**Minutes of the Seventh Meeting of the FCC**

**World Radiocommunication Conference Advisory Committee 2023 (WAC-23)**

Date/Time: April 11, 2023, at 11:00 a.m. Eastern Daylight Time

Location: Commission Meeting Room, 45 L St. NE, Washington DC

Meeting Documents Distributed: See Attachment 1

Committee Members Attending: See Attachment 2

FCC Officials and Observers Attending: See Attachment 3

Member Statements: See Attachment 4

**WAC-23 Seventh Meeting Summary:**

**1. Opening Remarks**

The World Radiocommunication Conference Advisory Committee (WAC) Chair, Ms. Patricia Paoletta (Meta) opened the meeting at 11:00 a.m. EDT. Ms. Paoletta briefly described the US preparations during the current WAC cycle generating more than half of all WAC recommendations to be considered at this final meeting. Chairwoman Rosenworcel (FCC Chairwoman) delivered remarks on the transition of the US preparations to delegation mode following this final WAC and notified the meeting that Anna Gomez, formerly FCC, will serve as the delegation head to CITEL. She highlighted the work the WAC has continuously produced for US to CITEL with items such as Cislunar and ESIMs. She mentioned the creation of the Space Bureau and the Office of International Affairs. She thanked the WAC for their work. Bryan Tramont, WAC Vice-Chair, delivered his remarks remotely.

**2. Approval of the Agenda**

Ms. Paoletta asked for a motion to approve the meeting agenda, document **WAC-23/068.** Motioned for approval, and seconded.

1. **Approval of Minutes of the Sixth Meeting**

Ms. Paoletta presented the draft Minutes of the Sixth WAC Meeting, document **WAC-23/069**.Motioned for approval and seconded.

1. **Update on WRC-23 Preparations**

Ms. Paoletta invited representatives from the FCC and NTIA to provide an update on their respective agencies’ WRC-23 preparations.

* 1. **FCC Update**

Mr. Dante Ibarra, FCC WAC Designated Federal Official, provided remarks on the recently completed CPM meeting which may impact some WAC documents and procedures with regards to the upcoming CITEL meeting. He noted that further work on this matter will be run through the US Delegation headed by Anna Gomez.

* 1. **NTIA Update**

Dr. Brian Patten provided an update on NTIA’s work as conveyed to the FCC. Dr. Patten noted that Radio Conference Subcommittee (RCS) will continue to discuss particular agenda items, but will provide inputs to the delegation, as the WAC will finish at the close of the meeting.

1. **NTIA Draft Proposals**

Ms. Paoletta invited Dr. Patten to introduce the NTIA letters in WAC-23 documents 107, 108, 109, and 110. Dr. Patten briefed the WAC on the contents of said letters.

• Letter, 9 January 2023, WRC-23 proposals for Agenda Item 1.17 addressing study of technical and operations issues, and regulatory provisions for satellite-to-satellite links in the bands 11.7-12.7 GHz, 18.1-18.6 GHz, 18.8-20.2 GHz, and 27.5-30.0 GHz. The RCS also approved draft proposals for WRC-23 Agenda Item 7B addressing Non-GSO bringing-into-use post-milestone procedures, 7D2 addressing new Radio Regulations (RR) Appendix 4 parameters for Recommendation ITU-R S.1503 updates, and 7J addressing modifications to Resolution 76 (Rev.WRC-15). **WAC-23/107**.

• Letter, 28 February 2023, WRC-23 proposals for Agenda Item 1.11 addressing consideration of possible regulatory action to support modernization of GMDSS and the implementation of e-navigation and 7C addressing protection of geostationary-satellite networks in the mobile-satellite service operating in the 7/8 GHz and 20/30 GHz bands from emissions of non-geostationary-satellite systems operating in the same frequency bands and identical directions. **WAC-23/108**.

