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September 7, 2018

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Notice of Ex Parte Presentation: Promoting Investment in the 3550-3700
MHz Band – GN Docket No. 17-258

Dear Ms. Dortch:

On September 5, 2018, undersigned counsel for Southern Linc, together with Michael Fitzpatrick, Vijay Venkateswaran and Sophia Niazi (General Electric), Leslie Pollner (Holland & Knight, counsel for the Port of Los Angeles), Mark Brant (FedEx), James Houton (Union Pacific), Frank Korinek (Motorola Solutions), Aryeh Fishman (Edison Electric Institute), Brett Kilbourne (Utilities Technology Council), James Crandall (American Petroleum Institute), and Liz Sachs (Lukas, LaFuria, Gutierrez & Sachs, counsel for the Enterprise Wireless Alliance) (collectively, the “IIoT Coalition”) met with Chairman Ajit Pai and his Legal Advisor, Michael Carowitz, with respect to the above-referenced proceeding.¹

Around the world, innovation in and deployment of 5G services is being driven by industrial and critical infrastructure industry (“CII”) applications and use cases. The representatives of the IIoT Coalition – a group whose members collectively account for approximately 40% of the U.S. economy – explained how the potential of the Industrial Internet of Things (“IIoT”) will incentivize the deployment of 5G and other advanced technologies and applications by industrial and CII entities, and thus enhance U.S. leadership in the global race for 5G. As just one example, electric companies in the U.S. are investing over \$100 billion annually in smart grid infrastructure and wireless networked applications not only to assure the safety, reliability and security of the grid, but also to enhance energy efficiency and sustainability through the deployment of distributed energy resources (*e.g.* microgrids, energy storage, energy

¹ See *Promoting Investment in the 3550-3700 MHz Band*, Notice of Proposed Rulemaking and Order Terminating Petitions, 32 FCC Rcd 8071 (2017).



management, and renewables such as wind and solar) as well as to support “Smart Community” initiatives throughout the country. All of these applications will leverage the tremendous potential of 5G technologies and require substantial investment in dedicated wireless networks and devices, as well as the bandwidth to support them. The increases in economic and operational efficiency, safety, and reliability that are enabled by advanced wireless connectivity are similarly driving innovation, investment, and deployment of dedicated advanced wireless networks, 5G network equipment, and technologies in other sectors such as oil and gas production, transportation, shipping, railways, maritime operations, agriculture, manufacturing, and aviation.

The IIoT representatives explained that communications and wireless connectivity for industrial and CII entities require levels of coverage, capacity, reliability, and security that generally cannot be met by the large commercial telecommunications carriers. Many industrial/CII entities are either located or have operations or infrastructure in rural or remote areas that are not covered by the large commercial mobile networks. For industrial and CII facilities located in urban and suburban areas, there may be coverage, but the large commercial operators are unable to provide the dedicated capacity needed for data-intensive, low latency IIoT-type applications and uses. Large commercial networks and services also do not provide the levels of reliability and security required for mission-critical industrial and CII communications.

Accordingly, industrial and CII entities must rely on self-provisioned wireless networks designed to match their grids, facilities, and infrastructure. This means that industrial and CII entities must also have economically viable access to spectrum to support the targeted, localized deployment of advanced wireless networks and equipment. The IIoT representatives therefore emphasized the need for the Commission to retain at least two Priority Access Licenses (“PAL”) on a census tract basis in every market, as reflected in the compromise proposal submitted to the Commission on May 29, 2018 – a proposal that was supported by virtually every stakeholder in this proceeding other than the large mobile carriers.²

We explained that the industrial and CII sectors have already made substantial investments in networks and systems that operate in the 3650 MHz band, much of it in expectation of the promised opportunities of the CBRS band and in reliance on the Commission’s assurances that its rules for the CBRS band would not compromise these operations and strand these investments. We further explained that industrial and CII entities are fully prepared to bid aggressively for PALs in the CBRS band, but that the size of the license area has to make economic sense. If PALs were to be made available only on the basis of large geographic areas such as CMAs or even counties, an entity seeking to operate in a limited

² Notice of *Ex Parte* Presentation of Frontier Communications, General Electric Company, Google LLC, Motorola Solutions, Inc., NCTA-The Internet & Television Association, NTCA-The Rural Broadband Association, Ruckus Networks, Rural Wireless Association, Inc., Wireless Internet Service Providers Association, GN Docket No. 17-258 (filed May 29, 2018).



geographic area – such as the area around an electric generation facility, railyard, port, or manufacturing complex – would be compelled to submit the highest bid for a PAL that covers a substantially larger area, thus foreclosing the PAL as an economically viable option. In this scenario, industrial and CII entities would be highly unlikely to win or even compete for PALs at auction, no matter how many industrial and critical infrastructure facilities are located in a given PAL area.³

Conversely, maintaining at least some census tract-based PALs in every market would promote targeted, efficient use of the spectrum and encourage network investment and deployment not just by industrial and CII entities, but by a wide variety of other users as well, and will encourage ongoing innovation and investment in new services, technologies, and use cases that meet important commercial and public interest needs. The IIoT representatives noted that, in addition to enabling targeted local, and rural deployments, the availability of PALs on a census tract basis would still allow those seeking to cover larger geographic areas to do so by combining multiple census tracts in a way that would still enable more efficient and tailored deployment than would be possible just through the use of larger geographic areas.

