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| **Radiocommunication Study Groups** |  |
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| Source: Documents 5A/TEMP/106, 147, 149, 150, 153, 154, and 155. | **Annex 3 toDocument 5A/306-E** |
| **5 June 2013** |
| **English only** |
| Annex 3 to Working Party 5A Chairman’s Report |
| consolidation of reports from the working groupsof working party 5a |

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[Attachment 1](#app1): Proposed course of action toward the review of Recommendations and
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 on Vehicle to vehicle and vehicle to infrastructure communication.

NOTE – Throughout this Annex reference is made to the temporary documents (5A/TEMP/…) produced by the Working Groups. Since these documents are not kept, please refer to [Annex 28](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0306!N28!MSW-E) of [Doc. 5A/306](http://www.itu.int/md/R12-WP5A-C-0306/en) to find the final disposition of these documents by Working Party 5A.

# 1 Working Group 5A-1 – Amateur and amateur-satellite services (Chairman: Mr Dale Hughes, Australia)

## 1.1 Executive summary

Working Group 5A-1 met eight times to consider issues related to the Amateur and Amateur Satellite Service. The main issue which WG 5A-1 covered was WRC-15 Agenda Item 1.4, which deals with a proposal for a secondary amateur allocation around 5 300 kHz.

WG 5A-1 formed a sub-working group to deal with revisions to the ITU Amateur Services Handbook and this was chaired by the UK Delegate Mr Colin Thomas. The SWG 5A-1a met three times to consider the handbook updates.

## 1.2 General

Working Group 5A-1 was assigned ten input contributions, held eight meetings and completed its work.

## 1.3 Agenda item 1.4 (WRC-15)

Input Document [5A/200](http://www.itu.int/md/R12-WP5A-C-0200) (WP 5B) was considered and noted.

Input Documents [5A/237](http://www.itu.int/md/R12-WP5A-C-0237) (Russian Federation, in relevant part), [5A/242](http://www.itu.int/md/R12-WP5A-C-0242) (Canada), [5A/250](http://www.itu.int/md/R12-WP5A-C-0250) (United States), [5A/254](http://www.itu.int/md/R12-WP5A-C-0254) (Canada), [5A/280](http://www.itu.int/md/R12-WP5A-C-0280) (China), and [5A/289](http://www.itu.int/md/R12-WP5A-C-0289) ([United Kingdom of Great Britain and Northern Ireland](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=R12-WP5A-C&source=United%20Kingdom%20of%20Great%20Britain%20and%20Northern%20Ireland) , [Netherlands (Kingdom of the)](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=R12-WP5A-C&source=Netherlands%20%28Kingdom%20of%20the%29) , [Norway](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=R12-WP5A-C&source=Norway) ) were considered and attached to a working document towards a preliminary draft new Report ITU-R M [5 MHz COMPAT]- Compatibility analysis of possible amateur systems with fixed, land mobile, maritime mobile and radiolocation services in the frequency band 5 250-5 450 kHz and the aeronautical mobile service in an adjacent bands. The working document contains an agreed upon framework for the eventual report, and administrations are invited to submit further material within this framework. The working document was forwarded as Doc. 5A/TEMP/139 to WP 5A for attachment to the Chairman’s Report.

Input Document [5A/292](http://www.itu.int/md/R12-WP5A-C-0292) (International Amateur Radio Union) was considered and noted.

Input Documents [5A/237](http://www.itu.int/md/R12-WP5A-C-0237) (Russian Federation, in relevant part) [5A/253](http://www.itu.int/md/R12-WP5A-C-0253) (Canada) were considered and incorporated into a working document toward draft CPM text for Agenda item 1.4. The working document was forwarded as Doc. 5A/TEMP/120 to WP 5A for attachment to the Chairman’s Report.

In accordance with the contribution from Canada in Input Document [5A/242](http://www.itu.int/md/R12-WP5A-C-0242), the working document toward a preliminary draft new Report ITU-R M.[HF-SPECTRAL OCCUPANCY] was suppressed.

There being no further contributions toward the preliminary draft new Report
 ITU-R M.[5 MHz CHAR] Characteristics of amateur radio stations in the range 5 250-5 450 kHz for sharing studies, the document was reviewed and forwarded as Doc. 5A/TEMP/104 to WP 5A with the recommendation that it be elevated to a draft new Report and submitted to Study Group 5.

In accordance with the work plan for WRC-Agenda item 1.4, a liaison statement to Working Parties 5B, 5C, and 3L was drafted to appraise these Working Parties of the status of our work. This statement was forwarded as Doc. 5A/TEMP/137 to WP 5A for approval.

## 1.4 Review of ITU-R documentation relevant to the amateur and amateur-satellite services

Work continued on a review of ITU-R and ITU-D Questions, Recommendations, Reports and Handbooks relevant to the amateur and amateur-satellite services.

Input Document [5A/238](http://www.itu.int/md/R12-WP5A-C-0238/en) (Russian Federation) containing a proposal for revisions to the ITU Handbook on the amateur and amateur-satellite services was considered. The revisions were consolidated with previous work and forwarded as Doc. 5A/TEMP/388 to WP 5A for attachment to the Chairman’s Report. It is intended to complete work on the Handbook at the November 2013 meeting. Participants in Working Group 5A-1 wish to thanks Ms Yulia Averochkina of the Russian Federation for her excellent and comprehensive work on this Handbook.

Working Group 5A-1 reviewed [ITU-R Recommendation M.1740](http://www.itu.int/rec/R-REC-M.1740-0-200603-I/en), Guide to the application of
ITU-R texts related to the amateur and amateur-satellite services, and proposes that it be suppressed and replaced by a web page on the ITU-R WP 5A website.

## 1.5 Objectives for the next meeting

– Progress the work on WRC-15 Agenda item 1.4, in accordance with the adopted workplan and milestones:

* Complete sharing studies taking into account feedback from contributing groups.
* Prepare draft new Report(s) on sharing studies as appropriate.
* Develop CPM text for sections 5 and 6, considering and incorporating from contributing groups.
* Transmit draft new Report(s) on sharing studies to contributing groups as appropriate for final review.
* Transmit draft CPM text to contributing groups for review

– Continue to review and update as necessary ITU-R Recommendations, Reports and Handbooks relevant to the amateur and amateur-satellite services.

– Review ITU-D Questions, Recommendations, Reports and Handbooks relevant to the amateur and amateur-satellite services and, if necessary, develop liaison statements to responsible ITU-D Study Groups

# **2** **Working Group 5A-2 – Systems and standards (Chairman: Mr Lang Baozhen, China)**

Working Group 5A-2 met three times at the eleventh meeting of WP 5A in Geneva with approximately 30 delegates in attendance. Working Group 5A-2 received 26 documents remanded by the WP 5A plenary as follows:

|  |  |
| --- | --- |
|  | Documents |
| Wireless home networks | [258](http://www.itu.int/md/R12-WP5A-C-0258) (WGA) |
| Question ITU-R [37](http://www.itu.int/pub/R-QUE-SG05.37)/5 (except PPDR) | [211](http://www.itu.int/md/R12-WP5A-C-0211) (ITU-T SG 5) |
| ATG | [198](http://www.itu.int/md/R12-WP5A-C-0198) [Annex 14](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0198!N14!MSW-E) (WP 5A); [221](http://www.itu.int/md/R12-WP5A-C-0221) (APT); [226](http://www.itu.int/md/R12-WP5A-C-0226) (ETSI); [233](http://www.itu.int/md/R12-WP5A-C-0233) (USA); [268](http://www.itu.int/md/R12-WP5A-C-0268) (Qualcomm); [277](http://www.itu.int/md/R12-WP5A-C-0277) (China) |
| Update of Rec. ITU-R M.1450 | [198](http://www.itu.int/md/R12-WP5A-C-0198) [Annex 16](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0198!N16!MSW-E) (WP 5A); [229](http://www.itu.int/md/R12-WP5A-C-0229) (ETSI); [234](http://www.itu.int/md/R12-WP5A-C-0234) (CEPT ECC WG FM); [265](http://www.itu.int/md/R12-WP5A-C-0265) (Wi-Fi Alliance);[271](http://www.itu.int/md/R12-WP5A-C-0271) (IEEE 802); |
| Update of Rec. ITU-R F.1763 | [259](http://www.itu.int/md/R12-WP5A-C-0259) (WGA); [260](http://www.itu.int/md/R12-WP5A-C-0260) (XGP Forum); [272](http://www.itu.int/md/R12-WP5A-C-0272) (Japan) |
| ITU-T (Energy, ANTS, etc.) | [219](http://www.itu.int/md/R12-WP5A-C-0219) (ITU-T SG 13) |
| Hearing aids | [196](http://www.itu.int/md/R12-WP5A-C-0196) (WP 5B); [198](http://www.itu.int/md/R12-WP5A-C-0198) [Annex 15](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0198!N15!MSW-E) (WP 5A); [205](http://www.itu.int/md/R12-WP5A-C-0205) (ITU‑T SG 16); [209](http://www.itu.int/md/R12-WP5A-C-0209) (JCA-AHF); [232](http://www.itu.int/md/R12-WP5A-C-0232) (ITU Sec Gen); [255](http://www.itu.int/md/R12-WP5A-C-0255) (Canada); [287](http://www.itu.int/md/R12-WP5A-C-0287) (ITU-T JCA-AHF); [299](http://www.itu.int/md/R12-WP5A-C-0299) (ITU-T JCA-AHF); [300](http://www.itu.int/md/R12-WP5A-C-0300) (WP 5B); |

Working Group 5A-2 set up four Drafting Groups to deal with Air-to-Ground (ATG) communication systems, revision of Recommendation ITU-R M.1450, revision of Recommendation ITU-R F.1763 and Hearing aids issue respectively.