• Letter, 15 March 2023, WRC-23 proposals for Agenda Item 4 for suppression of Res 75, 160, and 161, Agenda Item 8 to align its country footnote No. 5.394 in the RR with the actual usage of the aeronautical mobile service for telemetry in the United States, and Agenda Item 10 to confirm Preliminary Agenda Item 2.8 and to make necessary adjustments to the resolution as well as a separate new Agenda Item to address cislunar communications. **WAC-23/109**

• Letter, 21 March 2023, WRC-23 proposals for Agenda Items 1.13 addressing examination of a possible upgrade to primary status to Space Research Service (SRS) in the frequency range 14.8-15.35 GHz, 7A addressing tolerances for certain orbital characteristics of non-GSO space stations of the FSS, BSS or MSS, and 10 addressing changes to Appendix 26 for wideband HF communications. **WAC-23/110**.

1. **IWG Status Reports and Consideration of Draft Recommendations**

IWG-1: Maritime, Aeronautical and Radar Services Report:

Ms. Paoletta invited IWG-1 Chair, Mr. Damon Ladson (Iridium), to present a status report. IWG-1 met seventeen times produced documents for WAC consideration .

* Views on agenda item 1.11 issues A and B; **WAC-23/074 (04.11.2023),** motioned and approved
* Views on agenda items 2.1 and 2.10 of Preliminary WRC-27 agenda; **WAC-23/075 (04.11.2023 ),** motioned and approved
* Draft proposal on agenda item 1.7; **WAC-23/071 (04.11.2023),** motioned and approved
* Draft proposal on agenda item 1.9; **WAC-23/072 (04.11.2023),** motioned and approved
* Draft proposal on agenda item 8; **WAC-23/073 (04.11.2023),** motioned and approved

IWG-2: Terrestrial Services Report:

Mr. Paoletta invited the IWG-2 Chair, Ms. Jayne Stancavage, to present a status report. Ms. Stancavage stated that IWG-2 met five times plus additional offline meetings since the last WAC meeting. Ms. Stancavage proceeded to introduce the following draft documents some of which contain multiple views.

* Views A and B on agenda item 1.1; **WAC-23/076 (04.11.2023),** motioned and approved
* Views A and B on agenda item 1.2; **WAC-23/077 (04.11.2023),** motioned and approved
* Views A, B and C on agenda item 10 IMT; **WAC-23/078 (04.11.2023),** motioned and approved
* Views A and B on agenda item 10 WRC-27 2.9; **WAC-23/079 (04.11.2023),** motioned and approved
* Feedback on Preliminary WRC-27 agenda; **WAC-23/080 (04.11.2023),** motioned and approved
* Draft proposal on agenda item 9.1 issue b **WAC-23/111 (04.11.2023),** motioned and approved
* Draft proposal on agenda item 1.3 **WAC-23/112 (04.11.2023),** motioned and approved

IWG-3: Space Services Report:

Ms. Paoletta asked the IWG-3 Chair, Ms. Giselle Creeser, to present a status report. Ms. Creeser stated that IWG-3 met six times and held many offlines. Ms. Creeser then introduced the documents.

* Draft proposal on agenda item 1.12; **WAC-23/081 (04.11.2023),** motioned and approved
* Views A and B on agenda item 1.13; **WAC-23/082 (04.11.2023),** motioned and approved
* Draft proposal on agenda item 1.14; **WAC-23/083 (04.11.2023),** motioned and approved
* Views A and B on agenda item 1.15; **WAC-23/084 (04.11.2023),** motioned and approved
* Draft proposal on agenda item 1.16; **WAC-23/085 (04.11.2023),** motioned and approved
* Views A and B on agenda item 1.17; **WAC-23/086 (04.11.2023),** motioned and approved
* Draft proposal on agenda item 9.1A; **WAC-23/087 (04.11.2023),** motioned and approved
* Views A and B on Future Agenda Item 10 2.2 Q/V ESIM; **WAC-23/088 (04.11.2023),** motioned and approved
* Future Agenda Item 10 2.3 and 2.7; **WAC-23/089 (04.11.2023),** motioned and approved
* Future Agenda Item 10 2.4 and 2.5; **WAC-23/090 (04.11.2023),** motioned and approved
* Future Agenda Item 10 2.6; **WAC-23/091 (04.11.2023),** motioned and approved
* Future Agenda Item 10 2.8; **WAC-23/092 (04.11.2023),** motioned and approved
* Views on NTIA proposal; **WAC-23/093 (04.11.2023),** motioned and approved
* Future Agenda Item 10 C band; **WAC-23/094 (04.11.2023),** motioned and approved
* Future Agenda Item 10 MSS; **WAC-23/095 (04.11.2023),** motioned and approved. Additional comments invited for the Public Notice Period by DFO.
* Views A and B on Future Agenda Item 10 EPFD; **WAC-23/096 (04.11.2023),** motioned and approved
* Views A and B on Future Agenda Item 10 Lunar; **WAC-23/097 (04.11.2023),** motioned and approved

