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| A close up of a sign  Description automatically generated | **World Radiocommunication Conference (WRC-23)Dubai, 20 November - 15 December 2023** |  |
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| PLENARY MEETING | **Document 137-E** |
|  | **29 October 2023** |
|  | **Original: English** |
|  |
| Canada/Ecuador/United States of America |
| PROPOSALS FOR THE WORK OF THE CONFERENCE |
|  |
| Agenda item 1.8 |

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 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 (FSS) 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 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-1).

WRC-15, under its agenda item 1.5, considered the possibility to use 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** of the Radio Regulations (RR) 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 RR 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.

Proposals

ARTICLE 5

Frequency allocations

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

MOD CAN/EQA/USA/137/1

10.7-11.7 GHz

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

MOD CAN/EQA/USA/137/2

11.7-13.4 GHz

|  |
| --- |
| Allocation to services |
| Region 1 | Region 2 | Region 3 |
| 11.7-12.5FIXEDMOBILE except aeronautical mobileBROADCASTINGBROADCASTING-SATELLITE5.492 | 11.7-12.1FIXED 5.486FIXED-SATELLITE(space-to-Earth) 5.484A MOD 5.484B 5.488 Mobile except aeronautical mobile5.485 | 11.7-12.2FIXEDMOBILE except aeronautical mobileBROADCASTINGBROADCASTING-SATELLITE5.492 |
| 12.1-12.2FIXED-SATELLITE (space-to-Earth) 5.484A MOD 5.484B 5.488  |
| 5.485 5.489 | 5.487 5.487A |
| 12.2-12.7FIXEDMOBILE except aeronauticalmobileBROADCASTINGBROADCASTING-SATELLITE5.492 | 12.2-12.5FIXEDFIXED-SATELLITE(space-to-Earth) MOD 5.484BMOBILE except aeronauticalmobileBROADCASTING |
| 5.487 5.487A | 5.487 5.484A |
| 12.5-12.75FIXED-SATELLITE(space-to-Earth) 5.484A MOD 5.484B (Earth-to-space)5.494 5.495 5.496 | 5.487A 5.488 5.490  | 12.5-12.75FIXEDFIXED-SATELLITE(space-to-Earth) 5.484A MOD 5.484BMOBILE except aeronauticalmobileBROADCASTING-SATELLITE 5.493 |
| 12.7-12.75FIXEDFIXED-SATELLITE(Earth-to-space) MOBILE except aeronauticalmobile |

MOD CAN/EQA/USA/137/3

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 |
| 14.3-14.4FIXEDFIXED-SATELLITE(Earth-to-space) 5.457A5.457B 5.484A MOD 5.484B 5.506 5.506B MOBILE except aeronauticalmobileMobile-satellite (Earth-to-space) 5.504B 5.506A 5.509ARadionavigation-satellite5.504A | 14.3-14.4FIXED-SATELLITE(Earth-to-space) 5.457A5.484A MOD 5.484B 5.506 5.506B Mobile-satellite (Earth-to-space) 5.506ARadionavigation-satellite5.504A | 14.3-14.4FIXEDFIXED-SATELLITE(Earth-to-space) 5.457A5.484A MOD 5.484B 5.506 5.506B MOBILE except aeronauticalmobileMobile-satellite (Earth-to-space) 5.504B 5.506A 5.509ARadionavigation-satellite5.504A |
| 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 CAN/EQA/USA/137/4

18.4-22 GHz

|  |
| --- |
| Allocation to services |
| Region 1 | Region 2 | Region 3 |
| 19.7-20.1FIXED-SATELLITE(space-to-Earth) 5.484A MOD 5.484B 5.516B 5.527AMobile-satellite (space-to-Earth) | 19.7-20.1FIXED-SATELLITE(space-to-Earth) 5.484A MOD 5.484B 5.516B 5.527AMOBILE-SATELLITE(space-to-Earth) | 19.7-20.1FIXED-SATELLITE(space-to-Earth) 5.484A MOD 5.484B 5.516B 5.527AMobile-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 CAN/EQA/USA/137/5

24.75-29.9 GHz

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

MOD CAN/EQA/USA/137/6

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 CAN/EQA/USA/137/7#1616

5.484BEarth stations on board unmanned aircraft for control and non-payload communications operating with geostationary fixed-satellite service (FSS) space stations 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) are an application of the FSS, are limited to internationally standardized aeronautical systems, and Resolution **155 (Rev.WRC‑23)** shall apply.     (WRC‑23)

**Reasons:** 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 CAN/EQA/USA/137/8#1630

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-3)\*

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, as shown in Annex 1 of this Resolution, in particular to relay air traffic control communications and for the remote pilot to control the flight;