– DG 5A2-1 – ATG Mr Guanghan Xu

– DG 5A2-2 – ITU-R M.1450 Dr Gabrielle Owen

– DG 5A2-3 – ITU-R F.1763 Dr Shinya Otsuki

– DG 5A2-4 – Hearing aids (M.1076) Mr Brian Copsey

## 2.1 Wireless home networks

Regarding wireless home networks, Working Party 5A received a contribution proposing revisions to Recommendation ITU-R M.2003 and Report ITU-R M.2227 from WGA.

Based on the contribution, two working documents were drafted for the revisions to Recommendation ITU-R M.2003 (Doc. 5A/TEMP/113) and Report ITU-R M.2227 (Doc. 5A/TEMP/118). A liaison statement (Doc. 5A/TEMP/110) was developed to invite external organizations on the work for revision of Recommendation ITU-R M.2003 and Report ITU-R M.2227.

## 2.2 Question ITU-R [37](http://www.itu.int/pub/R-QUE-SG05.37)/5 (except PPDR)

Working Group 5A-2 received an ITU-T SG 5 liaison statement “Use of spectrum and radio technology low cost sustainable telecommunication infrastructure for rural communications in developing countries”.

A liaison statement (Doc. 5A/TEMP/124) was developed. In the liaison statement, Working Party 5A points out that a lot work has already been done within ITU-D in cooperation with ITU-R and the work on Q14/5 should aim to avoid duplication. In ITU-R there is a [Question 77-7/5](http://www.itu.int/pub/R-QUE-SG05.77) “Consideration of the needs of developing countries in the development and implementation of IMT” which has been assigned to Working Party 5D. IMT already addresses deployments of wireless access systems in urban, rural and remote areas using the spectrum in the most effective manner. Note that jurisdiction of the radiofrequency spectrum is within the purview of the ITU‑R Sector and as published in the ITU Radio Regulations, which are treaty binding, and associated Recommendations, Reports and Handbooks that provide guidance on the use of the spectrum and standards.

## 2.3 ATG

Drafting Group 5A-2-1 – ATG – reviewed the contributions from APT, USA, China, ETSI and Qualcomm on the ATG report and then reviewed the modified document of the ATG report with the suggested changes from all the contributions incorporated. The meeting reached an agreement to finalize the work at this WP 5A meeting. The output document on ATG is Document 5A/Temp/102.

## 2.4 Update of Recommendation ITU-R M.1450

Drafting Group 5A-2-2 – Recommendation ITU-R [M.1450](http://www.itu.int/rec/R-REC-M.1450/en) – met once and considered all the input contributions. DG 5A-5-2 progressed its work on this Recommendation based on these input contributions and prepared a preliminary draft revision of Recommendation ITU-R M.1450-4 for attachment to the WP 5A Chairman’s Report (Doc. 5A/TEMP/109). DG 5A-2-2 suggested that the status be changed from a “working document towards a preliminary draft revision of Recommendation ITU‑R M.1450-4” to a “preliminary draft revision”.

Drafting Group 5A-2-2 discussed the time planning for completion of the work on the revision of Recommendation ITU-R M.1450-4 and proposes that the objective of ITU-R Working Party 5A be to complete the draft revision of Recommendation ITU-R M.1450-4 at its next meeting on
18-29 November 2013. It was noted that the final approval of the standard IEEE 802.11ac has not yet taken place; the approval procedure in ITU-R of the revision of Recommendation ITU‑R M.1450-4 should take this into account.

Drafting Group 5A-2-2 prepared a liaison statement to BWA and RLAN external organizations on the revision of Recommendation ITU-R M.1450-4 (Doc. 5A/TEMP/108) to thank them for their input contributions, to inform them of the preliminary draft revision of Recommendation ITU‑R M.1450-4 prepared by the May 2013 meeting of WP 5A, and to inform them of the objectives of WP 5A for its Nov. 2013 meeting.

## 2.5 Update of Recommendation ITU-R F.1763

Working Group 5A-3 received three contributions: Documents 5A/[259](http://www.itu.int/md/R12-WP5A-C-0259) (WGA), [260](http://www.itu.int/md/R12-WP5A-C-0260) (XGP Forum) and [272](http://www.itu.int/md/R12-WP5A-C-0272) (Japan) on revision work of Recommendation ITU-R [F.1763](http://www.itu.int/rec/R-REC-F.1763/en).

Based on the contributions, a working document towards a preliminary draft revision of Recommendation ITU-R M.1763 (Doc. 5A/TEMP/101) was developed and a liaison statement (Doc. 5A/TEMP/103) was developed to invite external organizations to provide updated and/or new material for the revision of Recommendation ITU-R F.1763.

## 2.6 ITU-T (Energy, ANTS, etc.)

Working Group 5A-2 received a liaison statement from ITU-T SG 13 on draft Recommendation ITU-T Y.energyMRM (Energy Measurement of Networks) which was attached to the LS.

Regarding to the attached draft Recommendation ITU-T Y.energyMRM, Working Group 5A-2 has no comments so far.

## 2.7 Hearing aids

Drafting Group 5A2-4 – Hearing aids – has met three times to consider Documents 5A/[196](http://www.itu.int/md/R12-WP5A-C-0196) (WP 5B); [198](http://www.itu.int/md/R12-WP5A-C-0198) ([Annex 15](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0198!N15!MSW-E)) (WP 5A); [205](http://www.itu.int/md/R12-WP5A-C-0205) (ITU-T SG 16); [209](http://www.itu.int/md/R12-WP5A-C-0209) (JCA-AHF); [232](http://www.itu.int/md/R12-WP5A-C-0232) (ITU Sec Gen); [255](http://www.itu.int/md/R12-WP5A-C-0255) (Canada); [287](http://www.itu.int/md/R12-WP5A-C-0287) (ITU-T JCA-AHF).

With regard to the revision of Recommendation ITU-R [M.1076](http://www.itu.int/rec/R-REC-M.1076/en), after considering the liaison statements from Working Part 5B and discussion with the Chairman during the meeting the DG has withdrawn the two bands identified in the last revision of Recommendation ITU-R M.1076. However the meeting agreed that further study of suitable tuning ranges should be considered and a new question Annex A has been agreed by the group.

Having considered the liaison statements received the group generated reply which could be found in Document 5A/TEMP/111.

The output of the meetings work on Recommendation ITU-R M.1076 could be found in Document 5A/TEMP/115.

The DG decided to develop a new Question on Hearing aids, the working document towards a preliminary draft new Question ITU-R [XXX/5] “Radiocommunication for short-range hearing aids operating in public access systems” which will be found in Document 5A/TEMP/112.

Drafting Group 5A2-4 received a document from the Secretary-General “ICT Sectorial Consultation on the role of ICTS to promote the inclusion of persons with disabilities request for inputs from relevant ITU-R Study Groups”. After detailed discussion and base on the input contribution from Canada, a reply liaison (Doc. 5A/TEMP/117) was developed. A liaison statement with the document was developed to be sent to WP 5D for information (Doc. 5A/TEMP/123).

A liaison statement from ITU-T JCA-AHF requested the nomination of representatives for the Joint Coordination Activity on Accessibility and Human Factors (JCA-AHF). A reply liaison (Doc. 5A/TEMP/119) was developed to nominate Mr Brian Copsey as the Liaison Rapporteur
JCA-AHF.

## 2.8 Review of ITU-R texts

Working Group 5A-2 reviewed Section 1 of [Annex 1](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0198!N01!MSW-E) to [Doc. 5A/198](http://www.itu.int/md/R12-WP5A-C-00198/en) and [Doc. 2/5(Rev.1)](http://www.itu.int/md/R12-SG05-C-0002/en), including the [Guide to the use of ITU-R texts related to the land mobile service](http://www.itu.int/oth/R0A06000001/en) and made some minor updates.

