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| **40 MEETING OF PERMANENT**  **CONSULTATIVE COMMITTEE II:**  **RADIOCOMMUNICATIONS**  **October 31 to November 04, 2022**  **Port of Spain, Trinidad and Tobago** | | **OEA/Ser.L/XVII.4.2.39**  **CCP.II-RADIO /doc. /22**  **6 October 2022**  **Original: English** |
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|  | **DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE**  **AGENDA ITEM 1.8** | |
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|  | **(Item on the Agenda: 3.1)**  **(Document submitted by the United States of America)**  **Impact on the sector:**  This document supports the CITEL PCCII WRC Working Group’s preparations for WRC-23.  **Executive Summary:**  This document contains a preliminary proposal from the United States for  WRC-23 agenda item 1.8. | |

**UNITED STATES OF AMERICA**

**DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE**

**Agenda Item 1.8**

**Agenda Item 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*;

**Background**: Agenda item 1.8 was established to revise Resolution **155 (Rev.WRC-19)**. This resolution was initially adopted by WRC-15 on the use of geostationary-satellite networks in the fixed-satellite service in certain frequency bands for the control and non-payload communications (CNPC) of unmanned aircraft systems (UAS). Report ITU-R M.2171 identifies the spectrum requirements for unmanned aircraft (UA) command and non-payload communication (CNPC) that would be needed to support flight through non-segregated airspace.

Studies on technical and regulatory conditions carried out in advance of WRC-15 showed that the use of FSS networks for UA CNPC is feasible under certain conditions. These conditions include flight scenarios which were provided by ICAO and the existing FSS framework. Furthermore, ICAO studies showed that – based on given FSS characteristic envelopes – the FSS based UAS CNPC can be a working solution compliant to the Standards and Recommended Practices (SARPs) for the RPAS C2 Link[[1]](#footnote-2).

WRC-15, under its agenda item 1.5, considered the possibility to use fixed-satellite service (FSS) networks to provide UAS CNPC links and adopted Resolution **155 (WRC-15)** in order to benefit the opportunity of using existing satellite transponders. Recognizing the need for further studies on regulatory provisions and technical criteria both within ICAO and ITU, WRC-15 decided that consideration of the outcome of these studies, also taking into account the progress obtained by ICAO in the completion of its SARPs on the use of FSS for the UAS CNPC links, would again be considered by WRC‑23.

WRC-23 agenda item 1.8 was therefore established by WRC-19 to, in accordance with Resolution **171** **(WRC‑19)**, consider 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 FSS networks by control and non-payload communications of unmanned aircraft systems.

On the basis of the studies called for by Resolutions **171 (WRC-19)** and **155 (Rev.WRC-19)** that define the conditions for operating in the FSS (see *resolves* 19 of Resolution **155 (Rev.WRC-19)**) in the frequency bands for which No. **5.484B** already applies, revisions to Resolution **155 (Rev.WRC-19)** and RR No. **5.484B** are proposed to accommodate the use of FSS networks by UAS CNPC systems.

**Proposal**:

**MOD** USA/1.8/1

ARTICLE 5

Frequency allocations

Section IV – Table of Frequency Allocations  
(See No. 2.1)

10.7-11.7 GHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| … | … | |
| 10.95-11.2  FIXED  FIXED-SATELLITE (space-to-Earth) 5.484A MOD 5.484B (Earth-to-space) 5.484  MOBILE except aeronautical mobile | 10.95-11.2  FIXED  FIXED-SATELLITE (space-to-Earth) 5.484A MOD 5.484B  MOBILE except aeronautical mobile | |
| … | … | |
| 11.45-11.7  FIXED  FIXED-SATELLITE (space-to-Earth) 5.484A MOD 5.484B (Earth-to-space) 5.484  MOBILE except aeronautical mobile | 11.45-11.7  FIXED  FIXED-SATELLITE (space-to-Earth) 5.484A MOD 5.484B  MOBILE except aeronautical mobile | |

