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October 26, 2018

VIA ELECTRONIC FILING (ECFS)

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

Re: Ex Parte Notice: Review of the Commission's Rules Governing the 896-901/935-940 MHz Band – WT Docket No. 17-200

Dear Ms. Dortch,

This letter is submitted, pursuant to Section 1.1206(b)(1) of the FCC's rules, to notify the Commission that representatives of the Critical Infrastructure Coalition ("Coalition") had separate meetings to discuss the above-referenced proceeding on October 24, 2018 with Commissioner Brendan Carr and his Legal Advisor Will Adams; Nicholas, Degani, Senior Counsel to Chairman Ajit Pai; Umair Javed, Legal Advisor to Commissioner Jessica Rosenworcel; and Erin McGrath, Legal Advisor to Commissioner Michael O'Rielly.

Coalition members attending the meetings were: NextEra Energy, Inc. ("NextEra"), on behalf of itself and its subsidiary Florida Power & Light ("FPL"), represented by William P. Cox, Senior Attorney, FPL; Tim Lewis, Group Manager for Radio Engineering and Operations, FPL; Richard Nelson, Wireless Architect Radio Engineering, FPL; and NextEra's undersigned outside counsel Bryan Tramont and Timothy Cooney of Wilkinson Barker Knauer, LLP; the Lower Colorado River Authority ("LCRA") represented by Raul Garcia, Counsel, Jason Ervin, Director, Senior Director, Telecommunications, and LCRA's outside counsel Kevin Cookler of Lerman Senter PLLC; Oncor Electric Delivery Company LLC ("Oncor") represented by Robert Childers, Director Telecomm and Smart Grid Communications; and Harris Corporation represented by Dan Ericson, James Potter, and Danielle Marcella. Coalition members that could not attend the meeting but support the Coalition positions were Duke Energy Corporation, Exelon Corporation and Subsidiaries, Alliant Energy, Salt River Project, Jackson Electric Membership Corporation ("Jackson EMC"), and South Carolina Public Service Authority ("Santee Cooper"). A letter from Santee Cooper is attached as an example of support from one of the Coalition members not in attendance

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Coalition members discussed and distributed hard copies of the Cost-Benefit Analysis that NextEra submitted in this docket on September 14, 2018; and the two technical reports that NextEra submitted in this docket on September 21, 2018, including a technical report prepared by Harris Corporation. Also distributed were the attachments to this letter.

FPL, LCRA, and Oncor each described how their respective organizations use 900 MHz narrowband for mission-critical communications, including emergency communications and disaster recovery.

Harris Corporation discussed the technical challenges of reconfiguring the 896-901/935-940 MHz ("900 MHz") band to include a 3 MHz by 3 MHz segment broadband segment as proposed by Enterprise Wireless Alliance and pdvWireless, Inc. ("EWA/PDV"). These challenges include compacting incumbent licensee networks, now spread across the 5 MHz by 5 MHz band, into a compressed 1.85 MHz by 1.85 MHz band, as no analysis currently exists to show that the residual bandwidth available would allow existing narrowband licensees to replicate their operations without interference; the lack of a guardband between broadband LTE and narrowband 900 MHz operations; and the fact that the EWA/PDV proposed new technical rules that do not follow the precedent in the 700 and 800 MHz bands. These and other issues are discussed in detail in the two technical reports that NextEra submitted in this docket on September 21, 2018

The Coalition briefly summarized the Cost-Benefit Analysis NextEra submitted in this docket on September 14, 2018, demonstrating that the direct costs of reallocating the 900 MHz band in the parts of Florida served by FPL outweigh the potential benefits of rebanding by approximately \$15 million, and perhaps as much as \$93 million. Expanding the analysis of the EWA/PDV proposal in Florida to a national level suggests that the net effect of this policy would result in losses of as much as \$418 million to U.S. firms and citizens in total.