## 2.9 Objectives for the next meeting

The objectives for the next meeting are to continue the work on WAS Study Questions on the basis of input contributions and, in particular, to continue the work on:

– development of PDN Report ITU-R M.[LMS.ATG];

– development of a preliminary draft revision of Recommendation ITU-R M.1076;

– development of a preliminary draft revision of Recommendation ITU-R M.1450;

– development of a preliminary draft revision of Recommendation ITU-R F.1763;

– development of a preliminary draft revision of Recommendation ITU-R M.2003;

– development of a preliminary draft revision of Report ITU-R M.2227;

– development of a preliminary draft new Question on Radiocommunication for short‑range hearing aids operating in public access systems.

## 2.10 Chairman’s closing remarks

Finally, the Chairman of Working Group 5A-2 wishes to thank all participants of the WG for their contributions and cooperation and particularly thank DG Chairmen Dr Gabrielle Owen,
Dr Shinya OTSUKI, Mr Guanghan Xu and Mr Brian Copsey for their good and efficient work.

# 3 Working Group 5A-3 – Public protection and disaster relief (Chairman: Ms Amy Sanders, USA)

## 3.1 Executive summary

Working Group 3 met on four occasions and considered 18 input documents and five documents that were carried forward in previous Chairman’s Reports. The input documents were related to WRC-15 Agenda items 1.3 and revisions of documents under the purview of WG 3. Three drafting groups conducted the majority of the work and produced five documents to be carried forward in the Chairman’s Report and two liaison statements.

## 3.2 Organization of the work

As outlined in [5A/198 Annex 3](http://www.itu.int/md/R12-WP5A-C-0198%21N03%21MSW-E), Working Group 3’s objectives for this meeting were to continue development of the following, based on input contributions:

* revision of Report ITU-R M.2033 and other Reports and Recommendations, as appropriate;
* working document toward a preliminary draft revision of Recommendation
ITU-R M.2009; and
* working document toward a preliminary draft revision of Recommendation
ITU-R M.2015.

No input contributions were received on the **development of the working document toward a preliminary draft revision of Recommendation ITU-R 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 (Rev.WRC-12)**”. The meeting noted that the APT had previously indicated that it intended to provide material toward the revision. The meeting agreed to hold off on completion of the revision until anticipated material is received from APT. The meeting agreed to carry forward Document [5A/198 Annex 17](http://www.itu.int/md/R12-WP5A-C-0198%21N17%21MSW-E) along with Doc. [5A/273](http://www.itu.int/md/R12-WP5A-C-0273/en) for further consideration at the next meeting.

All input contributions were introduced at the Working Group level. Three Drafting Group were established to address the work, as follows:

1. DG PPDR Reports under the leadership of Mr. Andy Gowans, UK.
2. DG Revision of Recommendation ITU-R M.2015 under the leadership of Mr. Stuart Shepard, Australia.
3. DG AI 1.3 CPM Text under the leadership of Mr. Bharat Bhatia, India.

The Disaster Relief Rapporteur’s Report (Doc. [5A/257](http://www.itu.int/md/R12-WP5A-C-0257/en)) was presented at the WP 5A Plenary.

In addition, during the WP 5A Plenary, the Chairman called to the attention of WG 3 Document [1B/42](http://www.itu.int/md/R12-WP1B-C-0042/en) Annex 12, related to AI 9.1 Issue 9.1.7. The Chairman also tasked all WGs to conduct a review of the relevant portions of the “Guide to the use of ITU-R texts related to the land mobile service” and the texts attributed to the group and to identify any relevant vocabulary to share with the CCV.

## 3.3 Drafting Group activities

## 3.3.1 Revision of Report ITU-R [M.2033](http://www.itu.int/pub/R-REP-M.2033) and other Reports and Recommendations, as appropriate

Drafting Group 5A3-1 (DG PPDR Reports) met on nine occasions. DG PPDR Reports had been given the task by Working Group 3 to work on the development of aworking document toward a preliminary draft new Report ITU-R M.[B-PPDR] **“**Broadband public protection and disaster relief communications**”** which would be focused on addressing the tasks outlined in Resolution **648** **(WRC-12)** under WRC-15 Agenda item 1.3 as well as any related revisions to Report ITU-R M.2033 “Radiocommunication objectives and requirements for Public Protection and Disaster Relief (PPDR)“**,** based on the input contributions received**.** The working group also tasked the Drafting group to consider possible liaisons.

DG PPDR Reports was assigned 15 input contributions by WG 3 as shown in the table below:

|  |  |
| --- | --- |
| **Topic** | **Input contributions** |
| **Development of draft new Report on broadband PPDR communications** | [222](http://www.itu.int/md/R12-WP5A-C-0222) (APT); [248](http://www.itu.int/md/R12-WP5A-C-0248) (USA); [256](http://www.itu.int/md/R12-WP5A-C-0256) (CEPT ECC CPG PTA); [264](http://www.itu.int/md/R12-WP5A-C-0264) (New Zealand); [267](http://www.itu.int/md/R12-WP5A-C-0267) (Ericsson, Motorola Sol.); [269](http://www.itu.int/md/R12-WP5A-C-0269) (Israel); [270](http://www.itu.int/md/R12-WP5A-C-0270) (Motorola Sol.); [273](http://www.itu.int/md/R12-WP5A-C-0273) (Japan); [279](http://www.itu.int/md/R12-WP5A-C-0279), [281](http://www.itu.int/md/R12-WP5A-C-0281) (China); [282](http://www.itu.int/md/R12-WP5A-C-0282) (Korea) |
| **Possible update of Rep. ITU-R M.2033**  | [244](http://www.itu.int/md/R12-WP5A-C-0244) (Canada); [256](http://www.itu.int/md/R12-WP5A-C-0256) (CEPT ECC CPG PTA); [264](http://www.itu.int/md/R12-WP5A-C-0264) (New Zealand); [269](http://www.itu.int/md/R12-WP5A-C-0269) (Israel); [270](http://www.itu.int/md/R12-WP5A-C-0270) (Motorola Sol.); [281](http://www.itu.int/md/R12-WP5A-C-0281) (China); [282](http://www.itu.int/md/R12-WP5A-C-0282) (Korea) |
| **Proposal for liaison to ITU-R WP 5D** | [267](http://www.itu.int/md/R12-WP5A-C-0267) (Ericsson, Motorola Sol.); [279](http://www.itu.int/md/R12-WP5A-C-0279) (China); [252](http://www.itu.int/md/R12-WP5A-C-0252) (Canada) |

The DG agreed to use the outline suggested in [248](http://www.itu.int/md/R12-WP5A-C-0248) (USA) as a basis for developing the working document toward a preliminary draft new Report ITU-R M.[B-PPDR]. The DG agreed to add two new sections on “Introduction” and Aspects of frequency bands for BPPDR” to the outline; the latter being added in square brackets as some countries wished to review the content of this section before agreeing to this section. There was also some discussion on what the content in the section of the document entitled “Functional requirements” should be. No agreement could be reached in the meeting on what the demarcation between the content of this section should be (with regards to Broadband PPDR) and what should be covered under any proposed revisionof Report
ITU-R M.2033**.**

After some further discussion a compromise solution was agreed to allow the discussions to proceed. The compromise solution was to produce a standalone document that would cover both the “functional requirements” section for the working document toward a preliminary draft new Report ITU-R M.[B-PPDR]andany equivalent section contained within any proposed revisionof Report ITU-R M.2033.

There was a subsequent drafting exercise to produce three documents based on the input contributions, a working document toward a preliminary draft new Report ITU-R M.[B-PPDR]**,** a working document towards a preliminary draft revision of Report ITU-R M.2033and a standalone working document. It was also agreed that the contents of the standalone working document will eventually be included inthe working document toward a preliminary draft new Report ITU-R M.[B-PPDR] **and/or** the working document towards a preliminary draft revision of Report ITU‑R M.2033.

Three documents from the drafting group were agreed to be carried forward in the WP 5A Chairman's Report:

1. 5A/TEMP/142(Rev.2) working document toward a preliminary draft new Report ITU‑R M.[B-PPDR] **“**Broadband public protection and disaster relief communications” (Editor: Christine Hsu assisted by José Costa)

 It should be noted that the content of Section 4.1, entitled “Functional requirements” is currently covered by Document 5A/TEMP/143(Rev.1). In addition section 5 entitled “Aspects of frequency bands for PPDR” was not reviewed by the drafting group. The format and contents of Table 1 in Section 6.1 will have to be reviewed and revised on an ongoing basis in accordance with the decisions made in the editorial exercises in the standalone working document 5A/TEMP/143 (Rev.1) regarding demarcation between broadband specific and generic requirements. The text in sections 6.2.1.and 6.2.2 needs to be reviewed in order to determine where it should eventually be placed in the document (suggested areas are to split the text between the spectrum requirements section 5.2 and section 6.2 of the document.