IWG-4: Regulatory Issues Report:

Mr. Paoletta invited the IWG-4 Chair, Mr. Steve Baruch, to present a status report. Mr. Baruch stated that IWG-4 met six times. Mr. Baruch then presented the nine documents for WAC consideration.

* Draft Proposal Agenda Item 4 to suppress Res. 160; **WAC-23/098 (04.11.2023),** motioned and approved
* No position Agenda Item 4; **WAC-23/099 (04.11.2023),** motioned and approved
* Views A and B on agenda item 7 topic A; **WAC-23/100 (04.11.2023),** motioned and approved
* Endorsement on agenda item 7 topic B; **WAC-23/101 (04.11.2023),** motioned and approved
* Endorsement on agenda item 7 topic C; **WAC-23/102 (04.11.2023),** motioned and approved
* Draft proposal on agenda item 7 topic D2; **WAC-23/103 (04.11.2023),** motioned and approved
* Draft proposal on agenda item 7 topic D3; **WAC-23/104 (04.11.2023),** motioned and approved
* Feedback on Preliminary WRC-27 agenda; **WAC-23/105 (04.11.2023),** motioned and approved
* No position Agenda Item 8; **WAC-23/106 (04.11.**2023), motioned and approved
1. **Administrative and Other Information**

Presentation on FACA Records Keeping and NARA guidance were given by Ms. Gamble from the FCC’s OGC. DFO will ensure that the rules are followed. DFO reviewed the WRC-23 Preparatory Timeline, document **WAC-23/70,** with attention on the upcoming CITEL meeting in May for which this WAC prepared documents, and the final meeting in August, preparations for which will be handled by the US delegation.

1. **Other Business**

Ms. Paoletta requested that participants send a confirmation email to WRC-23@fcc.gov for meeting attendance purposes. Disclosures were made. Ms. Paoletta, adjourned the meeting.

