

November 9, 2020

VIA ECFS

Marlene H. Dortch, Secretary
Federal Communications Commission
45 L Street NE
Washington, DC 20554

Re: Unlicensed Use of the 6 GHz Band, ET Docket No. 18-295; Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz, GN Docket No. 17-183: Notice of Ex Parte Presentation

Dear Ms. Dortch:

On November 5, 2020, Southern Company Services, Inc. (“Southern”) met with the Office of Engineering and Technology (“OET”) by conference call to discuss the Commission’s Further Notice of Proposed Rulemaking (“*FNPRM*”) in the above referenced docket.¹ The Southern and OET participants are listed at the end of this letter. The purpose of this meeting was to discuss the analyses submitted by Southern of recent filings prepared by RKF regarding the impact of unlicensed devices on incumbent fixed service operations in the 6 GHz band.²

Southern described the significant flaws in RKF’s methodology and modeling and explained how it dramatically understates the effects of very low power (“VLP”) devices on incumbent operations and improperly manipulates the analyses to predict a result that is favorable to the RLAN proponents. Southern also again expressed its concern over the lack of transparency regarding the various technical studies and analyses that RLAN proponents are relying on to support their assertions in this proceeding. These parties have failed to submit their methodologies into the record in a manner that would allow affected stakeholders – as well as the Commission – to replicate their approach, and thus the Commission cannot rely upon these analyses as support for any finding that incumbent operators such as Southern will be protected from harmful interference. Southern reiterated its request that the specific data and inputs underlying these studies be provided, and parties permitted sufficient time to analyze these studies, prior to any further action by the Commission.

Although the RLAN proponents assert that RKF’s recent updates and clarifications demonstrate that incumbent operations will be protected from harmful interference, Southern explained that, in reality, the RKF methodology (at least what has been publicly provided for

¹ *Unlicensed Use of the 6 GHz Band; Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz*, ET Docket No. 18-295, GN Docket No. 17-183, Report and Order and Further Notice of Proposed Rulemaking, FCC 20-51 (rel. Apr. 24, 2020) (“*Report and Order*” and “*FNPRM*”).

² Letter from Coy P. Trosclair, Southern Company Services, Inc. to Marlene H. Dortch, Federal Communications Commission, ET Docket No. 18-295, GN Docket No. 17-183 (filed Nov. 4, 2020) (“*Southern Nov. 4 Ex Parte*”).

review) systematically *understates* the effects of VLP devices on incumbent 6 GHz operations. In other words, RKF has created a simulation that, by design, would demonstrate that incumbent fixed service systems would not receive harmful interference. For example:

- The number of simultaneous, transmitting VLP units in rural areas is understated by a factor of 9 due to RKF combining rural and barren areas and is inconsistent with the approach used previously by RKF. Lockard & White (“L&W”) performed an analysis and determined that this flaw affects 82% of the 98,000 overall fixed microwave sites in the United States and 56% of Southern’s 684 sites. If device distribution over rural areas had not been combined with barren areas, the total count of VLP devices modeled in the simulation would have been 9.16 times larger.
- RKF continues to use extremely low duty cycles (0.00022% to 0.44%). Yet they cite ECC (duty cycle of 2%) and Ericsson (duty cycle of 2.2%) studies that use much higher duty cycles,³ and one of the signatories to the RLAN filing (Qualcomm) forecasts 60% duty cycles for AR/VR use.⁴ By arbitrarily lowering the modeled duty cycle for VLP devices, RKF reduces the number of transmitting VLP units by a factor of 45 to 1364.
- As previously noted in Southern’s October 16, 2020 *ex parte* filing,⁵ RKF continues to misinterpret the WRCNC Body Loss study by utilizing the full sphere of measurements. This error affects all sites and, if properly applied,⁶ increases VLP impact by approximately 14 dB.
- RKF presents conflicting statistical tables and formulas that misapply statistics to purport that there is no problem when there is indeed a problem, and their own data in fact shows that nearly 1% of units in the area of concern (the main beam of an FS site) can impact an incumbent system even with the misapplication of VLP count, transmit power, duty cycle, and body loss.

Southern believes that the assertions of the RLAN Proponents and the engineering analyses upon which they rely are – and continue to be – fatally flawed. The actual magnitude of these studies’ shortcomings, such as those described above, are nearly impossible to quantify, as neither the Commission nor affected stakeholders have ever been provided the actual simulations run by CableLabs and RKF. Without this critical element, affected incumbent operators such as Southern have been left to guess at the inputs and simulation efforts undertaken by RLAN Proponents. Southern reiterates its fundamental concerns with the limited information provided by RLAN Proponents and repeats its request for the Commission to require the submission of *actual* simulations and inputs to allow Southern and

³ *Id.* at 2-5.

⁴ Qualcomm “VR and AR pushing connectivity limits” at 10, October 2018 (available at <https://www.qualcomm.com/media/documents/files/vr-and-ar-pushing-connectivity-limits.pdf>).

⁵ Letter from Coy P. Trosclair, Southern Company Services, Inc. to Marlene H. Dortch, Federal Communications Commission, ET Docket No. 18-295, GN Docket No. 17-183 (filed Oct. 16, 2020).

⁶ *Id.* at 2-3.

other parties to fully examine the methodology used by these parties prior to any final Commission action.

OET also discussed potentially modeling VLP interference into incumbent operations using the power spectral density limits for Low Power Indoor (“LPI”) devices (5 dBm/MHz) without including the building entry loss that the Commission utilized in its analysis of LPI devices. Southern committed to reviewing this proposal and providing further analysis based on this assumption.

In accordance with Section 1.1206 of the Commission’s rules, this letter is being filed electronically in the above-referenced proceeding.

Respectfully submitted,

/s/ Coy Trosclair

Coy Trosclair
Director of Telecom Services
Southern Company Services

Meeting Participants

Southern Company

Michael Rosenthal
Kasey Chow
Larry Butts
Randall Watkins
John Courtney
Andrew Collins
David Rines (outside counsel)
David Hattey (Lockard & White)
Thomas Dombrowsky (Senior Engineering Advisor, DLA Piper)

OET

Ron Repasi
Ira Keltz
Monisha Ghosh
Jamison Prime
Paul Murray
Michael Ha
Nick Oros

Tom Struble
Bahman Badipour
Navid Golshahi