1. 5A/TEMP/143(Rev.1) – Working Document with holding text to be considered for other working documents (Editor: Andrew Gowans)

 This document was developed to temporarily contain the generic requirements for PPDR (i.e. Narrowband, Wideband and Broadband technologies), Contributions for the next meeting should consider where the demarcation lies between Report ITU-R M.2033 (Generic requirements) and the working document towards a preliminary draft new Report ITU-R M.[B-PPDR] “Broadband public protection and disaster relief communications” which will look at using Broadband technologies to deliver PPDR broadband requirements. In addition, Sections 1 to 4.1 of Annex 2 in this document were not reviewed extensively by the drafting group, and Section 4.2 of Annex 2 in this document is a result of an editorial exercise to take account of the relevant input contributions ([244](http://www.itu.int/md/R12-WP5A-C-0244) (Canada), [256](http://www.itu.int/md/R12-WP5A-C-0256) (CEPT ECC CPG PTA), [264](http://www.itu.int/md/R12-WP5A-C-0264) (New Zealand); [267](http://www.itu.int/md/R12-WP5A-C-0267) (Ericsson, Motorola Sol.); [269](http://www.itu.int/md/R12-WP5A-C-0269) (Israel); [270](http://www.itu.int/md/R12-WP5A-C-0270) (Motorola Sol.)) identified by the drafting group. This result of this editorial exercise was not reviewed extensively within the drafting group.

1. [5A/TEMP/141](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=R12-WP5A-130520-TD-0141) – Working document towards a preliminary draft revision of Report ITU-R M.2033 “Radiocommunication objectives and requirements for Public Protection and Disaster Relief (PPDR)” (Editor: Christine Hsu assisted by Karsten Buckwitz)

 There was no time to carry out a review of this working document either within the Drafting Group or Working Group 5A-3, therefore some participants asked for their contributions to be carried forward in the WP 5A Chairman’s Report. These input contributions are [264](http://www.itu.int/md/R12-WP5A-C-0264) (New Zealand), [270](http://www.itu.int/md/R12-WP5A-C-0270) (Motorola Sol.), [281](http://www.itu.int/md/R12-WP5A-C-0281) (China), [282](http://www.itu.int/md/R12-WP5A-C-0282) (Korea).

During discussions in the Drafting group it was also agreed to produce a liaison statement to external organizations (Document 5A/TEMP/132). The drafting group decided to postpone the proposed liaison statement to ITU-R WP 5D in [Doc. 5A/252](http://www.itu.int/md/R12-WP5A-C-0252) until the working documents in relation to WRC-15 Agenda item 1.3 were in a more mature and stable state. One administration did not support this decision.

## 3.3.2 Continue development of working document toward a preliminary draft revision of Recommendation ITU-R M.2015, “Frequency arrangements for public protection and disaster relief radiocommunication systems in UHF bands in accordance with Resolution 646 (Rev.WRC-12)”

Work continued on the update to Recommendation ITU-R M.2015 and considered a contribution from Australia (Doc. [5A/236](http://www.itu.int/md/R12-WP5A-C-0236/en)). The meeting decided not to elevate the status of this document as administrations proposed to submit contributions to the next meeting, and it was noted that the APT had previously indicated that it anticipated providing material relevant to the revision to a future meeting of WP 5A.

The meeting agreed to carry forward the draft revision from the previous meeting as contained in Document 5A/TEMP/127.

The Indian Administration expressed its concerns about the validity of the ‘Example broadband Plan – 806-824/851-869 MHz’ in Annex 4 noting adjacent channel studies are ongoing within the APT.

## 3.3.3 Work on Agenda item 1.3

3.3.3.1 CPM text

The meeting received two contributions toward the development of CPM text for WRC-15 Agenda item 1.3 as contained in Document [5A/198 Annex 6](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0198!N06!MSW-E): [235](http://www.itu.int/md/R12-WP5A-C-0235) (Australia); [243](http://www.itu.int/md/R12-WP5A-C-0243) (Canada).

The meeting agreed to consider the contributions toward CPM text in a drafting group under the leadership of Mr. Bharat Bhatia (India).  The drafting group met twice and developed revised text for the CPM.  During the development of the text, based on guidance from the BR that place holders for additional methods need not be retained in the draft CPM text, it was agreed to delete these place holders under the assumption that additional methods could still be added as and when any proposals were received in this regard. The drafting group also agreed to keep the two separate proposals relating to the resolves parts of the proposed revisions to Res. **646** at the moment with the understanding that these could be revised to two separate methods. Some of the text in the draft working document toward preliminary draft CPM text (Document 5A/TEMP/128) still remains within square brackets as further consensus is needed on these parts of the text.

WG 3 encouraged the participants to focus their attention on the studies required for the Agenda item, which it was expected would be the foundation for the CPM text.

3.3.3.2 Workplan

Following the work of the drafting group, the meeting reconsidered its workplan for Agenda item 1.3 as contained in Document [5A/198, Annex 7](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0198!N07!MSW-E).  No revisions were required. The workplan as contained in Document [5A/198, Annex 7](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0198!N07!MSW-E) is therefore continued.

## 3.4 Other matters

### 3.4.1 Draft liaison statement to ITU-D Study Group 2 on the revision of Rec. ITU-R [F.1105](http://www.itu.int/rec/R-REC-F.1105/en)

At the request of the Chairman of WP 5A and the joint 5A-5C Adhoc, WG 3 considered the draft liaison statement to ITU-D Study Group 2 on the revision of Recommendation ITU-R F.1105 on (5A/TEMP/130(Rev.1)). The meeting made minor revisions and sent it to WP 5A Plenary for approval.

### 3.4.2 Relevant Recommendations and Reports

WG 3 reviewed [Appendix 1 of Document 5A/198 Annex 3](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0198!N03!MSW-E), “Proposed course of action toward the review of Recommendations and Reports associated with work on WRC-15 Agenda item 1.3” and made appropriate revisions. In line with the report of the previous meeting, the meeting agreed to request that, now that the revision of Report ITU-R M.2014 had been approved in Study Group 5, the following documents proposed for suppression:

* **Recommendation** [**ITU-R M.1222**](http://www.itu.int/rec/R-REC-M.1222/en), “Transmission of data messages on shared private land mobile radio channels” (1997).
* **Report ITU-R** [**M.741**](http://www.itu.int/pub/R-REP-M.741), “Multi-channel land mobile systems for dispatch traffic (with or without PSTN interconnection)” (1990).
* **Report ITU-R** [**M.901**](http://www.itu.int/pub/R-REP-M.901), “Frequency assignment methods for trunked mobile radio systems” (1990).

The meeting agreed that the Recommendations and Reports contained in [Attachment 1](#app1) to this annex continue to be relevant to the work under Agenda item 1.3 of WRC-15 and should be the focus of contributions to future meetings to provide the technical studies required under Resolution **648 (WRC-12)**.

### 3.4.3 Administrative Issues

WG 3 followed the Chairman’s instructions to consider the Texts, the Guide, the structure of the work in WP 5A, and [Vocabulary](http://www.itu.int/md/R12-WP5A-C-0079/en). WG 3 proposed appropriate revisions to the Texts and the Guide, but had no proposed changes to the other elements.

With regard to work at the eleventh meeting of Working Party 5A, the objectives for Working Group 3 will be to:

* continue development of the new Report on Broadband PPDR under Agenda item 1.3 and the revision of Report ITU-R M.2033, and other Reports and Recommendations, as appropriate, based on input contributions;
* continue development of working document toward a preliminary draft revision of Recommendation ITU-R M.2009, based on input contributions; and
* continue development of the working document toward a preliminary draft revision of Recommendation ITU-R M.2015, based on input contributions;
* continue development of CPM text for Agenda item 1.3 based on the results of studies and input contributions.

Documents to be carried forward related to revision of Rec. ITU-R M.2009: Doc. [5A/198 Annex 17](http://www.itu.int/md/R12-WP5A-C-0198%21N17%21MSW-E) and Doc. [5A/273](http://www.itu.int/md/R12-WP5A-C-0273/en).

Documents to be carried forward related to the revision of Report ITU-R M.2033: Doc. [5A/264](http://www.itu.int/md/R12-WP5A-C-0264), [270](http://www.itu.int/md/R12-WP5A-C-0270), [281](http://www.itu.int/md/R12-WP5A-C-0281), and [282](http://www.itu.int/md/R12-WP5A-C-0282).