The figures for the FPL service area may understate the negative impact to the extent that they optimistically assume that FPL can successfully reconfigure its current 900 MHz network to provide the same level of service after reconfiguration. FPL is estimated to restore electrical service following catastrophic events like Hurricane Irma one to two days faster due to its current, hardened 900 MHz voice dispatch system. Should the 900 MHz transition not work as planned, then additional costs would be borne by the residents and businesses of Florida and the nation, between \$506 million and \$1 billion in FPL's areas of operation.

Additionally, it was discussed that the Utilities Technology Council ("UTC") is leading an effort to conduct testing among 900 MHz stakeholders, including representatives of PDV, to determine the potential interference impacts between narrowband and broadband systems at 900 MHz. The Coalition suggested that the FCC await the findings of this testing (anticipated by the end of 2Q 2019) before taking further action on the EWA/PDV proposal.

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The Coalition also explained that, if the intent of this proceeding is to support the broadband needs of utilities and other users of the 900 MHz band, the FCC should ensure that incumbents in the band have a fair opportunity and a realistic timeframe to become the broadband licensee and acquire broadband spectrum in their respective markets, as well as greater control over how to migrate their operations. The EWA/PDV proposal only gives incumbents 12 months to attempt to acquire spectrum to become a broadband licensee before it goes to auction, which is an unrealistic timeframe given the reality of how utilities and other incumbents operate.

Finally, the Coalition discussed the current freeze on 900 MHz applications, its support of the Petition for Reconsideration or Clarification of the Utilities Technology Council, and the likelihood of some Coalition members applying for a waiver of the freeze in the near future.

Please contact the undersigned if you have any questions.

Sincerely,

/s/ Bryan N. Tramont

Bryan N. Tramont

Timothy J. Cooney

Enclosures

cc: Commissioner Brendan Carr

Will Adams

Nicholas Degani

Umair Javed

Erin McGrath

CRITICAL INFRASTRUCTURE COALITION WT DOCKET NO. 17-200

The Critical Infrastructure Coalition (“CIC”) consists of publicly owned and investor owned electric utilities and an equipment manufacturer that use spectrum in the paired 5 MHz/5 MHz 900 MHz band at 896-901/935-940 MHz for critical public safety, utility service restoration and maintenance, and emergency communications.

The proposal of Enterprise Wireless Association and pdvWireless (“EWA/PDV”) to reconfigure the band to include a 3 MHz/3Mhz broadband segment has raised significant concerns. The Coalition has filed both initial (October 2, 2017) and reply comments (November 1, 2017). Coalition member NextEra Energy, Inc. also has filed a cost-benefit analysis (September 14, 2018) and two spectrum engineering reports (September 21, 2018) addressing technical issues.

- The PDV proposal would compress the narrowband portion of the band, which may prevent an incumbent from replicating its current narrowband network or expanding.
- Compression will require incumbents to deploy significantly more sites, resulting in increased costs that outweigh the benefits of the small 3/3 MHz broadband segment.
- The risks of interference to mission-critical communications are high, both from the adjacent proposed broadband LTE network and from the compaction of the narrowband allocation.
- Although a guardband is needed to protect narrowband systems from interference from LTE broadband, none is currently proposed by EWA/PDV.
- The Utilities Technology Council (“UTC”) is leading an effort to conduct testing among 900 MHz stakeholders in early 2019 to determine potential interference impacts of narrowband and broadband systems. The FCC should await the findings of this testing before taking further action on the EWA/PDV proposal.
- The FCC should explore options other than broadband to expand services in 900 MHz (point to multi-point data, grouping of contiguous channels to provide larger bandwidth services) and whether there should be an option on a regional basis to keep the services as narrowband only, with the ability to transition in the future.
- If the FCC proceeds with broadband in this band, it should provide equitable options for CIC members to become the broadband licensee, such as providing for more than one year for channel acquisition to allow CIC members to address issues like board funding and state or local government approvals, and giving CIC members more control over how to manage their migration from LMR to voice over LTE.
- Coalition members support the petition for reconsideration filed by UTC concerning the FCC’s 900 MHz application freeze in order to allow incumbents to continue to invest in their critical infrastructure.