**Attachment 1**

**World Radiocommunication Conference Advisory Committee**

**Meeting Documents Distributed**

**Seventh Meeting – April 11, 2023**

|  |  |
| --- | --- |
| WAC# | Document |
| [WAC\_23\_068](https://www.fcc.gov/ecfs/document/10411308830139/2) | April 11 Agenda |
| [WAC\_23\_069](https://www.fcc.gov/ecfs/document/104062381209830/2) | Minutes from the Sixth Meeting |
| [WAC\_23\_070](https://www.fcc.gov/ecfs/document/104062381209830/3) | Timeline |
| [WAC\_23\_071](https://www.fcc.gov/ecfs/document/104062381209830/4) | IWG-1 AI 1.7 (VHF AMS(R)S): Document IWG-1\_059r2a AI 1.7 Proposal (03.22.23) |
| [WAC\_23\_072](https://www.fcc.gov/ecfs/document/104062381209830/5) | IWG-1 AI 1.9 (Wideband HF): Document IWG-1 \_ 067\_AI 1.9 Proposal (03.22.23) |
| [WAC\_23\_073](https://www.fcc.gov/ecfs/document/104062381209830/6) | IWG-1 AI 8 (Modifications to No. 5.934): Document IWG-1\_068r1\_Proposal on RR No. 5.394 (03.24.23) |
| [WAC\_23\_074](https://www.fcc.gov/ecfs/document/104062381209830/7) | IWG-1 View on AI 1.11 Issues A and B: Document IWG-1\_070\_View \_NTIA \_AI 1.11 A and B (23.03.24) |
| [WAC\_23\_075](https://www.fcc.gov/ecfs/document/104062381209830/8) | IWG-1 View on AI 2.1 and AI 2.10 of the Preliminary Agenda for WRC-27: Document IWG-1\_069\_View\_WRC-27 AI 2.1 and 2.10 (23.03.24) |
| [WAC\_23\_076](https://www.fcc.gov/ecfs/document/104062381209830/9) | IWG-2\_072\_r1AI 1\_1\_draft\_proposal\_ViewA\_ViewB |
| [WAC\_23\_077](https://www.fcc.gov/ecfs/document/104062381209830/10) | IWG-2\_073r2\_AI 1\_2\_10\_GHz\_draft\_proposal\_View\_A\_View\_B |
| [WAC\_23\_078](https://www.fcc.gov/ecfs/document/104062381209830/11) | IWG-2\_074r2\_AI10\_IMT\_draft\_proposal\_View\_A\_View\_B\_ViewC |
| [WAC\_23\_079](https://www.fcc.gov/ecfs/document/104062381209830/12) | IWG-2\_075r2\_WRC\_27\_1300MHz\_draft\_proposal\_View\_A\_View\_B |
| [WAC\_23\_080](https://www.fcc.gov/ecfs/document/104062381209830/13) | IWG-2\_076\_Prelimary\_WRC\_27\_agenda\_feedback |
| [WAC\_23\_081](https://www.fcc.gov/ecfs/document/104062381209830/14) | IWG-3 AI 1.12 IWG-3\_068\_A1.12 |
| [WAC\_23\_082](https://www.fcc.gov/ecfs/document/10410090612793/1) | IWG-3 AI 1.13 View A &B |
| [WAC\_23\_083](https://www.fcc.gov/ecfs/document/104062381209830/16) | IWG-3 AI 1.14 IWG-3\_70\_r2  |
| [WAC\_23\_084](https://www.fcc.gov/ecfs/document/104062381209830/17) | IWG-3 AI 1.15 View A&B (final) |
| [WAC\_23\_085](https://www.fcc.gov/ecfs/document/104062381209830/18) | IWG-3 AI 1.16 IWG-3\_43R3.3 |
| [WAC\_23\_086](https://www.fcc.gov/ecfs/document/104062381209830/19) | IWG-3 AI 1.17 View A & B  |
| [WAC\_23\_087](https://www.fcc.gov/ecfs/document/104062381209830/20) | IWG-3 AI 9.1A IWG-3\_0676r1\_AI 1.12  |
| [WAC\_23\_088](https://www.fcc.gov/ecfs/document/104062381209830/21) | IWG-3 FAI 2.2 QV ESIM View A&B IWG-3\_071\_073(VIEW A/VIEW B) |
| [WAC\_23\_089](https://www.fcc.gov/ecfs/document/104062381209830/22) | IWG-3 FAI 10 2.3&2.7 IWG-3\_092 (23.03.21) |
| [WAC\_23\_090](https://www.fcc.gov/ecfs/document/104062381209830/23) | IWG-3 FAI 10 2.4&2.5 IWG-3\_086 |
| [WAC\_23\_091](https://www.fcc.gov/ecfs/document/104062381209830/24) | IWG-3 FAI 10 2.6 Space Weather IWG-3\_077r1 |
| [WAC\_23\_092](https://www.fcc.gov/ecfs/document/104062381209830/25) | IWG-3 FAI 2.8 IWG-3\_059 (23.01.31) |
| [WAC\_23\_093](https://www.fcc.gov/ecfs/document/104062381209830/26) | IWG-3 Views on NTIA Proposal |
| [WAC\_23\_094](https://www.fcc.gov/ecfs/document/104062381209830/27) | IWG-3 AI 10 IWG-3\_058R6\_CbandISS |
| [WAC\_23\_095](https://www.fcc.gov/ecfs/document/104062381209830/28) | IWG-3 AI10 Additional MSS allocations IWG-3\_64r3 |
| [WAC\_23\_096](https://www.fcc.gov/ecfs/document/104062381209830/29) | IWG-3 AI10 EPFD Study View A&B IWG-3\_80R1 |
| [WAC\_23\_097](https://www.fcc.gov/ecfs/document/104062381209830/30) | IWG-3 AI 10 Lunar Comms View A & B |
| [WAC\_23\_098](https://www.fcc.gov/ecfs/document/104062381209830/31) | IWG-4/048R2 (SUP Res. 160 proposal) AI4 |
| [WAC\_23\_099](https://www.fcc.gov/ecfs/document/104062381209830/32) | IWG-4/064  (No IWG-4 position on NTIA proposals to SUP Res. 75 and Res. 161) AI4 |
| [WAC\_23\_100](https://www.fcc.gov/ecfs/document/104062381209830/33) | IWG-4/060R1 (Topic A: View A/View B) AI7 |
| [WAC\_23\_101](https://www.fcc.gov/ecfs/document/104062381209830/34) | IWG-4/053R1 (Topic B: endorsement of NTIA proposal) AI7 |
| [WAC\_23\_102](https://www.fcc.gov/ecfs/document/104062381209830/35) | IWG-4/058 (Topic C: endorsement of NTIA proposal) AI7 |
| [WAC\_23\_103](https://www.fcc.gov/ecfs/document/104062381209830/36) | IWG-4/043R3 (Topic D2 proposal) AI7 |
| [WAC\_23\_104](https://www.fcc.gov/ecfs/document/104062381209830/37) | IWG-4/044R3 (Topic D3 proposal) AI7 |
| [WAC\_23\_105](https://www.fcc.gov/ecfs/document/104062381209830/38) | IWG-4/061R1 (Topic J: View A/View B) AI7 |
| [WAC\_23\_106](https://www.fcc.gov/ecfs/document/104062381209830/39) | IWG-4/065 (No IWG-4 position on NTIA proposal to MOD No. 5.394) AI8 |
| [WAC\_23\_107](https://www.fcc.gov/ecfs/document/104062381209830/40) | Letter, 9 January 2023, WRC-23 1.17\_7 topic B\_7 topic D2\_7 Topic J. |
| [WAC\_23\_108](https://www.fcc.gov/ecfs/document/104062381209830/41) | Letter, 28 February 2023, WRC-23 1.11\_7 topic C.  |
| [WAC\_23\_109](https://www.fcc.gov/ecfs/document/104062381209830/42) | Letter, 15 March 2023 WRC-23 4 8 and 10 V2  |
| [WAC\_23\_110](https://www.fcc.gov/ecfs/document/104062381209830/43) | Letter, 21 March 2023 WRC-23 proposals\_1.13 7 Topic A and 10WAC |
| [WAC\_23\_111](https://www.fcc.gov/ecfs/document/104102818419679/1) | Draft proposal Agenda Item 9.1 issue b |
| [WAC\_23\_112](https://www.fcc.gov/ecfs/document/10411308830139/1) | Draft proposal Agenda Item 1.3 |

