mobile service can also be conducted and assessed - this understanding is in line with advice as issued on the matter by the ITU-R Legal Affairs Unit).
- In addition to the above factors, a number of other outstanding issues remain with regard to both the Working Document and the Summary Document (which is expected to be incorporated into Chapter 3 of the CPM text). A Correspondence Group has been set up to address these outstanding items and will report the results of its work to TG 6/1 for consideration during its next meeting

WG 3: Draft CPM text

- Diverging views have been expressed regarding results of some of the sharing and compatibility studies put forward for consideration by TG 6/1, so a deeper exploration of these studies needs to be carried out.
- Work on potential Methods to satisfy the Agenda Item has begun, but is still very much at a preliminary stage.

Possible Methods being considered to satisfy WRC-23 AI 1.5

Possible Method*	Points for consideration under proposed approach
<u>No Change</u>	<ul style="list-style-type: none"> • In the short term (i.e. before 2030), broadcasting service needs will, on the whole, not significantly lessen. • Interfering distances of up to several hundred km between mobile & broadcasting services – is it practical to therefore implement the two services in neighbouring countries? • Suppression or retention of Resolution 235, with or without modifications, would require further exploration. • Resolution 235 could possibly be revised at WRC-23 and provision made for a WRC-27/31 Agenda Item for UHF Review.
<u>Co-Primary Allocation to MS</u>	<ul style="list-style-type: none"> • Provides additional flexibility and options for spectrum use within the 470 – 694 MHz band. • Primary Allocation to MS through direct reference in the Table of Frequency Allocations, or possibly an upgrade to the current secondary allocation (see Footnote RR No. 5.296) to mobile in the entire band (or part thereof) with/without identification for IMT in a new/existing Footnote. • Limit Co-primary allocation to some countries, or a certain geographical area. • Co-primary mobile allocation in Region 1 may need to firstly recognise the need to continue broadcasting operation in the short term, but could introduce more regulatory options in the longer term (e.g. post 1st January 2031) – existing GE06 procedures on the implementation of other services, including the mobile service, would still be applicable in the longer term. • Coexistence between mobile and broadcasting services is likely to severely constrain mobile service deployment, thus requiring bilateral or multilateral agreements where the field strengths at borders are above the GE06 trigger thresholds or where the mobile service is to be protected. • Co-primary allocation to mobile with a technical condition limiting mobile operations to downlink (recognizing that the coexistence between mobile and broadcasting services is much easier with downlink only).
<u>Secondary allocation to MS</u>	<ul style="list-style-type: none"> • Recognizes the need for regulatory options in the short or long term but introduces the mobile service with a secondary status only. • With this approach, continued broadcasting service operations in countries wishing to do so will not be affected by mobile service deployment in neighbouring countries.
<u>If a primary allocation is given to the MS: Consider upgrading the Radio Astronomy Allocation to primary status</u>	<ul style="list-style-type: none"> • In order to ensure the protection of radio astronomy from the introduction of mobile services, an upgrade of the radio astronomy status to primary in the band 608-614 MHz in Region 1 (except the African Broadcasting Area where the status is already primary in the band 606-614 MHz) may be required. • May apply in the case where the mobile service is allocated on a primary basis either in all, or parts of, Region 1. • In order not to change the regulatory status of radio astronomy with regard to broadcasting, a provision is needed to ensure that radio astronomy could not claim protection from the broadcasting service.

* these are provisional possibilities which have been put on the table for further consideration during the final TG 6/1 meeting, so they should only be viewed as illustrative of what's has been proposed to TG 6/1 so far – it's therefore important to note that this table is likely non-exhaustive and the items contained within it very much need further consideration at the next TG 6/1 meeting.