11.7-13.4 GHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 11.7-12.5  FIXED  MOBILE except aeronautical mobile  BROADCASTING  BROADCASTING-SATELLITE 5.492 | 11.7-12.1  FIXED 5.486  FIXED-SATELLITE (space-to-Earth) 5.484A MOD 5.484B 5.488  Mobile except aeronautical mobile  5.485 | 11.7-12.2  FIXED  MOBILE except aeronautical mobile  BROADCASTING  BROADCASTING-SATELLITE 5.492 | |
| 12.1-12.2  FIXED-SATELLITE  (space-to-Earth) 5.484A MOD 5.484B 5.488 |
| 5.485 5.489 | 5.487 5.487A | |
| 12.2-12.7  FIXED  MOBILE except aeronautical mobile  BROADCASTING  BROADCASTING-SATELLITE 5.492 | 12.2-12.5  FIXED  FIXED-SATELLITE (space-to-Earth) MOD 5.484B  MOBILE except aeronautical mobile  BROADCASTING | |
| 5.487 5.487A | 5.487 5.484A | |
| 12.5-12.75  FIXED-SATELLITE (space-to-Earth) 5.484A MOD 5.484B (Earth-to-space)    5.494 5.495 5.496 | 5.487A 5.488 5.490 | 12.5-12.75  FIXED  FIXED-SATELLITE (space-to-Earth) 5.484A MOD 5.484B  MOBILE except aeronautical mobile  BROADCASTING- SATELLITE 5.493 | |
| 12.7-12.75  FIXED  FIXED-SATELLITE (Earth-to-space)  MOBILE except aeronautical mobile |
| … | | |

**MOD** USA/1.8/2

14-14.5 GHz

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Allocation to services | | | | |
| Region 1 | Region 2 | | Region 3 | |
| 14-14.25 FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A MOD 5.484B 5.506  5.506B  RADIONAVIGATION 5.504  Mobile-satellite (Earth-to-space) 5.504B 5.504C 5.506A  Space research  5.504A 5.505 | | | | |
| 14.25-14.3FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A MOD 5.484B 5.506  5.506B  RADIONAVIGATION 5.504  Mobile-satellite (Earth-to-space) 5.504B 5.506A 5.508A  Space research  5.504A 5.505 5.508 | | | | |
| 14.3-14.4  FIXED  FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A MOD 5.484B 5.506 5.506B  MOBILE except aeronautical mobile  Mobile-satellite (Earth-to-space) 5.504B 5.506A 5.509A  Radionavigation-satellite  5.504A | | 14.3-14.4  FIXED-SATELLITE (Earth-to-space) 5.457A 5.484A MOD 5.484B 5.506 5.506B  Mobile-satellite (Earth-to-space) 5.506A  Radionavigation-satellite    5.504A | | 14.3-14.4  FIXED  FIXED-SATELLITE (Earth-to-space) 5.457A 5.484A MOD 5.484B 5.506 5.506B  MOBILE except aeronautical mobile  Mobile-satellite (Earth-to-space) 5.504B 5.506A 5.509A  Radionavigation-satellite  5.504A |
| 14.4-14.47 FIXED  FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A   MOD 5.484B 5.506  5.506B  MOBILE except aeronautical mobile  Mobile-satellite (Earth-to-space) 5.504B 5.506A 5.509A  Space research (space-to-Earth)  5.504A | | | | |
| … | | | | |

**MOD** USA/1.8/3

18.4-22 GHz

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Allocation to services | | | | |
| Region 1 | Region 2 | | Region 3 | |
| … | | | | |
| 19.7-20.1  FIXED-SATELLITE (space-to-Earth) 5.484A MOD 5.484B 5.516B 5.527A  Mobile-satellite (space-to-Earth) | | 19.7-20.1  FIXED-SATELLITE (space-to-Earth) 5.484A MOD 5.484B 5.516B 5.527A  MOBILE-SATELLITE (space-to-Earth) | | 19.7-20.1  FIXED-SATELLITE (space-to-Earth) 5.484A MOD 5.484B 5.516B 5.527A  Mobile-satellite (space-to-Earth) |
| 5.524 | | 5.524 5.525 5.526 5.527 5.528 5.529 | | 5.524 |
| 20.1-20.2FIXED-SATELLITE (space-to-Earth) 5.484A MOD 5.484B 5.516B 5.527A  MOBILE-SATELLITE (space-to-Earth)  5.524 5.525 5.526 5.527 5.528 | | | | |
| … | | | | |

**MOD** USA/1.8/4

24.75-29.9 GHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| **…** | | |
| 29.5-29.9  FIXED-SATELLITE (Earth-to-space) 5.484A MOD 5.484B 5.516B 5.527A 5.539  Earth exploration-satellite (Earth-to-space) 5.541  Mobile-satellite (Earth-to-space) | 29.5-29.9  FIXED-SATELLITE (Earth-to-space) 5.484A MOD 5.484B 5.516B 5.527A 5.539  MOBILE-SATELLITE (Earth-to-space)  Earth exploration-satellite (Earth-to-space) 5.541 | 29.5-29.9  FIXED-SATELLITE (Earth-to-space) 5.484A MOD 5.484B 5.516B 5.527A 5.539  Earth exploration-satellite (Earth-to-space) 5.541  Mobile-satellite (Earth-to-space) |
| 5.540 5.542 | 5.525 5.526 5.527 5.529 5.540 | 5.540 5.542 |

