

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

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

To: The Commission

COMMENTS OF LOWER COLORADO RIVER AUTHORITY

Lower Colorado River Authority ("LCRA") hereby submits its comments in response to the Federal Communications Commission's ("FCC" or "Commission") *Notice of Inquiry* ("900 MHz NOI") requesting comment on issues regarding the 896-901/935-940 MHz band ("900 MHz band").¹

LCRA is a Texas conservation and reclamation district that provides many vital services to Texans, 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, including cities and electric cooperatives that serve more than one 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

¹ *Review of the Commission's Rules Governing the 896-901/935-940 MHz Band*, Notice of Inquiry, WT Docket No. 17-200, 32 FCC Rcd 6421 (rel. August 4, 2017) ("900 MHz NOI"). The Wireless Telecommunications Bureau extended the deadline for filing comments to October 2, 2017. *See* Order, DA 17-868 (rel. Sept. 8, 2017).

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.

I. The Public Interest Would Best Be Served By Retaining the Current Licensing and Eligibility Rules

LCRA, along with other critical infrastructure industry ("CII") entities that utilize the 900 MHz narrowband B/ILT channels, has been an active participant in the Commission's previous dockets considering changes to the 900 MHz band. LCRA hereby incorporates into this proceeding the comments that it previously filed in those dockets, both individually² and as part of the Critical Infrastructure Coalition.³ LCRA appreciates the opportunity to further address the Commission's questions posed in the *900 MHz NOI* and is also filing additional comments as part of the Critical Infrastructure Coalition.

Before the Commission evaluates any potential changes to the 900 MHz band, it is important to understand how the band is being used today. The Commission has previously emphasized that "dedicated spectrum allotted to B/ILT licensees at 900 MHz represents one of the few remaining opportunities for licensees to obtain much-needed spectrum."⁴ The Commission has also acknowledged "the vital communications role that 900 MHz B/ILT

² See LCRA Jan. 12, 2015 Comments, RM-11738 ("LCRA Jan. 12, 2015 Comments"); LCRA June 29, 2015 Comments, RM-11738 ("LCRA June 29, 2015 Comments"); and LCRA Sept. 21, 2015 Comments, RM-11755 ("LCRA Sept. 21, 2015 Comments").

³ See Critical Infrastructure Coalition June 22, 2016 Ex Parte Presentation, RM-11738; Letter from Critical Infrastructure Coalition to Marlene H. Dortch, Secretary, RM-11738 (filed Dec. 8, 2016).

⁴ *Amendment of Part 90 of the Commission's Rules to Provide for Flexible Use of the 896-901 MHz and 935-940 MHz Band Allotted to the Business and Industrial Land Transportation Pool*, Report and Order, WT Docket No. 05-62, 23 FCC Rcd 15856, 15863 ¶ 12 (2008) ("*900 MHz Report and Order*").

spectrum plays in enabling traditional B/ILT licensees to safeguard our nation’s critical infrastructure industries.”⁵

As explained in the *900 MHz NOI*, the record developed in the previous dockets makes clear that there is still a strong public interest in maintaining the current allocation and eligibility requirements in the 900 MHz band for narrowband B/ILT channels. The Commission must give significant weight to the public interest benefit provided by incumbent 900 MHz licensees that rely on this spectrum for critical utility and public safety operations as opposed to the speculative interest of commercial providers or other non-incumbents. The Commission must also continue to recognize – has established on the record – that this vital spectrum is needed for future use by B/ILT entities for site-based, narrowband operations.

For example, electric, gas, and water utilities have explained that they “use 900 MHz land mobile radio systems for voice communications in daily operations and during emergencies, including disaster recovery.”⁶ Other CII entities discussed how “their 900 MHz facilities are essential not only for performing day-to-day business operations, but also play a critical role in ensuring fast and reliable communications with local, state, and federal response teams during emergencies.”⁷ The Commission also cited comments from CII entities that rely on their 900 MHz facilities for operations at nuclear power plants, petroleum and natural gas refineries and chemical manufacturing plants, public alert notifications, flood warning systems, Smart Grid applications, transmission and distribution functions, and other purposes.⁸ CII entities further explained that “their need for narrowband spectrum to support voice for dispatch and other

⁵ *Id.* at 15864 ¶ 13.