**COST-BENEFIT ANALYSIS OF
THE PROPOSED BROADBAND ALLOCATION WITHIN THE
896-901/935-940 MHz (“900 MHz”) LAND MOBILE RADIO (“LMR”) BAND**

WT DOCKET NO. 17-200

pdvWireless (“PDV”) submitted a Cost-Benefit Analysis (“CBA”) on November 9, 2017, which failed to account for the vast majority of the costs that would be incurred by incumbent users, by U.S. residents, and even PDV to reconfigure the 900 MHz band to include a broadband segment.

NextEra Energy, Inc. commissioned The Brattle Group (“TBG”) to conduct a CBA that properly accounts for all parties who would incur costs under the proposed spectrum reallocation. TBG used the area of Florida that the Florida Power and Light Company (“FPL”) serves as a “case study” of the effects of the proposal.

- Following the Office of Management and Budget (“OMB”) guidelines for a CBA, TBG found that the direct costs of reallocating the 900 MHz band in the parts of Florida served by FPL are approximately \$98 million, consisting of one-time “transition costs” of \$62+ million and “ongoing costs” with a present value of \$35+ million.
- Within this region, TBG estimated that the PDV proposal will result in total benefits to society of at most \$83 million if the broadband pricing for significantly larger (and therefore more valuable) spectrum blocks holds, but possibly much less—as little as \$4 million based on the experience of an earlier auction of spectrum blocks more similar to the 3/3 MHz block proposed by PDV.
- Thus, TBG estimated that the proposal would have net private costs in excess of benefits in the FPL service territory alone of at least \$15 million (assuming the higher total benefits of \$83 million) and perhaps net costs in excess of benefits of \$93 million. Expanding the analysis of the PDV proposal in Florida to a national level suggests that the net effect of this policy would result in losses of as much as \$418 million to U.S. firms and citizens in total.
- Those figures may understate the actual negative impact because they optimistically assume that FPL can successfully reconfigure its current 900 MHz network to provide the same level of service after reconfiguration. FPL is estimated to restore electrical service following catastrophic events like Hurricane Irma one to two days faster due to its current, hardened 900 MHz voice dispatch system. Due to the significant probability that a major hurricane will affect Florida in any given year, should PDV’s proposed 900 MHz transition not work as planned, then additional costs would be borne by the residents and businesses of Florida and the nation, between \$506 million and \$1 billion in FPL’s areas of operation alone.
- The TBG estimated costs used in this analysis also do not reflect the costs that will be incurred by other narrowband incumbents forced to move channels.

TECHNICAL REPORTS REGARDING THE PROPOSED BROADBAND ALLOCATION OF THE 900 MHz BAND

WT DOCKET NO. 17-200

To analyze the potential impact of the EWA/PDV (“Petitioners”) proposal for reconfiguring the 896-901/935-940 MHz (“900 MHz”) band, NextEra Energy, Inc. commissioned two spectrum engineering reports, one by its equipment vendor Harris Corporation and the other by an independent engineering consultant firm, Gillespie, Prudhon & Associates, Inc. (“GP&A”).

The two technical reports focus on Florida Power & Light (“FPL”), which currently operates narrowband channels in its service territory across the entire paired 5 MHz by 5 MHz band. Site locations and effective radiated power for the FPL system currently are designed to provide mission critical reliability while maximizing the coverage of sites and minimizing coverage overlap.