**MOD** USA/1.8/5

29.9-34.2 GHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 29.9-30 FIXED-SATELLITE (Earth-to-space) 5.484A MOD 5.484B 5.516B 5.527A 5.539  MOBILE-SATELLITE (Earth-to-space)  Earth exploration-satellite (Earth-to-space) 5.541 5.543  5.525 5.526 5.527 5.538 5.540 5.542 | | |
| … | | |

**MOD** USA/1.8/6

5.484B This frequency band, may also be used for the control and non-payload communication of unmanned aircraft systems in accordance with Resolution **155** **(Rev.WRC-23)**. Such use shall be limited to internationally standardized aeronautical systems.     (WRC‑23)

Reason: Modification of the footnote improves the clarity to the services and systems for which it applies. Modifications to the Table of Frequency Allocations are to reflect the modified footnote.

**MOD** USA/1.8/7

RESOLUTION 155 (REV.WRC‑23)

Regulatory provisions related to earth stations on board unmanned aircraft which operate with geostationary-satellite networks in the fixed-satellite   
service in certain frequency bands not subject to a Plan of Appendices 30,   
30A and 30B for the control and non-payload communications of   
unmanned aircraft systems in non-segregated airspaces[[2]](#footnote-4)\*

The World Radiocommunication Conference (Dubai, 2023),

considering

*a)* that the operation of unmanned aircraft systems (UAS) requires reliable control and non-payload communication (CNPC) links, in particular to relay air traffic control communications and for the remote pilot to control the flight;

*b)* that satellite networks may be used to provide CNPC links of UAS beyond the line-of-sight, as shown in Annex 1 to this Resolution;

*c)* that CNPC links between space stations and stations on board unmanned aircraft (UA) are permitted to be operated under this Resolution in the primary fixed-satellite service (FSS) in frequency bands shared with other primary services, including terrestrial services, however that would not preclude the use of other available allocations to accommodate this application,

considering further

that UAS CNPC links relate to the safe operation of UAS and have to comply with certain technical, operational and regulatory requirements,

noting

*a)* that WRC‑15 adopted Resolution **156 (WRC‑15)** on the use of earth stations in motion communicating with geostationary satellite orbit (GSO) FSS space stations in the frequency bands 19.7-20.2 GHz and 29.5-30.0 GHz;

*b)* that Report ITU‑R M.2171 provides information on characteristics of UAS and spectrum requirements to support their safe operation in non-segregated airspace,

recognizing

*a)* that the UAS CNPC links will operate in accordance with international standards and recommended practices (SARPs) and procedures established in accordance with the Convention on International Civil Aviation;

*b)* that, in this Resolution, conditions are provided for operations of CNPC links without prejudging whether the International Civil Aviation Organization (ICAO) would be able to develop SARPs to ensure safe operation of UAS under these conditions;

*c)* that Section VI of Article **22** contains limits on equivalent isotropically radiated power at off-axis angles of 3 degrees or more for earth stations of a geostationary satellite network in the fixed-satellite service in the frequency bands 14-14.47 GHz and 29.5-30 GHz;

*d)* that terrestrial services operate in the frequency bands 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.1 GHz (Region 2), 12.1-12.2 GHz (on the territory of the country listed in No. **5.489**), 12.2-12.5 GHz (Region 3), 12.5-12.75 GHz (on the territory of the countries listed in No. **5.494** and in Region 3);

*e)* that terrestrial services also operate in the frequency bands 14.0-14.3 GHz (on the territory of countries listed in No. **5.505**), 14.25-14.3 GHz (on the territory of countries listed in No. **5.508**), 14.3-14.4 GHz (Regions 1 and 3), and 14.4-14.47 GHz;

