

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Review of the Commission’s Rules Governing)	WT Docket No. 17-200
the 896-901/935-940 MHz Band)	

COMMENTS OF THE CRITICAL INFRASTRUCTURE COALITION

City of Los Angeles, Department of Water
and Power
Harris Corporation
Lower Colorado River Authority
NextEra Energy, Inc.
South Carolina Public Service Authority

June 3, 2019

TABLE OF CONTENTS

INTRODUCTION AND SUMMARY	1
DISCUSSION	4
I. THE DANGERS ASSOCIATED WITH THE PROPOSED REALIGNMENT OUTWEIGH ANY PURPORTED BENEFITS	4
II. ANY REALIGNMENT MUST BE VOLUNTARY	6
III. ANY REALIGNMENT MUST PROTECT INCUMBENTS.....	7
IV. IF MANDATORY RELOCATION IS REQUIRED, THE PROPOSED DEFINITION OF A COMPLEX SYSTEM MUST BE REVISED	8
CONCLUSION.....	9

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Review of the Commission's Rules Governing)	WT Docket No. 17-200
the 896-901/935-940 MHz Band)	
)	

COMMENTS OF THE CRITICAL INFRASTRUCTURE COALITION

The Critical Infrastructure Coalition¹ (“CIC” or “Coalition”) submits these comments in response to the Commission’s Notice of Proposed Rulemaking (“*NPRM*”) in the above-referenced proceeding.² The Coalition previously raised serious concerns in response to the Notice of Inquiry³ in this proceeding regarding the negative impact a 900 MHz realignment to facilitate the deployment of a new “broadband” system would have on existing CIC operations. These concerns not only remain but are heightened by the proposals set forth in the *NPRM* that suggest that the mandatory relocation of incumbents may be required.

INTRODUCTION AND SUMMARY

The Coalition consists of electric and other utilities, water authorities, and equipment manufacturers, which use spectrum in the 896-901/935-940 MHz (“900 MHz”) and adjacent bands for critical public safety communications, nuclear power plant security, utility service

¹ The Critical Infrastructure Coalition members are listed on the cover page. These comments represent the general consensus positions of the Coalition, but individual members of the Coalition also may file their own comments. The Critical Infrastructure Coalition is an ad hoc group participating in this specific proceeding and is not affiliated with any group with the same or similar names participating in other FCC proceedings.

² *Review of the Commission’s Rules Governing the 896-901/935-940 MHz Band*, Notice of Proposed Rulemaking, FCC 19-18 (rel. Mar. 14, 2019) (“*NPRM*”).

³ *Review of the Commission’s Rules Governing the 896-901/935-940 MHz Band*, Notice of Inquiry, 32 FCC Rcd 6421 (2017) (“*NOI*”).

restoration and maintenance, smart grid applications, and emergency communications. For example:

- The City of Los Angeles, Department of Water and Power has been a user of the 900 MHz band in the Los Angeles area for more than 30 years and, at a cost exceeding \$10 million, upgraded its digital simulcast system to a Project 25 (“P25”) solution. This system is used to provide essential voice communication for normal and emergency operations, including the ability of executive management to communicate with 5000 users. A voice recording system is integrated with the P25 system to assist with risk management and evidentiary purposes. Dispatch consoles are provided additional feature sets such as the emergency function. This emergency function triggers an audible and visual alert at the dispatch console should personnel be injured or require assistance responding to internal disturbances.
- The Lower Colorado River Authority⁴ (“LCRA”) uses 900 MHz spectrum throughout central Texas for emergency voice communications and daily utility operations, including critical two-way voice and data services. In addition, LCRA engages in non-profit shared use of its 900 MHz land mobile radio system with other utility generation, transmission and distribution companies, and public safety entities, such as police, fire, EMS, emergency management, school districts, transit authorities, and flood management and warning systems. LCRA utilized its 900 MHz system, which remained operational throughout Hurricane Harvey while many commercial networks experienced outages, to monitor river conditions and manage flooding.⁵ LCRA also activated its 900 MHz Emergency Communications Unit to support public safety operations and restoration efforts in Rockport and Port Aransas, Texas and to survey damage along LCRA transmission lines between Corpus Christi and Rockport, Texas. Many real time decisions were made utilizing data captured via B/ILT channels, and any interference or loss of service regardless of duration would leave those managing these situations blind to current conditions.