*b)* that the use of fixed-satellite service (FSS) for CNPC links would not preclude the use of other available service allocations to accommodate CNPC links,

considering further

*a)* that geostationary-satellite orbit (GSO) FSS networks with which UAS CNPC earth stations (ES) communicate may provide service within more than one country;

*b)* that for the operation of UAS CNPC ES, notification of any frequency assignment under Article **11** of the Radio Regulations can only be made by one single notifying administration;

*c)* that, an administration authorizing the operation of UAS CNPC ES within the territory under its jurisdiction may modify or withdraw that authorization at any time,

noting

*a)* that WRC‑15 adopted Resolution **156 (WRC‑15)** on the use of earth stations in motion communicating with GSO FSS space stations in the frequency bands 19.7-20.2 GHz and 29.5-30.0 GHz does not apply for UAS CNPC links;

*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;

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

recognizing

*a)* that 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) are allocated to the FSS on a primary basis;

*b)* that 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) are also allocated to the fixed and/or mobile except aeronautical mobile on a primary basis;

*c)* that 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 are also allocated to the fixed and/or mobile except aeronautical mobile on a primary basis,

recognizing further

*a)* that the UAS CNPC links support safe operation of UAS;

*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 ensure safe operation of UAS under these conditions;

*c)* that the provisions within the Standards and Recommended Practices (SARPs) contained in the International Convention on Civil Aviation for unmanned aircraft systems addresses the safe operation of UAS;

*d)* that administrations operating terrestrial stations cannot provide an accurate prediction of the interference that might be present in the airspace being used by Unmanned Aircraft (UA) everywhere, anytime UA could fly;

*e)* that the environment in which GSO FSS is operated within the frequency bands identified by this resolution cannot support the implementation of No. **4.10**;

*f)* 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,

resolves

1 that frequency assignments to stations of GSO FSS networks operating in 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), are permitted to be used for UAS CNPC links to communicate with earth stations on board UA operating in non-segregated airspace, under the following conditions;

2 that UAS CNPC operating in the frequency bands specified in *resolves* 1 are an application of the primary frequency allocations to the FSS and Resolution **156** **(WRC-15)** shall not apply;

3 that frequency assignments to UAS CNPC ES subject to this Resolution shall be notified under No. **11.2** by the notifying administration of the FSS satellite network with which these earth stations communicate;

4 that the notifying administration for the GSO FSS network with which the UAS CNPC ES communicates shall send to the Radiocommunication Bureau (BR) the relevant Appendix **4** notification information related to the characteristics of the UAS CNPC ES identified as class of station “UG”;

5 that the operation of a UAS CNPC ES within the territory under the jurisdiction of an administration shall be subject to obtaining by the notifying administration of the GSO FSS network, an explicit authorization from that administration;

6 that, with respect to other satellite networks in the frequency bands referred to in *resolves* 1, the notifying administration of the GSO FSS network with which the UAS CNPC ES communicates shall ensure that its UAS CNPC ES comply with the following conditions:

6.1 the UAS CNPC ES characteristics shall remain within the envelope of characteristics of the typical earth stations of the associated FSS satellite network as notified and published by the Radiocommunication Bureau (BR);

6.2 the operation of UAS CNPC ES shall not cause more interference to and shall not claim more protection than that of the typical earth stations of that GSO FSS network in the same area;

6.3 the use of assignments of an FSS satellite network by UAS CNPC links shall not constrain other satellite networks beyond what is already imposed by the typical earth stations of the associated FSS satellite network during the application of the provisions of Articles **9** and **11**;

6.4 the operation of the UAS CNPC ES shall comply with the coordination agreements for the frequency assignments of the typical earth station of the associated GSO FSS network obtained under the relevant provisions of the Radio Regulations;

6.5 the operation of UAS CNPC links shall not have any impact on the relevant existing agreements reached during the FSS satellite coordination process or on the future coordination of FSS networks during the application of the provisions of the Radio Regulations;

7 that, with respect to terrestrial services in the frequency bands referred to in *resolves*1, the notifying administration of the GSO FSS network with which the UAS CNPC ES communicates shall ensure that its UAS CNPC ES comply with the following conditions:

7.1 the use of UAS CNPC links shall not result in additional coordination constraints on terrestrial services under Articles **9** and **11**;

7.2 unless otherwise agreed between the administrations concerned, UAS CNPC ES shall reduce interference to terrestrial services of other administrations by meeting the power flux-density (pfd) masks contained in Annex 2 to this Resolution;

7.3 UAS CNPC ES receiving in the frequency bands referred to in *recognizing b)* shall not claim protection from transmitting stations of terrestrial services operating in conformity with the Radio Regulations, No. **5.43A** does not apply and there is therefore no change of the regulatory status of UAS CNPC ES with respect to stations of the terrestrial service;

8 that the use of frequency bands specified in *resolves*1 by the UAS CNPC links shall be in accordance with the Convention on International Civil Aviation and its annexes that include SARPs;

