|  |
| --- |
| **U.S. Radiocommunications Sector****Fact Sheet** |
| **Working Party:** ITU-R WP 5B | **Document No:** USWP5B25-02 (Rev 1) |
| **Ref:** WRC-23 AI 1.8/Res 171 | **Date:** 7 October 2020 |
| **Document Title:** WORKING DOCUMENT TOWARDS DRAFT CPM REPORT Chapter 2 AGENDA ITEM 1.8 (WRC-23) - Use of fixed-satellite service (FSS) networks by control and non-payload communications of unmanned aircraft systems |
| **Author(s)/Contributors(s):**Don NellisFederal Aviation Administration800 Independence Ave., S.W.Washington, DC 20591Michael NealeACES Corporation for the FAAScott KotlerLockheed Martin Corporation | Phone: (202) 267-9779e-mail: Donald.Nellis@faa.govPhone: (858) 705-8978e-mail: michael.neale@ACES-INC.COMPhone: (703) 789-3923 Email: scott.kotler@LMCO.com |
| **Purpose/Objective:** The purpose of this contribution is to develop an initial draft of CPM Text for Agenda Item 1.8 (WRC-23). |
| **Abstract:** This contribution will propose an initial draft of CPM Text for Agenda Item 1.8 (WRC-23). The initial draft CPM Text will identify key elements that need to be included and will begin to develop some of those elements. |

|  |  |
| --- | --- |
| **Radiocommunication Study Groups** |  |
|  |  |
|  |  |
| Subject: WRC-23 agenda item 1.8 Resolution **171 (WRC-19)** | **Document 5B/XXX-E** |
| **7 October 2020** |
| **English only** |
| United States of America |
| Working Document twords draft CPM Report Chapter 2 agenda item 1.8 (WRC-23) |
|  |

CHAPTER 2

Aeronautical and maritime issues

(Agenda items 1.6, 1.7, 1.8, 1.9, 1.10, 1.11)

Agenda item 1.8

(**WP 5B[[1]](#footnote-1)\*** / **WP 4A, WP 4B**)

*1.8 to consider, on the basis of ITU R studies in accordance with Resolution* ***171 (WRC-19)****, appropriate regulatory actions, with a view to reviewing and, if necessary, revising Resolution* ***155 (Rev.WRC-19)*** *and No.* ***5.484B*** *to accommodate the use of fixed-satellite service (FSS) networks by control and non-payload communications of unmanned aircraft systems;*

Resolution **171 (WRC-19)** – *Review and possible revision of Resolution 155 (Rev.WRC-19) and No.* ***5.484B*** *in the frequency bands to which they apply*

# 2/1.8/1 Executive summary

*[Text of the executive summary, not more than half a page of text to describe briefly the purpose of the agenda item, summarize the results of the studies carried out and, most importantly, provide a brief description of the method(s) identified that may satisfy the agenda item. See also §A2.1 of Annex 2 to* [*Resolution ITU-R 2-8*](http://www.itu.int/pub/R-RES-R.2-8-2019)*]*

Report ITU-R M.2171 identified the spectrum requirements for unmanned aircraft (UA) command and non-payload communication (CNPC) that would be needed to support flight through non-segregated airspace. Those requirements identified the need for both line of sight (LOS) and beyond line of sight (BLOS) spectrum. While the LOS requirements were addressed at the World Radiocommunication Conference held in 2012 the BLOS requirements were only partially addressed at the World Radiocommunications Conference held in 2015.

Agenda item 1.8 was therefore established to continue the BLOS work and take action, if necessary, to accommodate the use of fixed-satellite service (FSS) networks by UA CNPC Links.