The adoption of a PAL licensing scheme that enables a combination of smaller, census tract-based deployments as well as those covering larger geographic areas would therefore result in a “win-win” scenario for all stakeholders and for the country. Such an approach would furthermore enhance U.S. leadership in the global race for 5G by opening the field to a far broader range of potential 5G innovators, developers, and users, including manufacturing, industrial and critical infrastructure operations, thus further stimulating robust innovation and investment in 5G development and deployment in the U.S. In other words, a framework such as the one described in the compromise proposal submitted on May 29 would provide “a new tool in the spectrum tool kit” that is not available anywhere else in the world for 5G or any other next-generation technologies. Accordingly, there is no need for the Commission to pick winners and losers by adopting artificial restrictions that would promote a single sector or business case while effectively dissuading others.

To further illustrate the industrial and CII sector’s experience with – and willingness to substantially invest in – wireless networks, connectivity, and advanced technologies, the IIoT Coalition provided real world examples from some of its members. Southern Linc, a wholly owned subsidiary of Southern Company, operates an 800 MHz LTE network that provides geographically comprehensive mobile wireless coverage across a 127,000 square mile service territory in the Southeast. In addition to directly and indirectly supporting the internal communications needs of its affiliated electric utility operating companies, Southern Linc has

³ In addition, holders of large-area PAL CBRs licenses would be unlikely to make appropriate amounts of 3.5 GHz spectrum available to industrial and CII entities via secondary market access. Even where available on the secondary market, it is likely that this spectrum would come at an uneconomic cost or be subject to lease terms and conditions that would prevent industrial and CII operators from accessing meaningful amounts of spectrum.



launched a commercial LTE service designed for enterprise, utility, government, and public safety users in the region. Southern Linc has made substantial investments in its communications network and services over the years (including through spectrum auctions) and continues to actively deploy and explore new communications technologies and applications – including, but not limited to, those that could operate in the 3.5 GHz band – that will further enhance the efficiency, safety, reliability, and security of the delivery of electric and natural gas services to the public.

Another IIoT member, the Port of Los Angeles, is the nation's largest and busiest container port, handling 40 % of the nation's container cargo. Last year, the Port of Los Angeles handled 9.3 million container units and facilitated over \$200 billion in trade in 2017. Cargo through the complex supports 1 in 9 jobs in the 5-county Southern California region, 1 million jobs in California, and 3 million jobs in the U.S. Located in the middle of a major urban area, the Port of Los Angeles is reaching the physical and operational limits of its facilities and has been working on the deployment and implementation of a private wireless system to enable advanced data sharing and achieve greater efficiencies in port operations. Census tract-based PAL licensing would provide the Port of Los Angeles the opportunity to obtain 3.5 GHz spectrum to leverage IIoT platforms, whereas requiring the Port to acquire a license for a larger geographic area covering the greater Los Angeles area would effectively foreclose its access to the 3.5 GHz band.

FedEx has been anticipating access to the CBRS band for enterprise and industrial use since the band's inception. FedEx fuels its innovation through wireless networks, and the company's on-premises applications have pushed wireless LAN beyond the limits of its capabilities. However, FedEx's carrier partners are unable to provide the coverage and capacity that is needed in the company's premises. FedEx views private LTE in the CBRS band as the next logical evolution of the wireless network and needs this capability to continue to drive the innovation needed to improve efficiencies and deliver value to its customers. FedEx is prepared to begin a migration to a new wireless platform promptly upon securing census tract PAL licenses that cover its locations.

The IIoT Coalition representatives also discussed the ways in which access to the 3.5 GHz band for industrial and CII entities would benefit rural broadband deployment and the rural economy. As previously noted, many industrial and CII facilities are located in rural areas where broadband access is often a problem. Because wireless IIoT networks also require sufficient backhaul, the deployment of such networks at these facilities would provide a potential revenue stream that could incentivize the extension of broadband backhaul and transport infrastructure further into rural America. We also discussed how a policy that includes the availability of PAL-protected spectrum on a census tract basis would enable industrial and CII entities to build and operate wireless networks that meet resiliency and cybersecurity standards such as those mandated by the Federal Energy Regulatory Commission for the electric industry.

Finally, we discussed the design of the PAL auction and the Commission's long-standing position that auction policy should drive auction design. Although the auctioning of licenses on



a census tract or hybrid basis may involve certain complexities, we observed that the Commission has already successfully designed and managed auctions of similar or greater complexity (such as the recently-concluded CAF II auction). We referred to the report submitted by economist Paul Milgrom concluding that the Commission can successfully manage a census tract auction⁴ and pointed out that an economist who prepared a report on behalf of Verizon agreed with Professor Milgrom's assessment.⁵ To the extent that time may be needed to address software design issues associated with a PAL auction involving census tracts, the IIoT Coalition representatives expressed their willingness to accept the time necessary to make at least two PALs in every market available through auction on a census tract basis.

Pursuant to Section 1.1206 of the Commission's Rules, this letter is being filed electronically via the Electronic Comment Filing System in the above-referenced proceeding.

Respectfully submitted,

/s/ David D. Rines
David D. Rines

cc: Chairman Ajit Pai
Michael Carowitz

⁴ See Letter from Paul Milgrom, Auctionomics Inc., to Marlene H. Dortch, FCC Secretary, GN Docket No. 12-354 (filed Aug. 7, 2017).

⁵ See Comments of Daniel R. Vincent, Prepared for Verizon Communications, GN Docket No. 17-258 (filed Dec. 29, 2017) at 6.