⁶ *900 MHz NOI*, 32 FCC Rcd at 6424 ¶ 9.

⁷ *Id.* at 6424 ¶ 8.

⁸ *Id.* at 6424-25 ¶¶ 9-11.

applications will continue, due to their own business growth, as well as the deployment of new and better communications technologies.”⁹

Because of these public interest benefits provided by incumbent 900 MHz licensees and the demonstrated need for future use by site-based B/ILT incumbents, the 900 MHz B/ILT channels should continue to be reserved for site-based narrowband B/ILT private internal communications and the Commission should not open the band to commercial operations – whether through realignment or through revision of its rules to allow expanded commercial operations within the existing band plan.

LCRA has previously explained how it owns and operates a 900 MHz land mobile radio system for utility operations and how it provides non-profit, shared use of its system with public safety and other users.¹⁰ As the Commission is aware, Texas is still dealing with the devastating effects of Hurricane Harvey and restoration efforts remain ongoing.¹¹ During Hurricane Harvey and its aftermath, LCRA utilized its 900 MHz B/ILT narrowband channels to monitor river conditions and manage flooding between La Grange, Texas and Matagorda Bay. LCRA also activated its 900 MHz Emergency Communications Unit to support public safety operations and restoration efforts in the Rockport, Texas and Port Aransas areas, as well as for surveying damage along LCRA transmission lines between Corpus Christi and Rockport, Texas.

LCRA’s 900 MHz system was designed to – and in fact did – remain operational throughout Hurricane Harvey. Investments in generators, hardened shelters, and redundant communication links are examples of choices LCRA has made to keep these critical systems

⁹ *Id.* at 6425 ¶ 11.

¹⁰ See LCRA Jan. 12, 2015 Comments at 3-4; LCRA June 29, 2015 Comments at 2-3; and LCRA Sept. 21, 2015 Comments at 2-3

¹¹ See *e.g.*, FCC Chairman Visits Texas and Gets Firsthand Views of Hurricane Harvey Damage, Public Notice (rel. Sept. 6, 2017).

operating in the worst circumstances. Many real-time decisions were made utilizing data captured via 900 MHz B/ILT channels. Any interference or loss of service affecting these channels, regardless of duration, would leave those managing these situations blind to current conditions.

The Commission seeks comment on the future needs of B/ILT users and whether the current rules accommodate developing technologies.¹² LCRA is just one example of how CII entities are continuing to innovate within the current regulatory framework to make breakthroughs in the use of narrowband communications through technological advances in processing data received via B/ILT channels. LCRA has been collecting and processing thousands of data points in real time to model and project river conditions. Predicting a river crest is of immense importance when even just one foot of water level can make the difference in whether a home, shelter, or community is flooded. 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.

The Commission also seeks comment on whether, if it retains the current licensing and eligibility rules, any amendments to the current technical rules would be desired.¹³ The Commission should preserve B/ILT channels for private internal communications by disallowing the use of Commercial Mobile Radio Service (“CMRS”) on B/ILT channels. In the *900 MHz NOI*, the Commission notes that when it previously amended its rules to allow 900 MHz B/ILT users to convert their licenses to CMRS or to assign their licenses to CMRS, it did so “in large part to accommodate Sprint’s need for ‘green space’ for implementing 800 MHz rebanding.”¹⁴

¹² *900 MHz NOI*, 32 FCC Rcd at 6433, ¶ 41.

¹³ *Id.*

¹⁴ *Id.* at 6433 ¶ 42.

However, as the Commission correctly acknowledges “[t]hat need has passed.” This was a temporary solution to facilitate 800 MHz rebanding. Because 800 MHz rebanding has been completed, the FCC should reset the rules to preclude the use of CMRS service on B/ILT channels.¹⁵

In LCRA’s experience, interference at any level is unacceptable and B/ILT incumbents have historically cooperated in good faith to resolve any instances of such interference, regardless of the amount of interference. LCRA has also found that cellular carriers in adjacent bands have operated in good faith to eliminate interference above the typical operating thresholds of B/ILT users. Cellular carriers have respected the role B/ILT narrowband applications play in maintaining the reliability of critical utility systems for the general public.