*[Editor’s Note: a summary of the results of the studies and a brief description of the method(s) is still needed in the Executive Summary.]*

# 2/1.8/2 Background

*[Text of the background, not more than half a page of text to provide general information in a concise manner, in order to describe the rationale of the agenda items (or issue(s)). See also §A2.2 of Annex 2 to* [*Resolution ITU-R 2-8*](http://www.itu.int/pub/R-RES-R.2-8-2019)*]*

In the context of this agenda item, an unmanned aircraft system (UAS) consist of a geostationary satellite operating under a fixed-satellite service (FSS) allocation, an unmanned aircraft (UA) with an Earth stations on-board to interconnect the communication link between this UA and associated remote Earth station, called "unmanned aircraft control station” (UACS). UA are aircraft that do not carry a human pilot but that are piloted remotely, i.e. through a reliable communication link from outside the aircraft.

There are a variety of existing and envisioned applications of UAS in the fields of economy, public safety and science. Further details on UAS applications in can be found in Report ITU-R M.2171. The operation of UA requires addressing the same issues as manned aircraft, namely safe and efficient integration into the air traffic control system.

# 2/1.8/3 Summary and analysis of the results of ITU-R studies

*[This section should contain a summary of the technical and operational studies performed within ITU-R, including a list of relevant ITU-R Recommendations. Depending on the agenda item, this section could be divided in two parts, one part dealing with the summary and the other part dealing with the analysis. The results of the ITU-R studies should also be analysed with respect to the possible methods of satisfying the agenda item, and presented in a concise manner.]*

## 2/1.8/3.1 Summary of technical and operational studies

[TBD]

## 2/1.8/3.2 Relevant ITU-R recommendations and reports

ITU-R Recommendations, relevant for studies under WRC-23 agenda item 1.8, as appropriate, are:

– ITU-R [F.758-5](http://www.itu.int/rec/R-REC-F.758/en), ITU-R [F.1494](http://www.itu.int/rec/R-REC-F.1494/en), ITU-R [F.1495](http://www.itu.int/rec/R-REC-F.1495/en), ITU-R [F.1565](http://www.itu.int/rec/R-REC-F.1565/en);

– ITU-R [M.1180](http://www.itu.int/rec/R-REC-M.1180/en), ITU-R [M.1233](http://www.itu.int/rec/R-REC-M.1233/en), ITU-R [M.1372](http://www.itu.int/rec/R-REC-M.1372/en), ITU-[R M.1643](http://www.itu.int/rec/R-REC-M.1643/en), ITU-R [M.1644](http://www.itu.int/rec/R-REC-M.1644/en), ITU‑R [M.1730](http://www.itu.int/rec/R-REC-M.1730/en), ITU-R [M.2008](http://www.itu.int/rec/R-REC-M.2008/en);

– ITU-R [SF.1650](http://www.itu.int/rec/R-REC-SF.1650/en), ITU-R [S.524-9](http://www.itu.int/rec/R-REC-S.524/en), ITU-R [SF.1006](http://www.itu.int/rec/R-REC-SF.1006/en), ITU-R [S.1432](http://www.itu.int/rec/R-REC-S.1432/en).

ITU-R Reports, relevant for the studies under WRC-23 agenda item 1.8 are:

– ITU-R [M.2171](http://www.itu.int/pub/R-REP-M.2171), [ITU-R M.2233](http://www.itu.int/pub/R-REP-M.2233).

New ITU-R Reports developed for this topic are:

– Preliminary draft new Report ITU-R [UA\_PFD]

## 2/1.8/3.3 Analysis of the results of studies

[TBD]

# 2/1.8/4 Methods to satisfy the agenda item

*[This section should contain the brief description of the Method or Methods to satisfy the agenda item as per section A2.4 of Annex 2 to* [*Resolution ITU-R 2-8*](http://www.itu.int/pub/R-RES-R.2-8-2019)*]*

# 2/1.8/5 Regulatory and procedural considerations

*[Example(s) of regulatory text relating to the Method(s) to satisfy the agenda item]*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. \* Note: See relevant text in CPM23-1 meeting report (Annex 4 to BR Administrative Circular CA/251) on how to facilitate the work related to satellite. [↑](#footnote-ref-1)