**Attachment 2**

**World Radiocommunication Conference Advisory Committee**

**Member and Alternate Attendance**

**Seventh Meeting – April 11, 2023**

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| NAME | Organization | Member/Alternate |
| Matthew Greenspan | Aerostar | Alternate |
| George John | The Association of American Railroads | Member |
| Dan Mansergh | Apple | Member |
| Jon Siverling | ARRL | Member |
| Laura Cummings | Astroscale | Alternate |
| Amy L. Alvarez | AT&T | Member |
| Kris Hutchison | Aviation Spectrum Resources Inc | Alternate |
| Jennifer A. Manner | EchoStar | Member |
| Marc Racek | Ericsson | Alternate |
| Stephen Baruch | GPS Innovation Alliance (GPSIA) | Member |
| Brennan Price | Inmarsat | Member |
| Jayne Stancavage | Intel Corporation | Member |
| Reza Arefi | Intel Corporation | Alternate |
| Giselle Creeser | Intelsat | Member |
| Tatiana Lawrence | Iridium | Member |
| Damon Ladson | Iridium | Alternate |
| Scott Kotler | Lockheed Martin | Member |
| Anum Pirzada | Mangata Networks | Alternate |
| Donald  M. Jansky | Maxar Technologies  Inc. | Member |
| Patricia Paoletta | Meta | Member |
| Michael Daum | Microsoft | Member |
| Michael A. Lewis | Motorola Solutions | Member |
| Robert Weller | NAB | Member |
| Andy Scott | NCTA | Member |
| Ben Wagner | OneWeb | Alternate |
| Danielle Pineres | Planet Labs | Member |
| David Nemeth  | Planet Labs  | Alternate |
| Joe Ciaudelli | Sennheiser | Member |
| Ryan Henry | SES Americom | Member |
| Brett Tarnutzer | SpaceX | Member |
| Rob Kubik | Samsung | Member |
| Joseph Cramer | The Boeing Company | Member |
| Kim L. Kolb | The Boeing Company | Alternate |
| Bryan Tramont | Technology Policy Institute | Member |
| Pascale Dumit | T-Mobile | Member |
| Daudeline Meme | Verizon | Member |
| Donna Wang | Verizon | Alternate |
| Christopher Murphy | Viasat | Member |
| Audrey Allison | Aerospace Corp | ???? |
| Yu Deng (Judy) | SES | ???? |

