Edison Electric INSTITUTE

Power by Association

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Via Electronic Filing

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, SW
Washington, DC 20554

Re: Ex Parte Notice: Promoting Investment in the 3550-3700 MHz Band – GN Docket No. 17.258

This letter is written on behalf of the Edison Electric Institute ("EEI") in support of the compromise proposal put forward by the companies and associations listed below on a framework for the licensing of Priority Access Licenses ("PALs") in the Federal Communications Commission's ("FCC" or "Commission") pending proceeding in Docket No. 17-258 on the promotion of investment in the 3.5 GHz Citizens Broadband Radio Service ("CBRS") band.[1] While less than ideal from the perspective of the electric industry, the compromise proposal—with its mix of large-area and small-area licensing—offers a balanced solution that should meet the needs of all parties and allow them the opportunity to obtain some value from their utilization of the band. The proposal would

[1] Letter to Marlene H. Dortch, FCC Secretary in GN Docket 17-258 from Charter Communications, Inc. Cox Communications, Inc. Edison Electric Institute, Enterprise Wireless Alliance, Exelon Corporation, FedEx Corporate Services, Inc., Frontier Communications, General Electric Company, Google LLC, Motorola Solutions, Inc., National Rural Electric Cooperative Association, National Rural Telecommunications Cooperative, NCTA – The Internet & Television Association, NTCA – The Rural Broadband Association, pdvWireless, Inc., The Port of Los Angeles, Ruckus Networks, an ARRIS Company, Rural Wireless Association, Southern Linc, Transit Wireless. Union Pacific, Utilities Technology Council, Windstream Holdings, Inc., and Wireless Internet Service Providers Association (filed May 29, 2018) ("Cross-Industry Coalition Proposal").

afford electric companies access to the census-tract-based CBRS PALs needed by these companies for critical communications in discrete areas while affording the large telecommunications carriers access to spectrum with a larger PAL footprint.

EEI is the trade organization that represents all U.S. investor-owned electric companies. EEI's members provide electricity for 220 million Americans and operate in all 50 states and the District of Columbia. The electric power industry supports over seven million jobs in communities across the United States. As providers of electricity to much of America, EEI's members are major users of wireless telecommunications systems that operate to support the provision of safe, reliable, and low-cost power to the public and to ensure safety of life, property and the environment. With the modernization of the electric grid, clean power initiatives and innovative customer solutions technologies, electric companies face increasing needs for access to licensed spectrum. Accordingly, EEI members have a strong interest in ensuring the Commission's proposals for the CBRS Band properly consider the broader questions at issue and the implications of various options before it, especially as they impact critical infrastructure industry ("CII") entities such as electric companies.

The retirement of copper facilities by telecommunication entities has forced electric companies to migrate away from analog networks. Although some electric companies are deploying their own fiber networks, in many areas it is not feasible to do so and they must rely on wireless networks for needed connectivity. Access to adequate spectrum is also very important for electric companies because it is a propagating medium that is more resilient to natural or man-made disasters. Consequently, wireless has become an even more critical component of the provision of safe, reliable and secure

electric service. In their role as CII, electric companies use spectrum in a variety of ways. For example, electric companies utilize spectrum to monitor and control substations, for supervisory control and data acquisition systems ("SCADA"), distribution automation devices, fault sensors and for advanced metering infrastructure ("AMI") two-way meters. In general, this spectrum is required in specific service areas and not across entire Metropolitan Statistical Areas ("MSAs").

Electric companies have mandatory obligations to ensure the continued reliability and security of the electric grid and therefore cannot rely on public carriers for the transmission of critical communications. Instead electric companies must rely on their self-provisioned private wireless networks for such communications. In the experience of many electric companies, telecommunications carriers will not enter into Service Level Agreements ("SLAs") that assure the reliability, availability and exclusivity of communications that the electric companies require.

Electric companies already invest in the 3650-3700 MHz band and hope to extend such use into the 3.5 GHz band.[2] For example, Exelon is using the 3.65 GHz band for backhaul from remote substations not on a fiber ring and if the 3.5 GHz band was available Exelon could use it to expand its capacity. Similarly, PSEG could use the 3.5 GHz band for backhaul because in its territory it cannot coordinate any additional 30 MHz bandwidth 6 GHz or 11 GHz channels. If the 3.5 GHz band was available, electric companies also could use the band to deploy small cells to set up temporary networks in storm restoration and mutual aid situations. Often in these cases, responding utilities and public safety entities have different and non-compatible radio systems. Electric

[2] Comments of Southern Linc, in GN Docket 17-258, at 7-8 (filed Dec. 28, 2017) ("Southern Linc Comments").

companies play an important role in these emergencies because many times other first responders cannot render assistance until there is no danger of electrocution. The 3.5 GHz band could serve as a basis for a common multi-platform to be shared by all the responders.