⁴ The LCRA is a Texas conservation and reclamation district that provides many vital services, including delivering electricity, managing the water supply and environment of the lower Colorado River basin, providing public recreation areas, and supporting community development. LCRA supplies wholesale electricity to 34 Texas retail utilities that serve more than 1 million people in 55 counties. LCRA is a steward of the Colorado River and provides water for more than one million people, businesses, and industries in the lower Colorado River basin in Texas. LCRA operates six dams on the Colorado River that create the Highland Lakes and, through these dams, manages floodwater, and produces hydroelectric power. LCRA manages over 30 parks, recreation areas, and natural resource areas. LCRA’s affiliate, LCRA Transmission Services Corporation, owns or operates about 5,200 miles of transmission lines and owns, operates, or provides services at nearly 400 substations.

⁵ LCRA’s experience with its 900 MHz system during Hurricane Harvey is consistent with many other coalition members’ experiences during Hurricane Matthew in 2016. *See* Letter from Tania Hanna, Vice President, Government Relations, Harris Corporation *et al.*, Critical Infrastructure Coalition, to Marlene H. Dortch, Secretary, FCC, RM-11738 (Dec. 8, 2016).

- NextEra Energy, Inc. (“NextEra”) and its subsidiary Florida Power & Light Company (“FPL”) use the 900 MHz band for power plant security operations, including voice communications required by Nuclear Regulatory Commission regulations;⁶ nuclear siren system operations for public alerts; electrical service restoration and maintenance, including emergency notifications and disaster recovery communications; smart grid energy efficiency monitoring; and electric distribution system controls. For its recovery efforts following Hurricane Irma, FPL relied on its 900 MHz two-way PLMR system to help restore power to more than 4.4 million electrical customers in 10 days. In many cases, this communication system was the only available system for field restoration crews to utilize.
- The South Carolina Public Service Authority (“Santee Cooper”) is one of the nation’s largest municipal wholesale utilities and serves approximately two million South Carolinians. Customers include Central Electric Power Cooperative, Inc., an association of twenty electric distribution cooperatives providing electric service for residential, commercial, and small industrial customers in all 46 counties of the State. Santee Cooper is an incumbent, licensed user of 900 MHz BIL/T frequencies for operating a system-wide trunked radio system dedicated to providing two-way voice communications for core business operations, including Generation, Transmission and Distribution functions. As electric 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.

Given the aforementioned essential services provided over the 900 MHz band by CIC members and others, it is imperative that the Commission refrain from adopting changes that would disrupt critical infrastructure communications in the band or in adjacent spectrum without the voluntary consent of incumbent licensees. Thus, as discussed below, the proposed realignment should not be adopted because the dangers associated with the proposal outweigh any benefits. If the Commission nevertheless moves forward with the proposal, incumbents remaining in the band must be fully protected and any relocation should be strictly voluntary. The suggestion of mandatory relocation of “holdouts” is antithetical to a voluntary, market-

⁶ 10 C.F.R. § 73.55.

driven approach. At a minimum, any relocation should exclude complex systems that provide critical communications and are located in congested markets.

DISCUSSION

I. THE DANGERS ASSOCIATED WITH THE PROPOSED REALIGNMENT OUTWEIGH ANY PURPORTED BENEFITS

It is well established that, in adopting rules, an agency must “examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made.”⁷ The record compiled to date establishes that the proposed realignment of the 900 MHz band jeopardizes electric utilities, water authorities, and equipment manufacturers that use this spectrum for critical public safety, nuclear power plant security, utility service restoration and maintenance, smart grid applications, and emergency communications. Numerous parties, including the signatories to CIC’s comments in response to the *NOI*, opposed realigning the band as potentially disruptive to critical infrastructure communications.⁸ CIC previously noted that any proposed realignment of the 900 MHz band “would compress the narrowband portion of the band, causing short-term disruption, ongoing costs, and long-term interference to existing operations in 900 MHz and adjacent bands.”⁹ NextEra submitted two technical reports and a cost-benefit analysis demonstrating that the proposed band realignment would not serve the public interest.¹⁰ LCRA previously has

⁷ *Motor Vehicle Mfrs. Ass’n of U.S. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (citation omitted).

⁸ Comments of the Critical Infrastructure Coalition, WT Docket No. 17-200 (Oct. 2, 2017); Letter from C. Douglas Jarrett, Counsel for the Ad Hoc Refiners Group, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-200 (Nov. 6, 2018) (“Ad Hoc Refiners Group Ex Parte”).

⁹ Reply Comments of the Critical Infrastructure Coalition, WT Docket No. 17-200, at 3 (filed Nov. 1, 2017).

