



2550 South Clark Street | Arlington, VA 22202

202.872.0030 Phone | 202.872.1331 Fax

utc.org | networks.utc.org

April 16, 2020

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 April 15, 2020, Corry Marshall from the American Public Power Association, Rich Ward from the Edison Electric Institute (EEI) and Craig Gilley from Venable LLP (on behalf of EEI), Brandon Allen and Doug Aiken from the International Association of Fire Chiefs, Kevin McGinnis from the National Association of State EMS Officials, Don Root from the National Public Safety Telecommunications Council, Sheriff Paul Fitzgerald, Story County Sheriff, Michael Rosenthal, Coy Trosclair, Wells Ellenberg from Southern Company Services and David Rines (outside counsel on behalf of Southern Company Services), Thomas Dombrowsky (outside consultant on behalf of Southern Company Services), David Rardin, Robert Thormeyer and the undersigned from UTC met via conference call with Umair Javed, Legal Advisor, Wireless and International in the Office of Commissioner Rosenworcel to discuss matters related to the above-referenced proceedings. During the meeting, the parties discussed the recent Draft Order, and identified five issues for Commission consideration and possible revision, consistent with the requests of other parties on the record in this proceeding.¹

First and foremost, the parties requested that the Commission require that low power indoor (LPI) as well as standard power access points use automated frequency coordination (AFC) to prevent interference to licensed microwave systems that are used for a variety of mission critical communications by electric, gas and water utilities, public safety organizations and other critical infrastructure industries (CII). Studies have shown that interference from LPI operating at 5 dBm/MHz PSAD will significantly exceed the – 6 db I/N threshold of microwave receivers, unless LPI is controlled by AFC. Moreover, the statistical probability and magnitude of the risk of interference from LPI are both high. There are estimated to be hundreds of millions of LPI devices in operation in the U.S.; and these devices will operate at duty cycles at upwards of 4%. The density of their deployment and frequency of their transmissions combine to make harmful interference a virtual certainty to nearby microwave receivers.

¹ Unlicensed Use of the 6 GHz Band, *Report and Order and Further Notice of Proposed Rulemaking*, ET Docket No. 18-295 (FCC-CIRC2004-01, circulated Apr. 2, 2020)(hereinafter “Draft Order”). *See also* Letter from Coy Trosclair, Director of Telecom Services, Southern Company Services to Marlene H. Dortch, Secretary, Federal Communications Commission in ET Docket No. 18-295 (filed Apr. 16, 2020); *And see* Letter from Michelle Farquhar, Counsel to the American Association of Railroads to Marlene H. Dortch, Secretary, Federal Communications Commission in ET Docket No. 18-295 (filed Apr. 15, 2020).

Studies have predicted interference levels from LPI exceeding microwave receiver thresholds by as much as 25 db, which is *337 times* the power ratio of the minimum threshold of the microwave receivers.² Other studies have shown that a single LPI device operating at 3.0 dBm/MHz PSAD (which is *lower* than the maximum level permitted under the rules in the Draft Order) would cause harmful interference to utility microwave receiver between 27-61% probability in 10 of the 12 areas considered, even assuming relatively high building entry loss (BEL) from thermally efficient construction (which was not prevalent in the areas considered).³

Second, the parties requested thorough market testing of unlicensed LPI devices under real-world conditions before such devices can be marketed and before unlicensed LPI operations can commence. This would be consistent with the Initial Commercial Deployment (“ICD”) phase of the Commission’s opening of the in the 3.5 GHz band. Fortunately, the Draft Order does provide for a trial period, during which AFC applicants must conduct thorough testing, both in a controlled environment (e.g., lab testing) and through demonstration projects (e.g., field testing) -- to provide interested parties an opportunity to check that it provides accurate results.⁴ However, there also needs to be testing of unlicensed LPI, especially if AFC is not required, and it needs to be done ahead of time before it’s too late to correct problems after full commercial deployment.⁵ Therefore, in addition to AFC testing, thorough market testing of LPI is also necessary prior to commercial deployment of LPI.

Third, the parties requested prompt and transparent interference resolution processes and enforcement mechanisms in the event that interference does occur. Unfortunately, the Draft Order does not provide any specific formal process to facilitate incumbent licensees with investigating interference and resolving it in a timely manner. All the Draft Order does is vaguely “encourage a multi-stakeholder group representing the interests of unlicensed equipment manufacturers, equipment users and point-to-point microwave providers to develop additional procedures to resolve interference concerns.”⁶ Although the multi-stakeholder group may be able to help, the Commission is the ultimate authority and should establish specific rules that require the timely and effective resolution of interference. Given the important mission critical communications that are being carried over licensed microwave systems and the need for high reliability and low latency, the Commission should provide guidance for licensees to identify and contact the appropriate AFC operator, and to require that AFC operators immediately respond to and promptly resolve interference complaints.⁷ Moreover, the Commission should also

² Impact of Proposed Wi-Fi Operations on Microwave Links at 6 GHz by Roberson and Associates, LLC at 18, Table 2. (Critical Infrastructure Industry (CII) User Study) (Attachment to Ex Parte Comments Received Jan. 13, 2020).

³ Letter from Coy Trosclair, Director of Telecom Services, Southern Company Services, to Marlene H. Dortch, Secretary, FCC in ET Docket No. 18-295 (filed Apr. 1, 2020).