In the context of the previous docket where the Commission considered the proposal to realign the 900 MHz band, Enterprise Wireless Alliance (“EWA”) and pdvWireless, Inc. (“PDV”) expressed their belief that “licensees in the Part 90 900 MHz band and in the adjacent NPCS band have enjoyed unusually low noise levels to date.”¹⁶ These comments raise concern that operations in the 900 MHz band will interfere with incumbents and reinforce the need to formalize current practices in the 900 MHz band by adopting an interference threshold that more realistically represents the current state of the band and ensures adequate protection for critical communications. LCRA recommends that the Commission adopt an interference threshold of -110 dBm. As LCRA previously discussed, LCRA’s 900 MHz system is designed to operate below -109 dBm and any interference above that threshold directly reduces the established coverage of the system. LCRA contends that interference above -110 dBm can be addressed.

¹⁵ See LCRA June 29, 2015 Comments at 4.

¹⁶ Reply Comments of the Enterprise Wireless Alliance and Pacific DataVision, Inc. at 6, RM-11738 (filed July 14, 2015).

II. The Commission Should Not Reconfigure the 900 MHz Band or Allow Expanded Commercial Operations

A. Expanded Commercial Operations Would Be Harmful to Critical Infrastructure Communications

LCRA reiterates its objections to reconfiguring the 900 MHz band to create a broadband service or to amending the rules to permit expanded opportunities for commercial providers to access B/ILT channels.

As LCRA has previously explained, expanding commercial service on 900 MHz B/ILT channels would have numerous negative impacts on current and planned investments by traditional B/ILT licensees.¹⁷ Expanding the eligibility for 900 MHz B/ILT channels to allow more commercial use of the spectrum would force traditional B/ILT entities to purchase access to this spectrum from commercial providers. It would also create channel scarcity for traditional B/ILT entities resulting in a lack of sufficient spectrum available for B/ILT entities to operate and expand their private internal communications systems.

Allowing expanded commercial service would enable for-profit entities to apply for all of the available channels in a given area, which would leave no spectrum available for traditional B/ILT eligible entities for legitimate private land mobile radio service. When the Commission adopted the prohibition in Section 90.617(c) on SMR systems using B/ILT channels, it correctly determined that allowing SMR use of the B/ILT channels “could cause a scarcity of frequencies” for private land mobile radio service operations.”¹⁸ The Commission explained that if the B/ILT channels remained available to SMR licensees, but are not subject to auction, “demand for the

¹⁷ See LCRA Sept. 21, 2015 Comments.

¹⁸ *Amendment of Part 90 of the Commission’s Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band*, First Report and Order, Eighth Report and Order, and Second Further Notice of Proposed Rulemaking, PR Docket No. 93-144, 11 FCC Rcd 1463, 1537 ¶ 141 (1995) (“*SMR Services Rules Order*”).

channels by SMR applicants seeking to avoid auctions may render them unavailable to other eligible Part 90 services.”¹⁹ Thus, the Commission revised its rules to “establish a clear demarcation between our spectrum allocation for SMR and other Part 90 services and eliminate the risk of SMR encroachment on non-auctionable PMRS spectrum.”²⁰

In 2008, the Commission retained the site-based licensing scheme for the 199 channels allocated to the B/ILT Pool because “dedicated spectrum allotted to B/ILT licensees at 900 MHz represents one of the few remaining opportunities for such licensees to obtain much-needed spectrum.”²¹ In 2015, the Wireless Telecommunications Bureau denied a waiver request to allow a commercial provider to obtain 900 MHz B/ILT spectrum because it was against the public interest.²² In doing so, the Bureau emphasized that the Commission had retained “site-based licensing in order to protect the viability of current and future ‘traditional B/ILT’ operations”²³

LCRA believes that use of 900 MHz B/ILT channels to provide a for-profit service would exacerbate the shortage of available B/ILT frequencies. The 900 MHz B/ILT spectrum should not be assigned to for-profit operations because it is scarce and is needed by B/ILT users, especially CII entities. If the Commission were to change the eligibility rules, it would be impossible to undo the damage caused to traditional B/ILT users once commercial entities begin grabbing up any remaining available spectrum in the B/ILT band.