¹⁰ See Letter from Bryan N. Tramont & Timothy J. Cooney, Counsel for NextEra Energy, Inc., to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-200 (Sept. 21, 2018); Letter from Bryan

explained that it has been collecting and processing thousands of data points in real time to model and project river conditions.¹¹ Recent storms clearly illustrate why predicting a river crest is of immense importance when even one foot of water level can make the difference in whether a home, shelter, or community is flooded. LCRA discussed how these types of events highlight the importance of preserving and protecting the current and future uses of the narrowband 900 MHz B/ILT spectrum for private internal and public safety communications.

In light of that substantial opposition, it is worth noting that the record *fails* to demonstrate a significant need for the broadband service that would be offered over the re-configured band or that such a small segment of spectrum for broadband service is viable. Although the record contains support for providing additional spectrum for broadband use by the critical infrastructure industry, the record lacks support for the speculation that the small proposed 3/3 MHz broadband segment within the 900 MHz band can provide the services needed by this industry. The Ad Hoc Refiners Group stated “a 3 x 3 MHz band will not supply the bandwidth needed to support the ‘Refinery of the Future’ that entails digitizing refinery operations enabling both real-time and interactive machine-to-machine communications and generating and transmitting massive amounts of data to support in-depth analytics” and “that ‘the service’ that will be made available over the 3 x 3 MHz band is not defined.”¹² NextEra “questioned the commercial utility of a broadband segment as small as 3/3 megahertz, especially

N. Tramont & Timothy J. Cooney, Counsel for NextEra Energy, Inc., to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-200 (Sept. 14, 2018).

¹¹ Comments of Lower Colorado River Authority, WT Docket No. 17-200 at 5 (Oct. 2, 2017).

¹² Ad Hoc Refiners Group Ex Parte at 2-3.

in light of other broadband alternatives with greater bandwidth that are now available from FirstNet/AT&T, Verizon and other providers.”¹³

There is only one rational choice the Commission can make based on the aforementioned record¹⁴ – retain the existing 900 MHz band plan and reject calls to realign that band to facilitate a broadband segment that even the *NPRM* acknowledges is so small that it “would have relatively limited capacity and speed compared to existing nationwide and regional 4G networks.”¹⁵

II. ANY REALIGNMENT MUST BE VOLUNTARY

If despite the foregoing the Commission nevertheless moves forward with its proposal to allow realignment of the 900 MHz band to accommodate a 3/3 MHz broadband service, the alignment must be completed using a market-driven, voluntary approach. Although the *NPRM* primarily proposes “purely voluntary mechanisms” and a “market-driven approach,”¹⁶ the Commission also seeks comment on mandatory relocation procedures that could be used in the event voluntary realignment does not work.¹⁷ CIC opposes any mandatory relocation mechanism that would both interfere with the free market and potentially jeopardize critical infrastructure communications. The notions of “voluntary” and “mandatory” cannot be reconciled. The 900 MHz band is heavily encumbered by licensees using the spectrum for

¹³ Letter from Bryan N. Tramont & Timothy J. Cooney, Counsel for NextEra Energy, Inc., to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-200 at 1 (Mar. 6, 2019). These currently available broadband offerings from existing commercial operators will not require disruption to and relocation of critical communications networks currently operating in the 900 MHz band.

¹⁴ In adopting rules, the Commission must ensure that there is a “rational connection between the facts found and the choice made.” *State Farm*, 463 U.S. at 43.

¹⁵ *NPRM* ¶ 12.

¹⁶ *See id.* ¶ 37.

¹⁷ *Id.* ¶ 38.

critical communications that serve the public interest. These licensees should not be forced to relocate into new spectrum or deploy new systems that may be less resilient or more costly to operate, especially when the benefits of the realignment inure to a single party that to date has not put its spectrum to robust use.

If an incumbent chooses voluntarily to relocate, the Commission should reject the *NPRM*'s tentative proposal that the replacement spectrum the prospective broadband licensee offers for the purposes of relocation should not be permitted to exceed the incumbent's current spectrum holdings in the county.¹⁸ The Commission also must recognize that any compression of the spectrum available for narrowband relocation likely will require relocating incumbents to deploy significantly more sites closer together with more channels to achieve the same coverage and a comparable system.