Finally, the WG Chairman would like to thank Mr. Gowans, Mr. Bhatia, and Mr. Shepard for their leadership of the drafting group and all the participants of Working Group 3 for their contributions and cooperative approach to the discussions.

**Attachment:**

[Attachment 1](#app1) – Proposed course of action toward the review of Recommendations and Reports associated with work on WRC-15 Agenda item 1.3

# 4 Working Group 5A-4 – Interference and sharing (Chairman: Mr Michael Kraemer, Germany)

# Executive Summary

Work on the spectrum requirements for terrestrial mobile broadband (excluding IMT) related to WRC-15 Agenda item 1.1 was completed and the results were liaised to JTG 4-5-6-7 as requested by CPM15-1.

Work has continued on a Preliminary Draft New [Report/Recommendation] ITU-R
M.[MS 14.5-15.35 CHAR] on characteristics of and protection criteria for systems operating in the mobile service in the frequency range 14.5-15.35 GHz.

The revision of Recommendation ITU-R F.1336 was further progressed in a joint activity with WP 5C in order to better reflect the base station antenna patterns of land mobile systems. WP 5D was requested to provide their input for IMT base station antennas and also inform JTG 4-5-6-7 as this antenna modelling is relevant to the studies under WRC-15 Agenda items 1.1 and 1.2.

Three liaison statements were developed jointly with WP 5B and WP 5C to provide comments to WP 1A and ITU-T regarding Recommendations ITU-T K.60, J.195.1, K.mhn and G.fast.

# 4.1 Introduction

Working Group 5A-4 met four times during the May 2013 meeting of Working Party 5A. WG 5A-4 considered 32 input contributions and developed 10 output documents.

# 4.2 Consideration of input documents

The following issues were considered based on input contributions as assigned to WG 5A-4 by the WP 5A opening plenary based on Document 5A/ADM/12 as well as late input contributions (liaison statements from WP 5B and the Chairman of SG 5) received during the course of the meeting.

## 4.2.1 Revision of Recommendation ITU-R SA.1626

Input document: [5A/225](http://www.itu.int/md/R12-WP5A-C-0225/en) (WP 7B)

WG 5A-4 took note of the information provided by WP 7B on the revision of Recommendation ITU-R SA.1626 and did not see the need for comments at this point in time.

## 4.2.2 Revision of Recommendation ITU-R [F.1336](http://www.itu.int/rec/R-REC-F.1336/en)

Input document: 5A/286 (Ericsson)

Output document: 5A/TEMP/131(Rev.1) (Joint LS to WP 5D)

WG 5A-4 took note of the information provided in Document [5A/286](http://www.itu.int/md/R12-WP5A-C-0286/en) (which was also submitted to WP 5C) on the applicability of Recommendation ITU-R [F.1336](http://www.itu.int/rec/R-REC-F.1336/en) above 1 GHz and was of the view that this information was more relevant the ongoing work in WP 5C regarding the revision of that Recommendation, as the joint WP 5A / WP 5C session during the previous WP 5A meeting had decided that WP 5C would take the lead on that revision.

As decided at the joint WP 5A / WP 5C session during this WP 5A meeting, a joint liaison statement was developed to WP 5D regarding the revision of Recommendation ITU-R F.1336 separating the k-factor into kh for the horizontal plane and kv for the vertical plane and WP 5D was requested to provide the most appropriate k-values for IMT base station antennas.

## 4.2.3 Revision of Report ITU-R [M.2116](http://www.itu.int/pub/R-REP-M.2116)

No input contributions were received at this WP 5A meeting regarding the ongoing revision of Report ITU-R M.2116 and thus the current working document as contained in Document [5A/198 Annex 19](http://www.itu.int/md/R12-WP5A-C-0198%21N19%21MSW-E) was carried forward to the next WP 5A meeting with the aim to finalise the revision at that meeting.

## 4.2.4 Cross-border coordination handbook

Input document: [5A/284](http://www.itu.int/md/R12-WP5A-C-0284/en) (Chairman JCG 5A/5C)

WG 5A-4 took note of the two input contribution and did not see a need for further action at WG 5A-4 level, since the Joint Session of Working Parties 5A 5C had decided that this topic would be further discussed in the joint 5A/5C correspondence group until the next meeting.

## 4.2.5 WRC-15 Agenda item 1.1

Input documents: [5A/199](http://www.itu.int/md/R12-WP5A-C-0199/en) (WP 5B); [5A/203](http://www.itu.int/md/R12-WP5A-C-0203/en) and [204](http://www.itu.int/md/R12-WP5A-C-0204/en) (JTG 4-5-6-7); [5A/213](http://www.itu.int/md/R12-WP5A-C-0213/en) and [214](http://www.itu.int/md/R12-WP5A-C-0214/en) (WP 5D); 5A/217 (IMO); [5A/230](http://www.itu.int/md/R12-WP5A-C-0230/en) (WP 7C); [5A/246](http://www.itu.int/md/R12-WP5A-C-0246/en) and [261](http://www.itu.int/md/R12-WP5A-C-0261/en) (USA); [5A/266](http://www.itu.int/md/R12-WP5A-C-0266/en) (WiFi Alliance); [5A/271](http://www.itu.int/md/R12-WP5A-C-0217/en) (IEEE 802) and [291](http://www.itu.int/md/R12-WP5A-C-0291/en) (Sweden)

Output document: 5A/TEMP/105(Rev.1) (LS to JTG 4-5-6-7)

WG 5A-4 took note of the information contained in the various inputs from Working Parties 5B, 5D and 7C, as well as the IMO and did not see a need to comment on these.

Based on the the proposal in Document 5A/261 a liaison statement to JTG 4-5-6-7 was developed in a Drafting Group chaired by Charles Glass (USA) containing the spectrum requirements for terrestrial mobile broadband (excluding IMT) related to WRC-15 Agenda item 1.1.

## 4.2.6 WRC-15 Agenda Item 1.5

Input document: [5A/201](http://www.itu.int/md/R12-WP5A-C-0201/en) (WP 5B)

Output document: 5A/TEMP/140 (LS to WP 5B)

WG 5A-4 took note of the request for information from WP 5B and developed a reply liaison to inform WP 5B that WP 5A currently does not have the requsted technical characteristics available.

## 4.2.7 WRC-15 Agenda Item 1.6

Input documents: [5A/194](http://www.itu.int/md/R12-WP5A-C-0194/en) (WP 5C); [5A/227](http://www.itu.int/md/R12-WP5A-C-0227/en) (WPs of SG7); [5A/249](http://www.itu.int/md/R12-WP5A-C-0249/en) (USA); [295](http://www.itu.int/md/R12-WP5A-C-0295/en) (WP 4A)

Output documents: 5A/TEMP/121 (LS to WP 4A); 5A/TEMP/122 (PDN [Report/Rec.])

WG 5A-4 further progressed the development of the working document towards a preliminary draft new [Report/Recommendation] ITU-R M.[MS 14.5-15.35 CHAR] in a Drafting Group chaired by Brandon Mitchell (USA) and agreed to propose to the WP 5A plenary to elevate this to a PDN [Report/Recommendation] for further work at the next WP 5A meeting.

Additionally, a reply liaison statement to Working Party 4Awas developed to provide feedback on a number of questions that WP 4A had regarding the working document.

## 4.2.8 WRC-15 Agenda Item 1.8

Input document: [5A/192](http://www.itu.int/md/R12-WP5A-C-0192/en) (WP 5C)

WG 5A-4 took note of the information provided by WP 5C and did not see the need for comments at this point in time.

## 4.2.9 WRC-15 Agenda Items 1.9.1 and 1.9.2

Input document: [5A/294](http://www.itu.int/md/R12-WP5A-C-0294/en) (WP 4A)

WG 5A-4 took note of the information provided by WP 4A and did not see the need for comments at this point in time.

## 4.2.10 WRC-15 Agenda Item 1.12

Input document: [5A/228](http://www.itu.int/md/R12-WP5A-C-0228/en) (WP 7C)

Output document: 5A/TEMP/126 (LS to WP 7C)

WG 5A-4 took note of the information provided by WP 7C and developed a reply liaison back to WP 7C.

## 4.2.11 WRC-15 Agenda Item 1.13

Input document: [5A/224](http://www.itu.int/md/R12-WP5A-C-0224/en) (WP 7B)

Output document: 5A/TEMP/125 (LS to WP 7B)

WG 5A-4 took note of the information provided by WP 7B and developed a reply liaison back to WP 7C.