9 use frequency assignments associated with the GSO FSS networks for UAS CNPC links (see Figure 1 in Annex 1), including frequency assignments to space stations, specific or typical earth stations and earth stations on board UA, that have applied the coordination procedure under Article **9** and notification procedure under Article **11**;

10 that earth stations on board UA shall be designed and operated so as to be able to accept the interference caused by terrestrial services operating in conformity with the Radio Regulationsin the frequency bands listed in *resolves*1without complaints under Article **15**;

11 that earth stations on board UA shall be designed and operated so as to be able to operate with interference caused by other satellite networks resulting from application of Articles **9** and **11**;

12 that No.**4.10** does not apply to the use of networks of the FSS for the UAS CNPC links operated in the frequency bands listed in *resolves* 1;

13 that administrations responsible for operating UAS CNPC links shall:

13.1 act immediately when their attention is drawn to any such harmful interference, as freedom from harmful interference to UAS CNPC links is imperative to ensure their safe operation;

13.2 ensure that real-time interference monitoring, estimation and prediction of interference risks and planning solutions for potential interference scenarios are addressed by the FSS operators and the UAS operators with guidance from aviation authorities;

13.3 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;

13.4 take all necessary measures so that UAS CNPC 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;

13.5 provide NCMC or equivalent facility permanent points of contact for the purpose of tracing any suspected cases of harmful interference from UAS CNPC ES;

14 that, in order to protect the radio astronomy service in the frequency band 14.47‑14.5 GHz, administrations authorizing the operation of UAS CNPC 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 the UA in the frequency band 14.47-14.5 GHz do not exceed the levels and percentage of data loss given in the most recent versions of Recommendations ITU‑R RA.769 and ITU‑R RA.1513,

instructs the Director of the Radiocommunication Bureau

1 upon receipt of the notification information referred to in *resolves*3, the BR shall examine it with respect to conformity with *resolves*6.1, conformity with *resolves* 9, 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* 7.2;

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‑23)

**UAS CNPC links**

Figure 1

**Elements of UAS architecture using the FSS**



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

**Protection of the terrestrial services from UAS CNPC 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.

**Reasons:** Modifications to Resolution **155 (Rev.WRC-19)** remove provisions that are no longer required, improve clarity on actionable responsibilities and eliminate duplications. Makes clear that RR No. **4.10** does not apply, makes clear that UAS CNPC links do not have any higher status than other FSS links, and shall not impact the coordination process or agreements.

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)

Footnotes to Tables A, B, C and D

MOD CAN/EQA/USA/137/9#1629

**TABLE A**

GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK OR SYSTEM,
EARTH STATION OR RADIO ASTRONOMY STATION     (Rev.WRC‑23)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Items in Appendix** | ***A \_ GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK OR SYSTEM, EARTH STATION OR RADIO ASTRONOMY STATION*** | **Advance publication of a geostationary-satellite network** | **Advance publication of a non-geostationary-satellite network or system subject to coordination under Section II of Article 9** | **Advance publication of a non-geostationary-satellite network or system 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 or system** | **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 EARTH STATIONS USING CNPC LINKS** |  | **A.25** |  |
| A.25.a | information on satellite network assignments for which the UG station class shall be applied Required only for the bands listed in r*esolves*1 of Resolution **155** **(Rev.WRC‑23)**, when a UAS CNPC earth station in the fixed-satellite service communicates with a space station in the fixed-satellite service |  |  |  | **+** |  |  |  |  |  | A.25.a |  |
| A.25.b | a commitment that unless an agreement is received pursuant to *resolves* 7.2 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 b)*of Resolution **155 (Rev.WRC‑23)** when an earth station in the fixed-satellite service using CNPC links communicates with a space station in the fixed-satellite service |  |  |  | **+** |  |  |  |  |  | A.25.b |  |
| A.25.c | information on network control and monitoring centre (NCMC) or equivalent facility permanent points of contact consistent with *resolves* 13.5 of Resolution **155 (Rev.WRC‑23)**Required only for the bands listed in r*esolves* 1 of Resolution **155** **(Rev.WRC‑23)**, when a UAS CNPC earth station in the fixed-satellite service communicates with a space station in the fixed-satellite service |  |  |  | **+** |  |  |  |  |  | A.25.c |  |

SUP CAN/EQA/USA/137/10#1614

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

**Reasons:** 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-1)
2. \* May also be used consistent with international standards and practices approved by the responsible civil aviation authority. [↑](#footnote-ref-3)
3. 2 The Radiocommunication Bureau shall develop and keep up-to-date forms of notice to meet fully the statutory provisions of this Appendix and related decisions of future conferences. Additional information on the items listed in this Annex together with an explanation of the symbols is to be found in the Preface to the BR IFIC (Space Services).    (WRC‑12) [↑](#footnote-ref-7)