

**Prepared Remarks of Louis Peraertz**  
**“Enabling the Future of Wireless with CBRS”**  
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Thank you very much Ellen for that kind introduction. I first met Ellen around 2010 when she was working on the National Broadband Plan. She was an outstanding member of that team. So, I am honored and humbled that she invited me to speak at this event. I also want to thank General Electric for hosting this event.

I am excited to discuss the Citizens Broadband Radio Service, or 3.5 GHz proceeding, with you for two main reasons. First, this is a top policy priority for Commissioner Clyburn. And second, this is a top policy priority for Commissioner Clyburn. In these remarks, I will explain why this proceeding is so important to her and how she views the current record on key pending issues.

This proceeding is imperative to the Commissioner because she wants to do all she can to help those communities who, despite reforms to our Universal Service and Lifeline Programs, still find themselves on the wrong side of the digital and opportunities divide. Thirty-four million Americans are still unable to access broadband services at their homes either because the service is unavailable or it is offered at a price they cannot afford. According to one survey tens of millions of Americans in urban areas also lack to broadband. And 46 million American households have access to only one fixed broadband service provider.

The deployment of fixed wireless services using licensed spectrum acquired at auctions could help provide affordable, competitive broadband service to these communities. But, for all the billions of dollars spent over the years on FCC auctions for flexible use commercial wireless service licenses, they have not helped bring enough of those 34 million Americans across the opportunities divide. This could be due in part to the fact that the FCC does not require wireless companies to serve 100 percent of their geographic license area. This ultimately results in what she refers to as “donut holes,” or areas within a state where a licensed wireless company chooses not to serve. And, unfortunately, many of those areas include communities where most of the residents live below the poverty line.

Commissioner Clyburn has consistently been a strong supporter of the Commission allocating more unlicensed spectrum because she hoped some companies would be able to use that spectrum to offer communications services to areas that wireless companies, who spend billions to acquire licensed spectrum at auction, have not found a sufficient business case to serve. But deployment of services over unlicensed spectrum has also not helped to bridge digital divides. Thus far, the policies the Commission has adopted to encourage deployment of broadband to low income areas have not worked.

More than five years ago, the Commission embarked on a process to explore the viability of using the 3.5 GHz spectrum band for commercial wireless broadband services. Commissioner Clyburn has supported the process because the proposals we adopted would give the FCC a new asset in its arsenal of policies to connect these 34 million Americans. Since private services would be sharing this band with federal agencies and other incumbent uses, commercial service would likely require small cell technology. The agency recognized that the engineering characteristics of this technology could be attractive to smaller companies who offer fixed wireless commercial services and entities who want to build private wireless networks that

require some measure of interference protection and yet are not appropriately outsourced to a commercial cellular network. So, the Commission took a creative approach to designing the Priority Access Licenses or PALs. Instead of following the traditional approach with large geographic areas, 10-year license terms, and the expectation of renewal, we determined that a census tract, which serves about 4,000 people, with a shorter license term, and no expectation of renewability, were the appropriate rules for PALs.

Commissioner Clyburn remains a strong supporter of those 2015 rules especially keeping the geographic areas of PALs at the census tract level for several reasons. Of all the geographic area sizes commenters have recommended, and that are getting the most traction thus far, census tract sizes best meet the goals Congress set for holding spectrum auctions. Section 309(j) of the Communications Act directs the Commission to design spectrum auctions that, among other policy goals, promote economic opportunity and competition, “ensur[e] that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants including small businesses” and “rural telephone companies.”

When you compare those statutory directives to the broad level of interest and investment that the 2015 rules have already attracted, as well as the vast majority of comments in the docket that continue to support those rules, the Commissioner believes you will find that the 2015 rules have the potential to result in PAL auctions that would comply with Congress’s goals better than any auction held during her tenure at the Commission. The record shows that, prior to the October 2017 NPRM, small, rural Wireless Internet Service Providers were already planning and investing millions in the hopes of acquiring more wireless spectrum at auctions for census tract PALs so that they could extend their broadband services beyond their current service footprints.

In addition, those 2015 rules are attracting the widest variety of potential auction applicants the Commissioner has seen. We are seeing great interest from non-traditional wireless license holders. Heavy industry manufacturers and seaports are interested in the U.S. leading the world in Industrial Internet of Things applications. Commercial real estate and hospitality industry entities are developing neutral host LTE networks and customized private LTE networks. Stadium and other venue owners are also developing private networks.

Those who follow Silicon Valley developments know that the acronym S-A-A-S stands for software-as-a-service applications that help enterprises take advantage of cloud based software services. Because of the policies the Commission adopted in 2015, that acronym could have another meaning. Companies are using software-defined spectrum through cloud-based Spectrum Access Systems to offer Spectrum-As-A-Service. If the rules for the PALs can be maintained to continue to attract localized deployments in urban and rural areas, Spectrum-As-A-Service could help remove the multi-billion-dollar price tag associated with spectrum access. And this could help new entrants focus on innovative ways to overcome the barriers to deployment and adoption of broadband services in their local communities.

Large wireless companies, and the equipment manufacturers that serve them, would prefer that PALs be the same geographic size as Partial Economic Areas or PEAs. Large cable companies have advocated that all PALs be the size of counties. Based on the current record, Commissioner Clyburn is not convinced that either is better than census tracts at helping us bridge digital divides.

Those who favor PEAs contend that auctioning large number census tracts could be administratively burdensome. Commissioner Clyburn is not persuaded for a few reasons. First,

one of the four nationwide carriers who now advocates for PEAs, is previously on record supporting PALs at the census tract level. And that makes sense because large nationwide providers can always buy up enough census tract PALs to serve an area as large as a PEA. In contrast, smaller wireless providers and new entrants do not have the resources to afford PEA licenses. Second, the process that resulted in census tract PALs included the expert auctions staff of the Commission. They have successfully conducted more than 80 auctions. If they did not think auctioning census tract PALs was possible, they would not have recommended it. Third, Paul Milgrom, the internationally renowned auction expert, who helped us design the world's first ever incentive auction, and co-founded the simultaneous multi-round auctions that the Commission uses, filed comments saying that auctioning 74,000 census tracts was technically and administratively feasible. In addition, many commenters have stated increasing PAL sizes to PEAs would mean that, small rural service providers, who have been doing yeoman's work in helping us bridge digital divides, would be forced to bid on expansive geographical areas they do not intend to serve, for spectrum they do not intend to use.

Allocating PALs on a county basis makes sense for large cable companies because that is how they currently provide cable service. But that larger size similarly will make the PALs prohibitively expensive for smaller and more locally-focused wireless providers seeking to offer service to smaller, more targeted areas.

In sum, Commissioner Clyburn favors PALs at the census tract level because it creates opportunities for a wide variety of applicants to help us bridge stubborn digital divides and best meets Congress's goals for spectrum auctions. This will allow large nationwide wireless companies, WISPS, and other small wireless companies to provide broadband service to more Americans. It has incentivized the development of new commercial service business models. And it is spurring new and innovative technologies in many sectors such as the industrial Internet-of- things. Thank you for allowing me to present the Commissioner's views on this critical proceeding.