Some areas of concern

1. The question remains as to whether coexistence between Broadcasting and IMT in the sub-700 MHz band is feasible.
2. Disparity in results of some studies regarding required separation distances between Broadcasting and Mobile operations.
3. Polarised views as to whether:
 - a) Sharing/Compatibility studies should be carried out for both Primary or Secondary services*, or just Primary services.
 - b) Studies of interference into the Mobile Service under Resolution 235 is appropriate**.
- **Relevant CEPT preliminary position(s) in the context of 1, 2, and 3 (above)** – See Annex for precise wording:
 - i. Comprehensive evaluation of spectrum needs of existing services required - relevant to 1,2 & 3;
 - ii. Any possible regulatory actions require a full account of results/impact of sharing studies (including a thorough analysis) – relevant to 1, 2 and 3;
 - iii. Need to protect and develop incumbent usage of the Broadcasting Service – Relevant to 1, 2 and 3;
 - iv. Any potential regulatory Action by WRC-23 shall not be in conflict with provisions of GE06 Agreement – Relevant to 1, 2 & 3 b);
 - v. Important to seek long-term balance between national requirements and challenges of effective x-border coordination between existing and potential new services – relevant to 1, 2 & 3;
 - vi. Supports continuation & development of incumbent usage by PMSE – relevant to 3 a) & possibly 3 b);
 - vii. Supports the protection of the Radioastronomy service within the band 606 – 614 MHz to ensure its continued operation – relevant to 3 a);
4. Online nature of meetings to date due to Covid pandemic has limited progress on this delicate issue.
5. 1 meeting to go – tight timescales to complete work, but the expectation to hold the final meeting of TG 6/1 physically in Geneva (rather than exclusively online) may help with meeting progress.

* Advice provided by the ITU-R Legal affairs Unit indicates that sharing and compatibility studies may be carried out for both Primary and Secondary allocations.

** Advice provided by the ITU-R Legal affairs Unit indicates that studies into the Mobile Service under Resolution 235 may be carried out.

Overview of CEPT contributions made to TG 6/1 (so far)

- 1st Meeting of Task Group 6/1 (19 -23 October 2020):
 - *Proposals for organisation of TG 6/1 and its associated work plan.*
- 2nd meeting of Task Group 6/1 (05 – 14 July 2021):
 - *ITU-R questionnaire on spectrum use and needs of the Broadcasting service (see 6/LCCE/104) – Analysis within CEPT;*
 - *Information on spectrum use and future spectrum requirements of PMSE – ECC Report 323;*
 - *Compilation of material submitted to Task Group 6/1 (including information from the outcome of surveys carried out by contributing Working Parties (See, for example, 6/LCCE/104, CACE/963, CACE/966).*
- 3rd meeting of Task Group 6/1 (27 October – 09 November 2021):
 - *Proposed revisions to TG 6/1 Working Document on the review of the spectrum use and the study on spectrum needs of existing services within the frequency band 470-960 MHz in Region 1;*
 - *Proposed terms of reference for Working Group 3.*
- 4th meeting of Task Group 6/1 (21 February – 04 March 2022):
 - *Proposed revisions to TG 6/1 Working Document towards draft CPM text for WRC-23 Agenda Item 1.5;*
 - *Proposed modifications to TG 6/1 Working Document on sharing and compatibility studies in the frequency band 470-694 MHz in Region 1.*
- 5th meeting of Task Group 6/1 (05 September – 16 September 2022):
 - *TBD.... Dependent upon on outcomes from PTD Meetings # 6 (May 2022) and #7 (August 2022).*

Thank You.

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Preliminary CEPT position on WRC-23 Agenda Item 1.5

- CEPT supports a complete and comprehensive overview of the existing usage and evaluation of spectrum needs of the existing services within the frequency band 470–960 MHz in Region 1 as a basis for further work on agenda item 1.5: See previous slide, points 1, 2 and 3.
- CEPT is of the view that any consideration of possible regulatory action(s) in the band 470-694 MHz requires a full account of the results and impact of sharing studies including a thorough analysis.
- In line with Resolution 235 (WRC-15), CEPT acknowledges and supports that no regulatory action is required in the band 694-960 MHz.
- CEPT is of the view that the primary allocation of the 470-862 MHz band to the broadcasting service in Region 1 shall remain, in order to enable the protection and development of incumbent usage of the broadcasting service.
- CEPT is of the view that any possible regulatory action by WRC-23 in the band 470 – 694 MHz shall not be in conflict with any provision of the GE-06 Agreement.
- CEPT is of the view that this agenda item seeks the long-term balance between meeting various national requirements and the challenges of effective cross-border coordination between the existing services and various services/applications wishing to access spectrum, including applications of the mobile service.
- CEPT supports the continuation and development of the incumbent usage by PMSE (SAP/SAB) (in accordance with existing RR No. 5.296).
- CEPT supports the protection of the radioastronomy service within the frequency band 606-614 MHz to ensure its continued operation. CEPT is of the view that any decision on regulatory action(s) in the band 470-694 MHz at the WRC-23 shall consider regulatory action to protect RAS, taking into account RR No. 5.149.
- CEPT is currently of the view that no changes are necessary concerning RR No. 5.291A addressing the operation of wind profiler radars.

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