*f)* that CNPC links using earth stations onboard unmanned aircraft are not subject to the regulatory provisions that apply to earth stations in motion (ESIM),

resolves

1 that, for CNPC links using Earth stations onboard Unmanned Aircraft (“CNPC UA ES”) communicating with a GSO FSS space station within the frequency bands 10.95-11.2 GHz (space-to-Earth), 11.45-11.7 GHz (space-to-Earth), 11.7-12.2 GHz (space-to-Earth) in Region 2, 12.2-12.5 GHz (space-to-Earth) in Region 3, 12.5‑12.75 GHz (space-to-Earth) in Regions 1 and 3 and 19.7-20.2 GHz (space-to-Earth), and in the frequency bands 14‑14.47 GHz (Earth-to-space) and 29.5-30.0 GHz (Earth-to-space), or parts thereof, are an application of the primary FSS and the following conditions shall apply:

1.1 with respect to space services in the frequency bands referred to in *resolves* 1, the notifying administration of the GSO FSS network shall ensure that its CNPC UA ES complies with the following conditions:

1.1.1 with respect to satellite networks or systems of other notifying administrations, the CNPC UA ES characteristics shall remain within the envelope of characteristics of the typical earth stations associated with the satellite network with which the CNPC UA ES communicates;

1.1.2 that CNPC UA ES shall be designed and operated so as to be able to meet their required performance with interference caused by other satellite networks resulting from application of Articles **9** and **11** andthe use of CNPC UA ES shall not cause more interference and shall not claim more protection than any typical earth station in that GSO FSS network;

1.1.3 the operation of CNPC UA ES shall comply with the coordination agreements for the frequency assignments of the typical earth station of the GSO FSS networks obtained under the relevant provisions of the Radio Regulations, taking into account *resolves* 3.4;

1.1*.*4 for the implementation of *resolves*1.1.1, the notifying administration for the GSO FSS networks with which the CNPC UA ES communicate shall, in accordance with this Resolution, notify the assignments under No. **11.2** by sending to the Radiocommunication Bureau (BR) information on assignments for which the UG station class shall be applied or, alternatively, the relevant Appendix **4** notification information related to the characteristics of the CNPC UA ES intended to communicate with those GSO FSS networks, together with the commitment that the CNPC UA ES operation shall be in conformity with the Radio Regulations, including this Resolution;

1.1.5 operation of UAS CNPC links shall not adversely affect the existing and future satellite networks coordination agreements or the regular satellite coordination process;

1.2 with respect to terrestrial services in the frequency bands referred to in *resolves* 1, the notifying administration of the GSO FSS network shall ensure that its CNPC UA ES complies with the following conditions:

1.2.1 receiving CNPC UA ES in the frequency bands referred to in *recognizing d)* shall be designed and operated so as to be able to accept the interference without complaints under Article **15** from stations of terrestrial services to which the frequency band is allocated when those stations of terrestrial services operate in accordance with the Radio Regulations;

1.2.2 transmitting CNPC UA ES in the frequency bands referred to in *recognizing e)* shall be designed and operated so as to not cause harmful interference to stations of terrestrial services to which the frequency band is allocated when those terrestrial stations operate in accordance with the Radio Regulations, and Annex 2 (see *instructs the Director of the Radiocommunication Bureau* 1) to this Resolution shall apply so as to set the conditions for protecting terrestrial services from harmful interference in neighbouring countries in these frequency bands;

1.2.3 higher pfd levels than those provided in Annex 2 produced by CNPC UA ES on the surface of the Earth within any administration shall be subject to the prior agreement of that administration and such agreement shall not affect other countries that are not party to that agreement;

1.3 that, in order to protect the radio astronomy service in the frequency band 14.47‑14.5 GHz, the notifying administration of the GSO FSS network operating CNPC UA ES in accordance with this Resolution in the frequency band 14-14.47 GHz within line-of-sight of radio astronomy stations are urged to take all practicable steps to ensure that the emissions from CNPC UA ES in the frequency band 14.47-14.5 GHz do not exceed the level and percentage of data loss given in the most recent versions of Recommendations ITU-R RA.769 and ITU-R RA.1513;

2 that CNPC UA ES:

2.1 using station class UG are permitted to communicate with a space station of a GSO FSS satellite network operating in the frequency bands listed in *resolves* 1 and limited to the frequency bands listed in *resolves* 1 when communicating with a space station of a GSO FSS satellite network under this Resolution;

2.2 assignments of an FSS satellite network shall not constrain other FSS satellite networks beyond those already imposed by typical earth stations associated with the network during the application of the provisions of Articles **9** and **11** norresult in additional coordination constraints on terrestrial services under Articles**9** and **11**;

2.3 in the application of this Resolution does not provide a regulatory status different from that derived from the GSO FSS networks with which they communicate, taking into account the provisions referred to in this Resolution (see *resolves* 3.4);