⁴ Draft Order at ¶51.

⁵ *See also* Letter from Coy Trosclair, Director of Telecom Services, Southern Company Services to Marlene H. Dortch, Secretary, Federal Communications Commission in ET Docket No. 18-295 at 5 (filed Apr. 9, 2020)(stating that “[r]egardless of whether an AFC is implemented for LPI operations (and especially if it isn’t), the Commission should also require thorough market testing of unlicensed LPI devices under real-world conditions before such devices can be marketed and before unlicensed LPI operations can commence.”)

⁶ Draft Order at ¶86.

⁷ *See also* Letter from Michelle Farquhar, Counsel to the American Association of Railroads to Marlene H. Dortch, Secretary, Federal Communications Commission in ET Docket No. 18-295 at 2-3 (filed Apr. 15, 2020)(requiring (i) a mechanism for incumbents to report interference, such as a publicly available website where incumbents can enter the coordinates, call signs,

establish procedures for identifying and resolving interference from unlicensed operations that are not subject to control by AFC, if the Commission decides to allow any unlicensed operations without AFC. This will provide the appropriate regulatory certainty that is needed to ensure that mission critical microwave communications systems are protected against harmful interference from unlicensed operations in the band.

Fourth, the parties requested that the Commission lead the multi-stakeholder working group and ensure the balanced representation of the interests of incumbent licensees in the band. Unfortunately, the Draft Order provides that the multi-stakeholder working group would be industry led; and it merely encourages (without requiring) representation of interested stakeholders but declines to take a position on the exact makeup or organizational structure of the stakeholder group.⁸ Although the Commission's Office of Engineering and Technology would act as a liaison with the multi-stakeholder working group to observe the functioning of the group and to provide guidance on the topics and timeframes for the group to address, it remains uncertain whether and to what extent the working group would fairly conduct its work or fairly balance the interests of incumbent licensees if the group is led by unlicensed industry representatives who would also decide whether and to what extent any other stakeholders may participate. The parties recommend that the Commission's Final Order include language that notes that all sectors should be represented and treated equally and that no party should be excluded (and that there should not be any cost associated with membership in the multi-stakeholder group). The multi-stakeholder working group will need to determine many important issues – including the performance criteria for AFC, as well as implementing the underlying assumptions regarding interference and path propagation upon which the AFC systems will be based. The Commission needs to lead this effort and ensure that it is fair and balanced in the representation of the interests of incumbent microwave licensees.

Fifth, the parties requested that the Commission should revisit its rules to ensure that they are effective at preventing interference from occurring. The record in this proceeding does not support the conclusion in the Draft Order that the potential for interference is low. Instead, the studies show that there is a significant potential of harmful interference. Section 301 of the Communications Act prevents the Commission from authorizing any such unlicensed operations that pose a significant potential of causing harmful interference to licensed operations.⁹ In that regard, the parties underscored their concern that the Draft Order fails to adequately address the technical studies that were submitted on the record which predict widespread and significant interference from unlicensed operations unless AFC is required for both LPI and standard power access devices. The parties urged the Commission to correct this deficiency in the Draft Order. Further, these deficiencies underscore the need for the Commission to revisit the rules, much the same way that the Commission has offered to revisit its rules, when it has previously authorized unlicensed and licensed operations in the same band.¹⁰ Finally, the parties

and frequencies of links that are experiencing interference; (ii) ensuring that AFC operators timely receive and process complaints and, if necessary, develop a mechanism to shut down standard-power unlicensed devices in an affected geographic area; (iii) identifying the circumstances under which the OET or the Enforcement Bureau will conduct field investigations regarding widespread complaints of interference to fixed incumbent links in certain geographic areas; (iv) releasing a publicly available “heat map” showing the locations of interference complaints; and (v) periodically soliciting feedback on interference to incumbent links.)

⁸ Draft Order at ¶48.

⁹ See e.g. *Am. Radio Relay League, Inc. v. F.C.C.*, 524 F.3d 227, 234 (D.C. Cir. 2008).

¹⁰ See also Letter from Coy Trosclair, Director of Telecom Services, Southern Company Services to Marlene H. Dortch, Secretary, Federal Communications Commission in ET Docket No. 18-295 at 5 (filed Apr. 9, 2020)(stating that the Commission should include in the final version of the Report and Order a commitment to promptly revisit its rules and

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requested that the Commission should facilitate the relocation of incumbent 6 GHz licensees in the event that unlicensed operations render the band unsuitable for communications applications that require high levels of reliability and integrity.¹¹

Finally, with respect to the Draft Further Notice of Proposed Rulemaking, the parties opposed any proposed increase in the 5 dBm/MHz PSAD power level for LPI operations. The studies submitted on the record already show that this power level will cause harmful interference to microwave systems in the band. The Commission should be considering reducing power, not increasing it – especially if interference from LPI is not controlled by AFC.

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

procedures for unlicensed LPI operations if market testing and/or actual deployment of unlicensed LPI devices result in harmful interference to incumbent 6 GHz operations.”)

¹¹ *Id.* (stating that “if the Commission is determined to allow unlicensed operations in the 6 GHz band on an uncontrolled basis (*i.e.*, no AFC), the Commission should also consider contingencies to facilitate the relocation of incumbent 6 GHz licensees in the event that unlicensed operations render the band unsuitable for communications applications that require high levels of reliability and integrity.”)