## 4.2.12 WRC-15 Agenda Item 1.15

Input documents: [5A/193](http://www.itu.int/md/R12-WP5A-C-0193/en) (WP 5C); [5A/195](http://www.itu.int/md/R12-WP5A-C-0195/en) (WP 5B)

WG 5A-4 took note of the information provided by Working Parties 5B and 5C and did not see the need for comments at this point in time.

## 4.2.13 WRC-15 Agenda Item 1.16

Input document: [5A/302](http://www.itu.int/md/R12-WP5A-C-0306/en) (WP 5B)

WG 5A-4 took note of the information provided by Working Party 5B and did not see the need for comments at this point in time.

## 4.2.14 WRC-15 Agenda Item 9.1.x

Input document: [5A/191](http://www.itu.int/md/R12-WP5A-C-0191/en) (WP 5C)

WG 5A-4 took note of the information provided by Working Party 5C and did not see the need for comments at this point in time.

## 4.2.15 Impact from wired telecommunication (including PLT) on radiocommunication systems

Input documents: [5A/210](http://www.itu.int/md/R12-WP5A-C-0210/en) (ITU-T SG 5); [5A/214](http://www.itu.int/md/R12-WP5A-C-0214/en) (ITU-T SG 9); [5A/240](http://www.itu.int/md/R12-WP5A-C-0240/en) and [241](http://www.itu.int/md/R12-WP5A-C-0241/en) (WP 6A)

Output documents: 5A/TEMP/135(Rev.1), 136(Rev.1) and 144(Rev.1) (Joint LS to WP 1A)

Based on the agreement at the joint WP 5A / WP 5C session at this WP 5A meeting, and in consultation with WP 5B, three liaison statements to WP 1A and ITU-T were developed to provide the views of Working Parties 5A, 5B and 5C regarding Recommendations ITU-T K.60, J.195.1, K.mhn and G.fast.

# 4.3 Revision of WP 5A texts

WG 5A-4 reviewed the WP 5A texts and did not have any revisions at this meeting.

# 4.4 Objectives for the next WP 5A meeting

**The objectives for the 12th WP 5A meeting related to the WG 5A-4 activities are:**

– Continue the revision of Report ITU-R [M.2116](http://www.itu.int/pub/R-REP-M.2116) on characteristics of broadband wireless access systems operating in the land mobile service for use in sharing studies;

– Further progress the development of the Preliminary Draft New [Report/Recommendation] ITU-R M.[MS 14.5-15.35 CHAR] on characteristics of and protection criteria for systems operating in the mobile service in the frequency range 14.5-15.35 GHz;

– Consider the new approach for base station antenna modelling for land mobile systems based on the proposal transferred from WP 5C.

# 4.5 Conclusion

The Chairman of WG 5A-4 would like to thank all the WG 5A-4 participants for their active contributions to the work of WG 5A-4 and in particular Brandon Mitchell (USA) and Charles Glass (USA) for leading the drafting groups.

# 5 Working Group 5A-5 – New technologies (Chairman: Mr Hitoshi Yoshino, Japan)

Working Group 5A-5 (WG 5A-5) met three times during the 11th meeting of ITU-R WP 5A from May 20th to 30th, 2013. Around 40 delegates from Algeria, Germany, Canada, China, Finland, Italy, Kenya, Korea, France, Japan, Lebanon, Nigeria, The Netherlands, Oman, Russian Federation, Saudi Arabia, Sweden, Switzerland, Thailand, USA, Vietnam, Intel, IUCAF, Motorola, Nokia Siemens Networks, Robert Bosch and Telecom Italia participated in the meetings. The tasks assigned to WG 5A-5 address new technologies.

Twenty five input contributions were attributed to WG 5A-5, which were:

|  |  |
| --- | --- |
| – Cognitive radio systems (CRS)(Q.241-2/5) | Documents [5A/190](http://www.itu.int/md/R12-WP5A-C-0190/en) (WP 5C), [198](http://www.itu.int/md/R12-WP5A-C-0198) [Annex 22](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0198!N22!MSW-E) (WP 5A), [206](http://www.itu.int/md/R12-WP5A-C-0206/en), [207](http://www.itu.int/md/R12-WP5A-C-0207/en) (WP 5D), [247](http://www.itu.int/md/R12-WP5A-C-0247/en), [251](http://www.itu.int/md/R12-WP5A-C-0251/en) (USA), [274](http://www.itu.int/md/R12-WP5A-C-0274/en) (J), [278](http://www.itu.int/md/R12-WP5A-C-0278/en) (CHN), [283](http://www.itu.int/md/R12-WP5A-C-0283/en) (FT Orange, Telecom Italia), [285](http://www.itu.int/md/R12-WP5A-C-0285/en) (FIN), [290](http://www.itu.int/md/R12-WP5A-C-0290/en) (NSN, VTT) |
| – Intelligent transport system (ITS)(Q. 205-5/5) | Documents 5A/[198 Annex 20](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0198!N20!MSW-E) (WP 5A), [223](http://www.itu.int/md/R12-WP5A-C-0223/en) (APT), [262](http://www.itu.int/md/R12-WP5A-C-0262/en) (USA), [276](http://www.itu.int/md/R12-WP5A-C-0276/en) (J) |
| – Agenda item 1.18 (WRC-15) | Documents 5A/[198](http://www.itu.int/md/R12-WP5A-C-0198) [Annex 8](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0198!N08!MSW-E), [Annex 9](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0198!N09!MSW-E), [Annex 21](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0198!N21!MSW-E) (WP 5A), [202](http://www.itu.int/md/R12-WP5A-C-0202/en) (WP 5C), [218](http://www.itu.int/md/R12-WP5A-C-0218/en) (WMO), [220](http://www.itu.int/md/R12-WP5A-C-0220/en) (IUCAF), [245](http://www.itu.int/md/R12-WP5A-C-0245/en) (USA), [275](http://www.itu.int/md/R12-WP5A-C-0275/en) (J), [288](http://www.itu.int/md/R12-WP5A-C-0288/en) (D), [292](http://www.itu.int/md/R12-WP5A-C-0292/en) (IARU) |

WG 5A-5 established the two Sub-working Groups (SWGs) to facilitate its work:

|  |  |
| --- | --- |
| SWG (Chairman) | Terms of Reference |
| SWG 5A-5-1 –CRS: Cognitive Radio System(Ms. Marja Matinmmikko, Finland) | Update a working document toward a preliminary draft new Report ITU-R [LMS.CRS2]Develop a draft liaison statement to External Organization on CRSMaintain the workplan for further studies on CRS |
| SWG 5A-5-2 – ITS: Intelligent Transport System(Mr. Satoshi Oyama, Japan) | Develop working document towards a preliminary draft new Recommendation ITU-R M.[V2X] and work plan on radio interface standards of vehicle-to-vehicle and vehicle-to-infrastructure communication for intelligent transport systems (ITS) applications. Develop working document towards a preliminary draft revision of Report ITU-R M.2228 on advanced ITS radiocommunications.Develop preliminary draft new Recommendation ITU-R M.[AUTO] on systems characteristics of automotive radars operating in the frequency band 76-81 GHz for ITS applications.Develop a draft liaison statement to ETSI on the work toward a preliminary draft new Recommendation ITU-R M.[V2X].Develop jointly with WP5B a draft reply liaison statements to WP 5C on fixed service information for the 71-76 GHz and 81-86 GHz bands.Maintain the work plan on WRC-15 Agenda item 1.18. |

SWG 5A-5-1 on CRS and SWG 5A-5-2 on ITS met sixteen and four times, respectively, during the 11th meeting of WP 5A.

# 5.1 Executive summary

Working Group 5A-5 continued its work on the development of the working document towards a preliminary draft new Report M.[LMS.CRS2] on cognitive radio systems. The mature part of the working document will be finalised as a draft new Report M.[LMS.CRS2] at the 2013 November meeting of WP 5A. WG5A-5 also developed a liaison statement to External organizations (EOs) on CRS to seek for their reviews and further comments and/or inputs on the working document.

WG 5A-5 worked on four documents on ITS; (1) a working document towards a preliminary draft new Recommendation ITU-R M.[V2X], (2) work plan on radio interface standards of vehicle-to-vehicle and vehicle-to-infrastructure communication for ITS applications, (3) a working document towards a preliminary draft revision of Report ITU-R M.2228 on advanced ITS radiocommunications and (4) a preliminary draft new Recommendation ITU-R M.[AUTO] on systems characteristics of automotive radars operating in the frequency band 76-81 GHz for ITS applications. A preliminary draft new Recommendation ITU-R M.[AUTO] will be finalised at the next WP 5A meeting in November 2013. WG 5A-5 developed liaison statements to ETSI on ITS and to WP 5C on WRC-15 Agenda item 1.18.