Electric companies are investing over $100 billion annually in smart grid infrastructure not only to assure the safety, reliability and security of the grid, but also to enhance their ability to provide new individualized services to their customers. At the same time, the public's adoption of electric end-use technologies or "electrification" is increasing.[3] As a result of the constant evolution of smart grid infrastructure and applications as well as the electrification of the country, electric companies' need for additional spectrum has and will continue to grow. Access to adequate bandwidth has become even more important as it becomes critical to the deployment of electric vehicles and other distributed energy resources ("DER")—*e.g.* microgrids, energy storage, energy management and renewables such as wind and solar—all of which will interface with the grid primarily through wireless connections. Bandwidth is also critical for enhanced voice and video monitoring of important assets and the functioning of smart grid intelligent devices such as Distribution Synchophasors, etc. Given the scarcity of spectrum accessible to electric companies, the Coalition's proposed CBRS framework has the potential to support a number of these uses.

There are additional high bandwidth uses that must be considered. For example, throughout the country many localities are building "Smart Communities" that will use different types of electronic data collection sensors to supply information which is then

[3] *See gen.*, U.S. National Electrification Assessment, Electric Power Research Institute (2018).

used to manage assets and resources efficiently.[4] In addition to DER, Smart Communities have four principal components: (1) smart street lighting helping communities to save energy and lower costs, (2) smart transportation including Electric Vehicle ("EV") transit vehicles, (3) smart buildings reducing energy waste and operational costs, and (4) data analytics and intelligent services used to monitor and manage energy use, pedestrian safety, traffic flows, air quality and more.[5] Since all of these applications are dependent upon electricity and access to adequate spectrum in a defined area, electric company utilization of the 3.5 GHz band on a census-tract basis can serve a major role in the development of Smart Communities because census-tract sized areas allow electric companies to acquire PALs tailored to their specific service areas.

The geographic-area licensing approach proposed by the Cross-Industry Coalition will enable a wide array of parties with a multitude of planned use cases to gain access to CBRS protected spectrum and take part in the emerging 3.5 GHz marketplace. This proposal will enable the largest possible group of stakeholders to derive value from the CBRS band, thereby spurring innovation and facilitating the modernization of the nation's electric grid.[6]

The components to the Coalition's proposal includes the following elements:

- In every census-tract in every U.S. county, there will be two (2) census-tract-based CBRS PALs available at auction.

[4] This includes data collected from citizens, devices, and assets that is processed and analyzed to monitor and manage traffic and transportation systems, power plants, water supply networks, waste management, law enforcement, information systems, schools, libraries, hospitals, and other community services. *See*, *e.g.*, https://en.wikipedia.org/wiki/Smart_city (last accessed May 14, 2018).
[5] *See* Smart Communities Are Powered By Smart Connections, EEI (2018).
[6] *Id.*

- In the top 30 U.S. Cellular Market Areas (ranked by population), there will be five (5) county-sized PALs available at auction in every county.

- In U.S. Cellular Market Areas ranked 31-306 (based on population), there will be five (5) Metropolitan Statistical Area ("MSA")-sized PALs available at auction.

- In U.S. Cellular Market Areas ranked 307-734 (based on population), there will be five (5) county-sized PALs available at auction in every county.

- The license term for all PALs will be seven (7) years, and PALs will be renewable based on performance criteria.

The compromise proposal—with its mix of large-area and small-area licensing—offers a balanced solution that should meet the needs of all parties and allow them the opportunity to obtain value from their utilization of the band. Indeed, to engender the significant benefits of the use of the spectrum described above, at the very minimum, electric companies and CII entities will require the availability of two census-tract PALs of at least 10 MHz each, for a total of 20 MHz of spectrum.