3 that, in order to ensure freedom from harmful interference, that may affect operation of UAS, the notifying administration of the GSO FSS network shall cooperate with the administration of the country in which the UA is registered to:

3.1 ensure that the use of CNPC UA ES is in accordance with international standards and recommended practices (SARPs) consistent with Article 37 of the Convention on International Civil Aviation;

3.2 take the required measures, consistent with No. **4.10**,to ensure freedom from harmful interference to CNPC UA ES and operated in accordance with this Resolution;

3.3 act immediately when their attention is drawn to any such harmful interference, as freedom from harmful interference to CNPC UA ES is imperative to ensure their safe operation, taking into account *resolves* 1.2.1;

3.4 use assignments associated with the GSO FSS networks for CNPC UA ES (see Figure 1 in Annex 1), including frequency assignments to space stations, specific or typical earth stations and CNPC UA ES (see *resolves* 2.2), that have been successfully coordinated under Article **9** (including provisions identified in *resolves* 1.1.4) and recorded in the Master International Frequency Register (MIFR) with a favourable finding under Article **11**,including Nos. **11.31, 11.32** or **11.32A** where applicable, and except those frequency assignments that have not successfully completed coordination procedures under No. **11.32** by applying Appendix **5** § 6.d.i (see *instructs the Director of the Radiocommunication Bureau* 2);

3.5 use techniques to maintain antenna pointing accuracy for the operation of CNPC UA ES with the associated GSO FSS satellites, without inadvertently tracking adjacent GSO satellites;

3.6 take all necessary measures so that CNPC UA ES are subject to permanent monitoring and control by a network control and monitoring centre (NCMC) or equivalent facility in order to comply with the provisions in this Resolution;

3.7 provide NCMC or equivalent facility permanent points of contact for the purpose of tracing any suspected cases of harmful interference from CNPC UA ES and to immediately respond to requests from the points of contact of authorizing administrations;

4 that the notifying administration of the GSO FSS network shall ensure

4.1 that the operation of CNPC UA ES within the territories, including territorial waters and territorial airspaces, of an administration shall be carried out only if authorized by that administration;

4.2 that the authorization to a UAS CNPC earth station to operate in the territory under the jurisdiction of another administration shall not release the notifying administration of the GSO FSS network with which UAS CNPC earth station communicates from the obligation to comply with the provisions included in this Resolution and those contained in the Radio Regulations,

instructs the Director of the Radiocommunication Bureau

1 upon receipt of the notification information referred to in *resolves*1.1.4, the BR shall examine it with respect to conformity with *resolves*1.1.1, the commitment received as required by *resolves* 1.1.4, conformity with *resolves* 3.4, and commitment to the conformity with the power flux-density (pfd) limits on the Earth’s surface specified in Annex 2 and with any agreements obtained as referred to in *resolves* 1.2.3;

2 if the finding from the examination in *instructs* 1 is favourable, the BR shall publish the modified or additional assignment along with the results of such examinations in the International Frequency Information Circular (BR IFIC) and the modified or additional assignment shall retain the priority date of protection with that of the existing assignment,

instructs the Secretary-General

to bring this Resolution to the attention of the Secretary General of ICAO

Annex 1 to Resolution 155 (rev.WRC‑19)

UAS CNPC links

Figure 1

Elements of UAS architecture using the FSS

Diagram

Description automatically generated

Annex 2 to Resolution 155 (rev.WRC‑23)

Protection of terrestrial services from CNPC UA ES emissions

An earth station on board UA in the frequency band 14.0-14.3 GHz shall comply with the pfd limits described below, on the territory of countries listed in No.**5.505**:

     for 0° ≤ θ ≤ 90°

where θ is the angle of arrival of the radio-frequency wave (degrees above the horizontal).

An earth station on board UA:

– in the frequency band 14.25-14.3 GHz on the territory of countries listed in No. **5.508**;

– in the frequency band 14.3-14.4 GHz in Regions 1 and 3;

– in the frequency band 14.4-14.47 GHz worldwide,

shall comply with the pfd limits described below:

     for 0° ≤ θ ≤ 90°

where θ is the angle of arrival of the radio-frequency wave (degrees above the horizontal).

NOTE – The aforementioned limits relate to the pfd and angles of arrival that would be obtained under free‑space propagation conditions.

Reason: Modifications to Resolution **155 (Rev.WRC-19)** removes provisions that are no longer required, improves clarity on actionable responsibilities, and eliminates duplications.