# 5.2 Cognitive radio systems (CRS) in the land mobile service

WG5A-5 considered 11 input contributions. WG 5A-5 reviewed and updated its work plan for future studies on CRS ([Attachment 2](#app2) to this annex). WG 5A-5 decided to finalize the mature contents of the working document towards a preliminary draft new Report (PDNR) M.[LMS.CRS2] on CRS (Annex 26) to be a draft new report during its November 2013 meeting. Any remaining open items will be moved into a new working document towards a preliminary draft new Report (PDNR) M.[LMS.CRS3].

WG5A-5 further developed its current working document towards a preliminary draft new Report (PDNR) M.[LMS.CRS2] based on the received input contributions. Sections up to and including Section 6 were considered to be relatively mature while Sections 7-9 are in initial stage and require more input material. Editor’s notes were added into the working document to indicate topics that need further consideration. Contributions are invited to address these items. The exact break point to complete and finalize the current working document and initiate the new working document will be decided at the next meeting. WG5A-5 discussed an input contribution (Document [5A/247](http://www.itu.int/md/R12-WP5A-C-0247/en)) and created an extract (Annex 27) from it to be carried forward to the next meeting for further elaboration as the text was not agreed in this meeting.

In addition, WG5A-5 received three liaison statements (Documents [5A/190](http://www.itu.int/md/R12-WP5A-C-0190/en), [5A/206](http://www.itu.int/md/R12-WP5A-C-0206/en) and [5A/207](http://www.itu.int/md/R12-WP5A-C-0207/en)) on the CRSs studies. WG5A-5 noted the liaison statements. WG 5A-5 carried forward document [5A/251](http://www.itu.int/md/R12-WP5A-C-0251/en) on a possible liaison statement to ITU-R WP 6A to be considered at the next meeting.
WG 5A-5 prepared a liaison statement (Document 5A/TEMP/145R1) to external organizations to review and provide comments to the working document towards a preliminary draft new Report (PDNR) M.[LMS.CRS2] relevant to the work within the External Organizations.

# 5.3 Intelligent transport system (ITS)

WG5A-5 considered 14 input contributions and developed 5 output documents; 3 for ITS and 2 for WRC-15 A.I. 1.18.

Regarding ITS, (1) Working document towards a preliminary draft new Recommendation
ITU-R M.[V2X] (Annex 25) and work plan on radio interface standards of vehicle-to-vehicle and vehicle-to-infrastructure communication for ITS applications was developed. This working document has been carried forward to the next WP 5A meeting in November 2013. The work plan is attached to this report as [Attachment 3](#app3) to this annex. WG5A-5 also developed a liaison statement to ETSI on the work toward a preliminary draft new Recommendation ITU-R M.[V2X] (Document 5A/TEMP/133).

Regarding the working document towards a preliminary draft revision of Report ITU-R M.2228 on advanced ITS radiocommunications (Document [5A/198](http://www.itu.int/md/R12-WP5A-C-0198/en) (Annex 20)), there was no contributions to this meeting. WG 5A-5, therefore, decided to carry forward this document to the next WP 5A meeting.

Regarding WRC-15 Agenda Item (A.I.) 1.18, WG 5A-5 held co-located meetings with relevant Sub-WG of WP 5B on WRC-15 A.I. 1.18 (SWG 5B1-1.18) as it did at the previous WP 5A/WP 5B meetings.

WG 5A-5 developed a preliminary draft new Recommendation ITU-R M.[AUTO] on systems characteristics of automotive radars operating in the frequency band 76-81 GHz for ITS applications, which related to WRC-15 A.I. 1.18 (Annex 24). The meeting agreed to complete the work on a preliminary draft new Recommendation ITU-R M.[AUTO] and elevate it to Draft New Recommendation during the next WP 5A meeting for the submission to SG5. The document is attached to WP 5A chairman’s report and has been carried forward to the next WP 5A meeting in November, 2013.

WG 5A-5 developed jointly with WP 5B a draft reply liaison statements to WP5C on fixed service information for the 71-76 GHz and 81-86 GHz bands (Document 5A/TEMP/129R1).

The meeting decided to maintain the draft CPM text for WRC-15 A.I. 1.18 developed by WP 5B and the work plan for WRC-15 A.I. 1.18 (Annexes 8 and 9).

# 5.4 WWRF Workshop

WG5A regularly receives an update of WWRF activities through a liaison (Document [5A/296](http://www.itu.int/md/R12-WP5A-C-0296/en)), which is always interesting to WG 5A-5 participants. On the occasion of the 11th meeting of WP 5A, a workshop of WWRF was held in Room Popov of ITU headquarter in Geneva. The purpose of the workshop was to introduce the activities of WWRF to ITU members, focusing on recent efforts to identify the requirements and potential technologies to drive a new generation of mobile communications. WWRF assembles a college of researchers and their work globally, and acts as a facilitator and stimulator to the pursuit of further research and development activities. WWRF works with other organizations such as the European Commission, the UMTS Forum, NGMN, ETSI and GISFI, to promote long-term research.

The workshop gave an overview of WWRF and the activities of its working groups. This was followed by a presentation on their vision of the ‘Wireless World 2020’, and the results of the three regional workshops that WWRF has hosted, filtered to provide a WP 5A focus, invited talks from industry and academic experts, and a discussion session on the way forward.

Six distinguished speakers from WWRF made the following interesting presentations; i) WWRF Introduction and Vision – Prof. Nigel Jefferies, ii) Machine-to-machine communications –
Dr Mischa Dohler, iii) Next Generation Radio Communication Technologies (WWRF - WGD) –
Dr Angeliki Alexiou, iv) Cognitive technologies and authorized spectrum access – Dr Marja Matinmikko, v) Next Generation Communication Architectures and Technologies (WWRF - WGC) – Prof. Panagiotis Demestichas and vi) Requirements for the Next Generation of Mobile Services and Applications – Dr Jari Porras. After the presentations, a panel discussion was held between the speakers and ITU-R participants, such as spectrum requirements for future wireless systems, enabling technologies towards the year 2020, requirements for future services and applications. The workshop was a great success.

# 5.5 Review of ITU-R texts

WG 5A-5 reviewed ITU-R texts pertinent to WG 5A-5 in Annex 1 to Document [5A/198](http://www.itu.int/md/R12-WP5A-C-0198/en) (WP 5A). The meeting agreed to retain all ITU-R texts relating to WG 5A-5.

# 5.6 Future work

At the next meeting of WP 5A, WG 5A-5 plans to further develop the working documents towards a PDN Reports ITU-R M.[LMS.CRS2] on cognitive radio systems in accordance with Question ITU-R 241-1/5 and Resolution ITU-R 58,with an aim to finalize its mature part as a Draft New Report M.[LMS.CRS2]. The open-issue part of the working document, if any, will be further developed as work to develop a working document towards a Preliminary Draft New Report M.[LMS.CRS3]. In this case, new work on the report M.[LMS.CRS3] will be initiated. WG 5A-5 also plans to review the work plan on CRS.

Working Group 5A-5 also continues the development of working document towards a preliminary draft new Recommendation ITU-R M.[V2X], and working document towards a preliminary draft revision of Report ITU-R M.2228 on advanced ITS radiocommunications.

With respect to WRC-15 Agenda item 1.18, WG 5A-5 will continue the development of the a preliminary draft new Recommendation ITU-R M.[AUTO] on systems characteristics of automotive radars operating in the frequency band 76-81 GHz for ITS applications.

Finally the WG 5A-5 Chairman would like to thank Sub-Working Group Chairmen Ms Marja Matinmikko and Mr Satoshi Oyama for their excellent chairmanship and all participants for their contribution to work of the group.

**Attachments:**

[Attachment 2](#app2) – Work plan for further studies on cognitive radios systems (CRS)

[Attachment 3](#app3) – Work plan for the development of a new recommendation ITU-R M.[V2X] on Vehicle to vehicle and vehicle to infrastructure communication.

Attachment 1 to Annex 3

**Proposed course of action toward the review of Recommendations and
Reports associated with work on WRC-15 Agenda item 1.3**

(Source: Document 5A/TEMP/153)

reviEW of recommendations and reports associated
with work on wrc-15 agenda item 1.3

As part of the work under WRC-15 Agenda item 1.3, Working Group 3 has examined the Recommendations and Reports under its purview and identified the following courses of action. It was noted that the preparatory work for WRC-15 Agenda item 1.3 may include the development of new Recommendations and/or Reports.

**Priority 1: Recommendations and Reports relevant to WRC-15 Agenda item 1.3**

**Report ITU-R** [**M.2033**](http://www.itu.int/pub/R-REP-M.2033): “Radiocommunication objectives and requirements for public protection and disaster relief” (2003)

This document “identifies objectives, applications, requirements, a methodology for spectrum calculations, spectrum requirements and solutions for interoperability”

1) Relevant to WRC-15 Agenda item 1.3.