¹⁹ *Id.*

²⁰ *Id.*

²¹ *900 MHz Report and Order*, 23 FCC Rcd at 15863 ¶ 12.

²² *Spectrum Networks Group, LLC Applications and Waiver Request to Allow It to Provide Private, Internal Machine-To-Machine Communications to Businesses on 900 MHz Business/Industrial/Land Transportation Channels*, Order, WT Docket No. 14-100, 30 FCC Rcd 3509 (2015).

²³ *Id.*, 30 FCC Rcd at 3513 ¶ 8.

B. Reconfiguration of the 900 MHz Band for Broadband Operations Would Cause Harmful Interference to Incumbents

LCRA remains strongly opposed to reconfiguring the 900 MHz band to designate a portion of the band for broadband operations. As LCRA has previously discussed, doing so would not serve the needs of current B/ILT incumbents, would have disastrous operational impacts on current B/ILT users, would cause significant harmful interference and would ultimately force incumbents to vacate the band.²⁴

As an initial matter, LCRA does not anticipate the need for broadband services using the 900 MHz spectrum. As discussed above, LCRA's 900 MHz B/ILT system remained operational throughout Hurricane Harvey and it was used to support public safety and restoration efforts. In contrast, LCRA would not be able to proactively adjust its resources if it had to rely on third party carriers because there was no indication of an impending outage for LCRA and there would be no guarantee of service restoration time. During Hurricane Harvey, LCRA was using an LTE cell modem to connect a mobile site back to the system. However, LCRA found that service was poor even after installing a directional antenna pointed to the strongest cell site. LCRA's technicians also experienced the interruption of cellular services in areas more heavily impacted by the hurricane.

LCRA has invested hundreds of millions of dollars over several decades in the private transport network that supports the reliability of its communications links, including tens of millions of dollars directly in its 900 MHz hardware, to achieve the reliability levels required to withstand an event like Hurricane Harvey. There is no guarantee or reasonable expectation that any third party commercial system would be designed or built with the reliability LCRA requires across the approximately 50,000 square mile territory LCRA currently serves. Any third party

²⁴ See LCRA Jan. 12, 2015 Comments at 4-6; LCRA June 29, 2015 Comments at 4-8; LCRA Sept. 21, 2015 Comments at 8-11.

building a system from the ground up would be at a severe disadvantage trying to provide a similar service across the same territory.

As demonstrated in LCRA's previous comments, it would be impossible to provide comparable facilities to incumbents such as LCRA that would have to be relocated because LCRA's existing channel quantity and site density cannot be accommodated and there would be no room for expansion.²⁵ Furthermore, LCRA's ability to acquire new frequencies for coverage and growth would be severely limited under any new realignment plan.

As LCRA also discussed in its comments, because LCRA and other incumbents would be receiving wideband interference, there would be no way to tune away or filter the channel interference.²⁶ Traditionally, interference to a B/ILT system from narrowband operations can often be tuned away or filtered. However, interference from wideband operations, combined with the lack of a guard band, will result in a far more degraded experience within the B/ILT band. The interference would be constant and could not be tuned away from, rendering the outer portions of the newly consolidated band unusable. Relocated B/ILT incumbents, hampered by interference from wideband operations, would be forced to vacate the band.

LCRA reiterates its opposition to realignment of the 900 MHz band to allow for commercial operations that would primarily serve the business interests of the commercial providers. It is clear that broadband commercial opportunities exist in other bands and that there is a strong public interest in preserving the 900 MHz B/ILT site-based narrowband channels for CII entities for current and future use. Instead of eliminating one of the few remaining opportunities for B/ILT licensees to obtain much needed-spectrum, the Commission should reclaim the entire 900 MHz band for B/ILT use to support critical communications.

²⁵ LCRA Jan. 12, 2015 Comments at 5-6; LCRA Sept. 21, 2015 Comments at 8-9.

²⁶ LCRA June 29, 2015 Comments at 5-6; LCRA Sept. 21, 2015 Comments at 9-10.

WHEREFORE, THE PREMISES CONSIDERED, Lower Colorado River Authority respectfully requests the Commission to take action in this docket consistent with the views expressed herein.

Respectfully submitted,

LOWER COLORADO RIVER AUTHORITY

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