III. ANY REALIGNMENT MUST PROTECT INCUMBENTS

If the Commission moves forward with its band realignment proposal, it must ensure that incumbents remaining in the band are fully protected.¹⁹ First, the Commission should ensure that incumbents are adequately protected from interference by adopting the same interference criteria that it developed for the 800 MHz band after it was segmented into separate narrowband and broadband parts of the band. Specifically, the Commission should align the 900 MHz B/ILT interference standard with the standard used for the 800 MHz band.²⁰ Under this approach, prohibited interference would be deemed to occur when the transceiver is receiving a median desired signal strength of -104 dBm or higher as measured at the radiofrequency input of the receiver of a mobile unit, or -101 dBm or higher as measured at the radiofrequency input of the

¹⁸ *Id.* ¶ 36.

¹⁹ *See NPRM* ¶ 73.

²⁰ *Id.*

receiver of a portable station and when the carrier to interference plus noise ratio ($C/(I+N)$) is lower than 20 dB.²¹ The Utilities Technology Council has also recommended adopting the 800 MHz interference parameters. In mixing broadband and narrowband together without a guardband, caution must be exercised in defining the interference criteria. Equipment used in the 900 MHz band can have sensitivities that are 15 dB below the -104 dBm interference level.

Second, incumbents remaining in the 900 MHz band should not be forced to transition from the current 12.5 kHz bandwidth to 6.25 kHz bandwidth.²² This proposal appears to be premised on the inaccurate notion that the band is inefficiently used by incumbents. This simply is not true. CIC members have maximized the use of the current 12.5 kHz bandwidth, using it for two channels and, as a result, a reduced bandwidth will be incapable of carrying the critical communications currently supported in this band.

IV. IF MANDATORY RELOCATION IS REQUIRED, THE PROPOSED DEFINITION OF A COMPLEX SYSTEM MUST BE REVISED

The *NPRM* seeks comment on whether mandatory relocation should be imposed on incumbent 900 MHz licensees and, if so, whether “complex systems, which could be defined as systems with 65 or more integrated 900 MHz sites,” should be excluded from mandatory relocation.²³ Although CIC remains opposed to mandatory relocation under any circumstances, it agrees that certain systems should be completely excluded from any consideration of mandatory relocation. The proposed 65-site threshold for excluding a system from mandatory relocation is much too high, however, and incumbents should be permitted to count all sites used in their interoperable networks, regardless of geographic continuity.

²¹ See 47 C.F.R. § 90.672(a).

²² See *NPRM* ¶ 36.

²³ *Id.* ¶ 38.

Many 900 MHz licensees have deployed networks to provide highly resilient, critical communications over very congested spectrum. These systems certainly are complex even if they do not satisfy the arbitrary 65-site threshold set forth in the *NPRM*. Further, in many cases, 900 MHz licensees have multiple networks across non-contiguous geographic territories. The ability to have these systems function in an interoperable function also must be classified as complex. At a minimum, any threshold for determining a complex system should include all the sites and channels used by a licensee across interoperable networks, regardless of geographic continuity; and the number of sites to be considered eligible as a complex system should be no more than 25.

CONCLUSION

For the foregoing reasons, the Commission should not move forward with its 900 MHz band realignment proposal. If the Commission nevertheless moves forward with its realignment proposal, narrowband systems must be fully protected under the rules by (i) adopting the same interference standard used in the 800 MHz band realignment (-104 dBm at a mobile unit and -101 dBm at portable station) and (ii) retaining the existing 12.5 kHz channel allocation. Finally, voluntary transitions must truly be voluntary and the threshold for excluding large systems from relocation should be 25 sites, even on a non-contiguous basis, with consideration given to other systems providing critical services such as nuclear siren system operations for public alerts.

Respectfully submitted,

By: _____/s/
Tom Oney
General Counsel
Lower Colorado River Authority
3700 Lake Austin Blvd.
Austin, TX 78703

By: _____/s/
William P. Cox
Florida Power & Light Co.
700 Universe Blvd.
Juno Beach, FL 33408
Will.P.Cox@fpl.com
Counsel for NextEra Energy, Inc.

By: _____/s/_____

Tania Hanna
Vice President, Government Relations
Harris Corporation
600 Maryland Ave., SW, Suite 850E
Washington, DC 20024
thanna@harris.com

By: _____/s/_____

Arthur E. Brown, Jr. P.E.
Supervisor, Communications Design
Telecom Services
SC Public Service Authority (Santee Cooper)
One Riverwood Dr., P.O. Box 2946101
Moncks Corner, SC 29461
aebrown@santecooper.com

By: _____/s/_____

Arun C. Orn
Assistant Supervisor, Wireless Transport
Engineering
Los Angeles Dept. of Water & Power
1141 W. 2nd St., Bldg. F
Los Angeles, CA 90012
Arun.Orn@ladwp.com