2) Propose review and revision to further address broadband requirements.

**Priority 1bis: Recommendations and Reports already under revision**

**Recommendation** [**ITU-R M.2009**](http://www.itu.int/rec/R-REC-M.2009/en): “Radio interface standards for use by public protection and disaster relief operations in some parts of the UHF band in accordance with Resolution **646 (WRC‑03)**” (2012)

1) Relevant to WRC-15 Agenda item 1.3.

2) Already under revision.

**Recommendation** [**ITU-R M.2015**](http://www.itu.int/rec/R-REC-M.2015/en): “Frequency arrangements for public protection and disaster relief radiocommunication systems in UHF bands in accordance with Resolution **646 (Rev.WRC‑12)**” (2012)

1) Relevant to WRC-15 Agenda item 1.3.

2) Already under revision.

**Report ITU-R** [**M.2014**](http://www.itu.int/pub/R-REP-M.2014): “Digital land mobile systems for dispatch traffic” (2012)

1) Not relevant to WRC-15 Agenda item 1.3.

2) Revision complete and submitted to SG 5for consideration.

3) Completed.

**Priority 2: Recommendations and Reports for which consequential changes may be required based on results of technical studies**

**Recommendation** [**ITU-R M.1637**](http://www.itu.int/rec/R-REC-M.1637/en): “Global cross-border circulation of radiocommunication equipment in emergency and disaster relief situations” (2006)

The document is designed “to facilitate the global circulation of radiocommunications equipment to be used in emergency and disaster relief situations”.

1) References Resolution **646 (Rev.WRC-12)**; therefore relevant to WRC-15 Agenda item 1.3.

**Recommendation** [**ITU-R M.1826**:](http://www.itu.int/rec/R-REC-M.1826/en) “Harmonized frequency channel plan for broadband public protection and disaster relief operations at 4 940-4 990 MHz in Regions 2 and 3” (2007)

The document “addresses harmonized frequency channel plans in the band 4 940‑4 990 MHz for broadband public protection and disaster relief radiocommunications in Regions 2 and 3”

1) Relevant to WRC-15 Agenda item 1.3, appears to address broadband already.

2) Suggest no further revision needed under WRC-15 Agenda item 1.3; possible further review based on technical studies developed to support CPM text.

**Recommendation** [**ITU-R F.1105**](http://www.itu.int/rec/R-REC-F.1105/en): “Fixed wireless systems for disaster mitigation and relief operations” (2006)

This document “provides characteristics of fixed wireless systems used for disaster mitigation and relief operations”

1) Not relevant to WRC-15 Agenda item 1.3.

2) Possible revision to address broadband characteristics based on technical studies developed to support CPM text.

3) Under revision.

**Priority 3: Recommendations and Reports proposed for suppression**

**Recommendation** [**ITU-R M.1222**](http://www.itu.int/rec/R-REC-M.1222/en): “Transmission of data messages on shared private land mobile radio channels” (1997)

The document standardizes “the data transmission procedures for users who share an analogue radio channel in order to minimize interference to other users who also operate on the channel”.

1) Not relevant to WRC-15 Agenda item 1.3 work.

2) Proposed for suppression.

**Report ITU-R** [**M.741**](http://www.itu.int/pub/R-REP-M.741): “Multi-channel land mobile systems for dispatch traffic (with or without PSTN interconnection)” (1990)



1) Not relevant to WRC-15 Agenda item 1.3.

2) Proposed for suppression.

Handbooks

**Volume 3 of the Land Mobile Handbook** (2005)

TBD

Attachment 2 to Annex 3

Work plan for further studies on cognitive radios systems (CRS)

(Source: Doc. 5A/TEMP/147)

|  |  |
| --- | --- |
| **Title** | Work plan for further studies on CRS |
| **Document type** | Report(s) |
| **WP 5A Lead Group** | WG New Technologies  |
| **SWG Chairman** | Marja Matinmikko |
| **Editor** | TBD |
| **Focus for scope and work** | The scope of this work is to study CRS in accordance with Question ITU-R 241-2/5 and Resolution ITU-R 58. On this basis the work should address the implementation and use of CRS by considering:* operational and technical requirements at a high level;
* characteristics;
* performance;
* possible benefits;
* cognitive capabilities and CRS technologies that could enhance sharing between the mobile service and other services;
* cognitive capabilities and CRS technologies that could enhance coexistence of the systems in the mobile service, and
* factors that need to be considered for the introduction of CRS technologies in the land mobile service including migration issues.

These items should be addressed in one or more Reports. |
| **Related Documents** | Reports ITU-R [M.2225](http://www.itu.int/pub/R-REP-M.2225), ITU-R [M.2242](http://www.itu.int/pub/R-REP-M.2242), ITU-R [SM.2152](http://www.itu.int/pub/R-REP-SM.2152) |
| **Milestones** | **Meeting No. 9 (May 2012)**Review Question ITU-R 241-2/5 and Resolution ITU-R **58** and identify items to be studied.Develop a work plan for further studies on CRS.Review and revise the working document towards [LMS.CRS2].Prepare liaisons to relevant ITU-R groups and other appropriate external organisations, as necessary.**Meeting No. 10 (November 2012)**Consider the received input contributions related to the scope of work.Review and revise the working document towards [LMS.CRS2].Review and revise work plan as necessary.Prepare liaisons to relevant ITU-R Groups and other appropriate external organisations, as necessary.**Meeting No. 11  (May 2013)**Consider the received input contributions related to the scope of work.Review and revise work plan as necessary. Prepare liaisons to relevant ITU-R Groups and other appropriate external organisations, as necessary (e.g. on review of the working document towards [LMS.CRS2].).**Meeting No. 12 (November 2013)**Consider the received input contributions related to the scope of work.Review and revise work plan as necessary.Consider the responses to the liaison statement for further revision and completion of the working document towards [LMS.CRS2] and transfer open issues to a new working document towards [LMS.CRS3].Finalize the work on [LMS.CRS2].Prepare liaisons to relevant ITU-R Groups and other appropriate external organisations, as necessary.**Meeting No. 13 (May 2014)**Consider the received input contributions related to the scope of work.Review and revise work plan as necessary.Review and revise the working document towards [LMS.CRS3].Prepare liaisons to relevant ITU-R groups and other appropriate external organisations, as necessary.**Meeting No. 14 (November 2014)**Consider the received input contributions related to the scope of work.Complete the working document towards [LMS.CRS3] and finalize the work on [LMS.CRS3].Prepare liaisons to relevant ITU-R groups and other appropriate external organisations, as necessary. |

Attachment 3 to Annex 3

**Work plan for the development of a new Recommendation ITU-R M.[V2X] on Vehicle to vehicle and vehicle to infrastructure communication**

 (Source: Document 5A/TEMP/106(Rev.1))

|  |  |
| --- | --- |
| **Title** | Work plan for the development of a new Recommendation on V2X communication |
| **Document type** | Recommendation |
| **WP 5A Lead Group** | WG New Technologies  |
| **SWG Chairman** | Satoshi (Sam) Oyama |
| **Editor** | Takeshi Yamamoto |
| **Focus for scope and work** | Intelligent transport systems (ITS) are applied to services such as electric toll collection by using dedicated short-range communications (DSRC) and deployed in many countries. Regarding DSRC, Recommendation ITU-R M.1453 “DSRC at 5.8 GHz”.To extend the existing ITS applications and to achieve traffic safety and reduction of environmental burden in transportation sector, R&D and standardization works on advanced ITS radiocommunications have been conducted. Such works include not only vehicle to infrastructure but also vehicle to vehicle (V2X) communications.The scope of this work is to identify specific radio interface standards of V2X communication for ITS applications. |
| **Related Documents** | Recommendations ITU-R [M.1453](http://www.itu.int/rec/R-REC-M.1453/en), ITU-R [M.1890](http://www.itu.int/rec/R-REC-F.1890/en) |
| **Milestones** | **11th meeting (May 2013)**– Develop and adopt work plan– Carry forward the working document toward a PDN Recommendation– Liaise as needed with concerned and interested groups on development of the PDN Recommendation.**12th meeting (November 2013)**– Continue developing the PDN Recommendation– Liaise as needed with concerned and interested groups on development of the PDN Recommendation– Update work plan as needed.**13th meeting (May 2014)**– Continue developing the PDN Recommendation– Liaise as needed with concerned and interested groups on development of the PDN Recommendation– Update work plan as needed.**14th meeting (November 2014)**– Complete draft Recommendation to be finally considered at the 15th meeting in May 2015.**15th meeting (May 2015)**– Finalize Recommendation and submit to SG 5 meeting for approval. |