- Petitioners seek to deploy a high density cellular network within the 900 MHz spectrum, while leaving less than 1.85 MHz of residual bandwidth for continuing narrowband operations. Petitioners have not shown that the residual bandwidth (only 148 channels compared with the current 399 channels) is sufficient for existing narrowband licensees to replicate their operations.
- The Harris and GP&A Reports each show that the effective narrowband allocation is even smaller because channels near the broadband allocations will likely be subject to higher levels of interference. A reconfigured band can be expected to reduce the coverage of an existing LMR communications system through two primary mechanisms: interference caused by LTE sites and closer spacing of LMR transmitter carriers.
- The Petitioners propose bifurcating the residual 900 MHz narrowband allocation into two segments on either side of the LTE broadband signal, effectively maximizing potential LTE interference to the narrowband operations for current, existing 900 MHz licensees.
- Within the proposed compressed 1.85/1.85 MHz narrowband allocation, frequency planning and network design would be far more difficult in terms of co-channel re-use, adjacent channel re-use, and combiner spacing requirements. The GP&A Report estimates at least 45 new sites would be needed to replicate FPL’s existing coverage.
- The lack of a proposed guard band between broadband LTE and narrowband 900 MHz operations with the EWA/PDV proposal also raises major concerns. By proposing a band reconfiguration without a guard band, the Petitioners are requesting a band structure that was considered and rejected in the 700 and 800 MHz bands.
- Petitioners’ proposals for license relocation and negotiation are not based on FCC precedent and heavily favor the Petitioners. These rules should be based on FCC precedent with adjustments made for best practices and lessons learned, as well as the unique aspects of the 900 MHz band.

South Carolina Public Service Authority
Utility Profile and Brief - Current Utilization of 900 MHz Narrowband Communications
October 24, 2018

The primary role of the South Carolina Public Service Authority (Santee Cooper) is the production, transmission and distribution of electrical energy for the citizens of South Carolina. Santee Cooper is one of the nation's largest municipal wholesale utilities and serves approximately two million South Carolinians. Direct service customers include large industrial customers, military facilities at Joint Base Charleston, Central Electric Power Cooperative Inc. (Central), and municipal electric systems for the cities of Bamberg, Georgetown, Seneca and Waynesville, North Carolina. As an association of twenty (20) electric distribution cooperatives, Central and its member cooperatives provide electric service for residential, commercial and small industrial customers in all 46 counties of the State.

Since 1999, Santee Cooper has been an incumbent, licensed user of 900 MHz BIL/T frequencies to operate a system-wide trunked radio system dedicated to providing two-way voice communications for core business operations, including Generation, Transmission and Distribution functions. As service providers and through close operational working relationships, Santee Cooper and Central-member cooperatives have together utilized this radio system to provide safe and reliable electric services. This radio system utilizes 75 discrete 900 MHz narrowband frequency channels and provides 268 radio system channels through 65 radio repeater sites located to extend system-wide voice coverage for nearly 3,200 Santee Cooper and Central-member cooperative radio subscribers.

In 2018, Santee Cooper commissioned a \$30 Million replacement of its original analog trunked radio system, using the same licensed 900 MHz frequency footprint to take advantage of new, digital technologies. As part of this replacement, radio system infrastructure was expanded to incorporate a fully-redundant, standby radio system master control site with automatic switching capability so as to provide uninterrupted, system-wide voice functions in the event the primary master control site is no longer performing this function. This modern radio system is anticipated to meet two-way voice requirements for both Santee Cooper and Central-member cooperatives for the next 10-15 years. As a long-term investment, it acknowledges the vital need for highly reliable voice communications for electric operations under both normal and adverse operating conditions.

A review of the realignment proposal for the 900 MHz BIL/T band identifies 54 of the 75 frequencies currently licensed for Santee Cooper's use are located within the band subject to realignment by this proposal. With this degree of impact, Santee Cooper seeks assurance that any new 900 MHz band plan minimizes disruption to daily operations of incumbent users, that reimbursement of associated reconfiguration costs be fully funded, and that the incumbent 900 MHz licensees be provided with equivalent facilities on other frequencies in the 900 MHz band providing equivalent spectrum, geographic coverage and voice quality, with a high level of interference protection and comparable long-term operating costs.

Respectfully submitted,

Arthur E. Brown, Jr., P.E.
Supervisor, Communications Design
Telecom Services