**MOD** USA/1.8/8

APPENDIX 4 (REV.WRC‑19)

Consolidated list and tables of characteristics for use in the  
application of the procedures of Chapter III

ANNEX 2

Characteristics of satellite networks, earth stations  
or radio astronomy stations[[3]](#footnote-7)2    (Rev.WRC‑12)

**Table of characteristics to be submitted for space and radio astronomy services**(Rev.WRC ‑12)

**TABLE A**

**GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK OR SYSTEM,  
EARTH STATION OR RADIO ASTRONOMY STATION**     (Rev.WRC‑19)

| **Items in Appendix** | ***A \_ GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK,  EARTH STATION OR RADIO ASTRONOMY STATION*** | ***Advance publication of a geostationary- satellite network*** | ***Advance publication of a non-geostationary-satellite network subject to coordination under Section II  of Article 9*** | ***Advance publication of a non-geostationary-satellite network not subject to coordination under Section II  of Article 9*** | ***Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)*** | ***Notification or coordination of a non-geostationary-satellite network*** | ***Notification or coordination of an earth station (including notification under  Appendices 30A or 30B)*** | ***Notice for a satellite network in the broadcasting-satellite service under  Appendix 30 (Articles 4 and 5)*** | ***Notice for a satellite network  (feeder-link) under Appendix 30A  (Articles 4 and 5)*** | ***Notice for a satellite network in the fixed- satellite service under Appendix 30B  (Articles 6 and 8)*** | ***Items in Appendix*** | ***Radio astronomy*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| \* \* \* | **\* \* \*** |  |  |  |  |  |  |  |  |  | \* \* \* |  |
| **A.25** | **COMPLIANCE WITH NOTIFICATION OF GSO FSS NETWORKS USING CNPC UA ES (CONTROL AND NON-PAYLOAD COMMUNICATIONS USING EARTH STATIONS ONBOARD UNMANNED AIRCRAFT COMMUNICATING WITH A GSO FSS SATELLITE NETWORK)** |  |  |  |  |  |  |  |  |  |  |  |
| A.25.a | information on satellite network assignments for which the UG station class shall be applied  Required only for (1) the bands listed in r*esolves* 1 of Resolution **155** **(Rev.WRC-23)**, when a CNPC UA earth station in the fixed-satellite service communicates with a space station in the fixed-satellite service and (2) when not submitting Appendix 4 notification information in accordance with *resolves* 1.1.4 of Resolution **155 (Rev.WRC-23)** |  |  |  | **+** |  |  |  |  |  | A.25.a |  |
| A.25.b | a commitment that the that the CNPC UA ES operation shall be in conformity with the required commitment in *resolves* 1.1.4 of Resolution **155 (Rev.WRC-23)**  Required only for the bands listed in r*esolves* 1 of Resolution **155** **(Rev.WRC-23)**, when a CNPC UA earth station in the fixed-satellite service communicates with a space station in the fixed-satellite service |  |  |  | **+** |  |  |  |  |  | A.25.b |  |
| A.26.c | information on Network Control and Monitoring Centre NCMC or equivalent facility permanent points of contact consistent with *resolves* 3.7 of Resolution **155 (Rev.WRC-23)**  Required only for the bands listed in r*esolves* 1 of Resolution **155** **(Rev.WRC-23)**, when a CNPC UA earth station in the fixed-satellite service communicates with a space station in the fixed-satellite service |  |  |  | **+** |  |  |  |  |  | A.26.c |  |
| A.26.d | a commitment that unless an agreement is received pursuant to *resolves* 1.2.3 of Resolution **155 (Rev.WRC-23)** that the notifying administration shall meet the PFD limits in Annex 2 of Resolution **155 (Rev.WRC-23)**  Required only for the bands and territories listed in  *recognizing* *e*)of Resolution **155 (Rev.WRC-23)** when a CNPC UA earth station in the fixed-satellite service communicates with a space station in the fixed-satellite service |  |  |  | **+** |  |  |  |  |  | A.26.d |  |

**SUP** USA/1.8/9

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

Reason: Consequential action.

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

1. In ICAO, an “unmanned aircraft system” (UAS) is referred to as a “*Remotely piloted aircraft system*” (RPAS), the CNPC link is referred to as *C2 Link* (Command and Control). [↑](#footnote-ref-2)
2. \* May also be used consistent with international standards and practices approved by the responsible civil aviation authority. [↑](#footnote-ref-4)
3. [↑](#footnote-ref-7)