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November 21, 2019

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 - 12th Street, S.W.
Washington, D.C. 20554

Ex Parte

Re: Notice of Ex Parte Presentation, ET Docket No. 18-295

Dear Ms. Dortch:

The Utilities Technology Council (“UTC”) is providing the following ex parte notification in the above-referenced proceeding in accordance with Section 1.1206 of the Commission’s Rules. On November 19, 2019, Ben Portis from Entergy and Christina Baworowsky from Alliant Energy, Richard Ward and Aryeh Fishman from the Edison Electric Institute, Doug McGinnis from RedRoseTele.com, and Sharla Artz and the undersigned from UTC met with the Office of Engineering and Technology to discuss matters related to the above-referenced proceedings. Shaun Skidmore from Idaho Power joined the meeting by telephone. The FCC participants during the meeting included: Julius Knapp, Michael Ha, Barbara Pavon, Ira Keltz, Aspasia Paroutsas, Nicholas Oros, Bahman Badipour, Paul Murray, Hugh Van Tuyl, Aole Wilkins El, and Karen Rackley from the Office of Engineering and Technology.

During the meeting, the representatives from the utility industry provided the attached PowerPoint presentation, and they discussed a recent *ex parte* filing by the WiFi Alliance recommending the parameters for automated frequency control (AFC) and opposing the use of AFC for so-called low power indoor (LPI) and very low power (VLP) transportable devices in the 6 GHz band.¹ The utility participants explained that they have commissioned a study of the interference potential from both indoor and outdoor unlicensed operations, and they expect to submit the results of that study on the record in this proceeding by January 2020. Further, the utility participants raised concerns with several of the AFC recommendations by the WiFi Alliance, including but not limited to its recommended interference criteria of 0 db I/N threshold. They explained that these recommendations would insufficiently protect and mitigate against potential interference from unlicensed operations to licensed microwave systems in the 6 GHz band, including those used by utilities to support a variety of mission critical applications. The utility participants emphasized the need for the development of AFC recommendations in collaboration with incumbent licensees in the band. In that regard, they reported that they are in ongoing discussions with WinnForum and the 6 USC, but that the WiFi Alliance has not attempted to engage in any such discussions with the utility participants.² The utility participants also reported that they are reaching out

¹ Letter from Alex Roytblat, Senior Director of Regulatory Affairs, WiFi Alliance to Marlene H. Dortch, Secretary, FCC in ET Docket No. 18-295 and GN Docket No. 17-183 (filed Oct. 31, 2019).

² WinnForum refers to the Wireless Innovation Forum, which has launched a 6 GHz Multi-stakeholder Committee (6MSC) (See <https://www.wirelessinnovation.org/6ghz-multistakeholder-committee>) and has held a Multi-stakeholder Workshop on Unlicensed Use in the 6 GHz Band (See <https://www.wirelessinnovation.org/6ghz-multistakeholder-workshop>). The 6 USC is a reference to the following companies: : Apple, Inc., Broadcom, Inc., Cisco Systems, Inc., Facebook, Inc., Google LLC,

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to Congress, the Department of Energy and other stakeholders that have interests in licensed microwave systems in the band, who have each written to the Commission regarding their concerns.³ In conclusion, the utility participants urged the FCC to refrain from authorizing unlicensed operations in the band unless and until testing has shown that interference will not occur or can be prevented through AFC. The utility participants also urged the Commission to engage with the Department of Energy to provide utilities and other critical infrastructure industries with access to dedicated spectrum.

Thank you for your help in this matter. If there are any questions concerning this matter, please contact the undersigned.

Respectfully,



Brett Kilbourne

Cc: FCC Participants

Hewlett Packard Enterprise, Intel Corporation, Marvell Semiconductor, Inc., Microsoft Corporation, Qualcomm Incorporated, and Ruckus Networks, an Arris Company.