Given that electric companies serve discrete areas that align much better with census-tracts than larger geographic areas such as counties or MSAs, it is not rational for electric companies to acquire spectrum in areas far beyond their geographically focused deployments.[7] Uniquely, census-tracts are typically neither too big nor too small to allow an electric company to efficiently overlay PALs onto its service area. In comparison while some electric companies' service areas may cover the entirety of specific counties, many more do not use entire counties for their operations, especially in more sparsely-populated or undeveloped areas. Thus, county-sized (and MSA) areas are not "one-size-

[7] Letter to Marlene H. Dortch, FCC Secretary, from the IIOT Coalition, in GN 17-258 (filed April 18, 2018).

fits-all-stakeholders" and will waste valuable 3.5 GHz spectrum across the geographically unserved areas of the PAL.

Electric companies are subject to state rate of return regulation and would be unable to use those large segments of MSA or county-based PAL license areas that extend beyond their service territories. Therefore, a state commission regulating electric companies would, probably, not deem an electric companies' investment in out-of-service-area spectrum to be economically rational or "used and useful." Accordingly, the electric companies would be prevented from recovering the cost of the licenses in rates. Therefore, the Coalition's proposal meets the bare minimum spectrum needs of electric companies and CII entities (two census-tract PALs), while still offering five larger census-tract PALs to those entities that can make efficient use of the spectrum across the entire, larger geographic area.

From an electric industry perspective, the proposal put forward by the Competitive Carriers Association ("CCA") and CTIA involving a combination of MSA and county-based PAL licensing is flawed.[8] The revisions to the PAL rules proposed by CCA and CTIA would divide the 3.5 GHz spectrum into "Costco"-sized PALs although most stakeholders can more efficiently utilize economy-sized PALs. In effect, the CCA and CTIA proposal would foreclose all but the largest commercial providers from utilizing the CBRS band.

Licensing for PALs on a Partial Economic Area ("PEA"), county, or MSA basis would significantly increase the cost of the PALs. Given that electric companies will not be able to utilize the geographically-excessive spectrum in such large PALs, it would not

[8] Letter to Marlene H. Dortch, FCC Secretary, from Rebecca Murphy Thompson, CCA, and Scott K. Bergmann, CTIA, in GN 17-258 (filed Apr. 20, 2018).

be economically rational for electric companies to bid for licenses for areas far beyond their geographically focused deployments.[9] As indicated above, even if an electric company could afford to bid on and win those large area PAL licenses, in all probability state commissions would prevent the electric company from recovering the cost of its "investment" in excessive spectrum. Census-tract PAL licenses, on the other hand, would allow electric companies to focus their investment in protected spectrum in a way that much more closely aligns geographically with their operational needs, thus enabling electric companies to actively and vigorously bid on this spectrum at auction.

Although the electric industry would prefer that the current PALs rules remain in place, it understands that the FCC is looking for a multiparty compromise which is why EEI signed on to the Cross-Industry Coalition Proposal. While the proposed compromise put forward by the CBRS Coalition is not perfect, its adoption would serve to enable the largest possible group of stakeholders to derive value from the CBRS band. The Coalition's licensing proposal would allow all categories of stakeholders to obtain PAL spectrum, including both the members of the Coalition and the large telecommunications carriers. The proposed compromise would afford electric companies the opportunity to obtain access to spectrum in at least two census-tracts which is the bare minimum needed. The remaining five county-wide areas should be sufficient for the large carriers. There is no technical reason why it would be infeasible for the Commission to conduct auctions involving thousands of census-tract licenses.

In conclusion, it should be remembered that any decision as to what is the "best use case" for the CBRS band cannot and should not be measured solely in terms of

[9] Letter to Marlene H. Dortch, FCC Secretary, from the IIOT Coalition, in GN 17-258 (filed April 18, 2018).

dollars bid per PAL. The promotion of the public safety and security, as well as "ensuring that new and innovative technologies are readily accessible to the American people" and "an equitable distribution of licenses and services among geographic areas," are equally important considerations.[10] Indeed, the Commission's objectives in auctioning licenses for the 3.5 GHz band must include "avoiding excessive concentration of licenses and . . . disseminating licenses among a wide variety of applicants."[11] The Commission should certainly take into account the long term public benefits which will accrue if electric companies and CII entities have a real opportunity to bid for and use the 3.5 GHz spectrum. For these reasons, the Commission should adopt the Cross-Industry Coalition's compromise proposal.

Respectfully submitted,

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[10] 47 U.S.C. § 309(j)(3) (explicating the objectives of the competitive bidding process for FCC licenses).
[11] *Id.*