**Attachment 3**

**World Radiocommunication Conference Advisory Committee**

**FCC and Observers Attendance**

**Seventh Meeting – April 11, 2023**

**FCC Officials:**

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| Allen YangDante Ibarra, Designated Federal OfficialGregory BakerEric GrodskyNese GuendelsbergerThomas SullivanSteven BaldersonDarice GambleJeffrey Riordan |

**Observers:**

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| Brian Patten, NTIADavid Marshack, RKF Engineering Solutions, LLC |

**Attachment 4**

**World Radiocommunication Conference Advisory Committee**

**Member Statements**

**Seventh Meeting – April 11, 2023**

Below are statements that were requested to be included as part of the meeting summary record:

**Statement of Bryan Tramont**

I have been re-appointed to the WRC-23 Advisory Committee representing the Technology Policy Institute (TPI).

During my ethics vetting process and in discussion with the FCC’s office of General Counsel, I disclosed that my law firm, Wilkinson Barker Knauer, LLP (WBK), represents a range of wireless carriers, satellite service providers, cable providers, wireline carriers, broadcasters and networks, equipment manufacturers, and some communications trade associations.  Many of these entities may have interests in the work of the Committee, and some have their own representatives serving on the WAC.

In light of the advice I received from the FCC’s Office of General Counsel, and consistent with my prior disclosure to WAC, I want to disclose these interests to the Committee, and I commit to making any more specific disclosures or recusals that may be called for during my service on the Committee.  As I mentioned, I am on the Committee representing TPI, but as an initial matter I want to disclose that AT&T, Boeing, CTIA, EchoStar, Ericsson, Inmarsat, Intel, Iridium, Lockheed Martin, National Association of Broadcasters, NCTA, OneWeb, Qualcomm, Samsung, Sirius XM, T-Mobile, and Verizon which are independently represented on the Committee, are WBK clients.  WBK also does work for GPS Innovation Alliance.  In addition, Comcast, which is not independently represented on the WAC, is a WBK client.

I am also disclosing certain personal financial interests to the Committee, and I commit to making any more specific disclosures or recusals that may be called for during my service on the Committee.  An outside financial services firm handles investments on my behalf and I do not participate in selecting the investments, but I do hold stock in Apple, Microsoft, and Amazon, which are independently represented on the Committee.  I also hold stock in Alphabet/Google and Shell PLC, which are not independently represented on the Committee.

I will supplement with further disclosures as needed.

**Bryan N. Tramont**

Wilkinson Barker Knauer, LLP

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**Statement of Brennan Price**

My name is Brennan Price. I have been appointed to the WRC-23 Advisory Committee in my capacity as Director, Regulatory Affairs, at Inmarsat. I am also, individually, a Commission licensee in the amateur service and amateur-satellite service. During pre-appointment vetting, I disclosed my status as an amateur licensee and evaluated potential conflicts with Commission staff. We determined and agreed that, considering secondary allocations to the amateur services at 1240-1300 MHz and 10.0-10.5 GHz, I should disclose my status as an amateur licensee to the WAC and recuse myself from work on agenda item 9.1b and the 10.0-10.5 GHz portion of agenda item 1.2. This statement serves as the disclosure, and I have and will continue to recuse myself on the specified issues.

**\_\_\_\_\_\_\_**