³ See Letter from Senators James E. Risch (R-ID), Mike Crapo (R-ID), Mazie Hirono (D-HI), Joe Manchin III (D-WV), David A. Perdue (R-GA), Shelley Moore Capito (R-WV), James M. Inhofe (R-OK), James Lankford (R-OK), Kevin Cramer (R-ND), Dianne Feinstein (D-CA), John Kennedy (R-LA), and Angus King (I-ME) to The Honorable Ajit Pai, Chairman, Federal Communications Commission (Nov. 5, 2019) available at https://utc.org/wp-content/uploads/2019/11/Risch_FINAL-FCC-Letter-re-6-GHz.pdf; Letter from Bruce J. Walker, Assistant Secretary, Office of Electricity, U.S. Dep't of Energy, to The Honorable Ajit Pai, Chairman, Federal Communications Commission (Sept. 3, 2019) available at <https://utc.org/wp-content/uploads/2019/09/FCC-Chairman-Pai-response-letter-9.3.19-003.pdf>; and Letter from American Gas Association, American Petroleum Institute, American Water Works Association, Association of American Railroads, American Public Power Association, Edison Electric Institute, International Association of Fire Chiefs, Government Wireless Technology & Communications Association, National Rural Electric Cooperative Association, Nuclear Energy Institute, Utilities Technology Council, and Fifty-Eight Other Individual Industry Stakeholders to The Honorable Ajit Pai, Chairman, Federal Communications Commission in ET Docket No. 18-295 (Nov. 8, 2019), available at https://ecfsapi.fcc.gov/file/1108136802203/6%20GHz%20Coalition%20Multi%20Sector%20Letter%20to%20Pai_110819_FINAL.pdf.

Meeting with the Office of Engineering & Technology

November 19, 2019

WiFi Alliance AFC Recommendations

- Generally opposes AFC for LPI and VLP unlicensed operations and recommends:
- Authorized Sub-bands
 - Standard Power APs in UNII-8
- AFC Database
 - No use of 3d Party Database Information, Just ULS
 - 24 hour updates of data
 - Licensees responsible for data accuracy
- Centralized and decentralized AFC
 - Flexibility for both centralized and decentralized AFC approaches
 - No synchronization between AFCs
 - Multiple AFC operators
 - No implementation standard requirements
- License Term
 - 5 years

WiFi Alliance AFC Recommendations

- AFC system recheck every 30 days +48 hour grace period and only preclude operations on UNII-5, 7, and 8 if no recheck
- No requirements for
 - Interfaces between AFC and client devices
 - Collection of capabilities or operational parameters
 - Verification that they can register AFC devices
 - Transmitting identifying information
 - A specific method for calculating available frequencies
 - Ability to positively control AFC channel selection

WiFi Alliance AFC Recommendations

- 95% “confidence” of channel selection using 2-dimensional position coordinates
 - Geolocation, professional installation or street address may be used.
 - No particular level of certainty; no particular height, and no particular method needed for location of AFC devices.
- No specific security requirements and only existing industry “best practices” against tampering with devices.
- No OOBE within sub-bands, only at the edges of entire band.
- 0 dbm I/N interference criteria threshold
 - Based upon WINNERII and ITU-R P2108 modelling w/in or beyond 1 km; and
 - Based upon ITU-R P.2109 for BEL
 - Using “average antenna patterns” if unavailable from ULS
 - Using a specified power level or range of levels for the AFC device, unless the AFC does not account for the transmit power of the AFC device.

Utility Concerns

- Claims of non-Interference from LPI and VLP have not been proven.
- Studies and empirical data have indicated that the potential for interference from VLP and LPI may be substantial and not low.
 - Recent analyses by AT&T indicate that interference from unlicensed operations could be 1000-10,000 times greater than threshold at microwave sites in NYC.
 - Probability of interference is high based on the number of unlicensed devices and the number of microwave links in the 6 GHz band.



Utility Concerns

- Centralized database approach is necessary to facilitate interference mitigation.
- Standards for AFC should be adopted by the FCC and supplemented with specifications developed through multi-stakeholder process.
- Interference protection criteria should be -6 db or more stringent.
- Use of indoor devices outdoors.
- AFC specification should be developed in collaboration with all stakeholders, not just WiFi Alliance.



Utility Activities

- Contracting study to assess the interference potential of unlicensed operations to utility microwave systems in the band.
- Engaging with 6 USC coalition and with WinnForum to develop technical solutions to potential interference in the 6 GHz band.
- Coordinating with Congress, the Department of Energy and other microwave stakeholders.



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Utility Positions

1. The FCC should refrain from allowing unlicensed operations – if at all – until testing has shown that interference will not occur or can be prevented through AFC.
2. The FCC should engage with DOE to provide utilities and other critical infrastructure industries with access to dedicated spectrum.

