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

In the Matter of	)	
	)	
Enterprise Wireless Alliance and Pacific	)	
DataVision, Inc. Petition for Rulemaking	)	RM - 11738
Regarding Realignment of 900 MHz	)	
Spectrum	)	

ONCOR ELECTRIC DELIVERY COMPANY LLC's COMMENTS IN RESPONSE TO PETITION FOR RULEMAKING

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TABLE OF CONTENTS

Pursuant to 47 C.F.R. § 1.415 and § 1.419 and the November 26, 2014 Public Notice issued by the Commission (DA 14-1723), Oncor Electric Delivery Company LLC ("Oncor") hereby files its comments in response to the Commission's Wireless Telecommunications Bureau request for comments in the above-referenced proceeding.

INTRODUCTION/SUMMARY

Oncor is a regulated electric transmission and distribution service provider operating the largest distribution and transmission system in Texas, serving ten million customers, and providing power to more than three million electric delivery points over more than 103,000 miles of distribution and 15,000 miles of transmission lines. Under the Commission's rules, Oncor qualifies as a Critical Infrastructure Industry ("CII").[1] Oncor has a substantial interest in the outcome of this proceeding because Oncor currently communicates in the 900 MHz band and anticipates — indeed, is planning for — continuing long-term use of the 900 MHz band as one means of supporting its mission-critical operations.

Currently, Oncor uses hundreds of narrowband channels in the 900 MHz band to provide its primary push-to-talk communications system not only during routine maintenance activities, but also during major events requiring large-scale restoration activities. Continued access to the 900 MHz band is also critical to Oncor's strategic plan for its future needs over the next two decades. Not only will Oncor's planned upgrade to its mission-critical communications system utilize the narrowband channels, but its

[1] "Critical Infrastructure Industry" is defined in 47 C.F.R. § 90.7 as: "State, local government and non-government entities, including utilities, railroads, metropolitan transit systems, pipelines, private ambulances, volunteer fire departments, and not-for-profit organizations that offer emergency road services, providing private internal radio services provided these private internal radio services are used to protect safety of life, health, or property; and are not made commercially available to the public."

implementation of smart grid applications will require additional narrowband *and* broadband capabilities.

The Petition's proposal is to realign the current band to create a Private Enterprise Broadband (PEBB) network, with the 900 MHz band divided into a 3/3 MHz broadband segment and a 2/2 MHz narrowband segment. Given the proposed priority access to the PEBB for CII entities like Oncor, the realigned 900 MHz band may be a feasible option for Oncor's smart grid communications requirements. Therefore, Oncor supports the FCC's review of the Petition, with critical consideration of stakeholders' interest through public hearings.

I. CURRENT AND CONTINUED ACCESS TO THE 900 MHZ BAND IS VITAL TO CONTINUED OPERATIONS BY CIIs.

The 900 MHz band is essential to both Oncor's current and future needs. Oncor currently relies upon a licensed trunked mobile radio system utilizing 421 narrowband channels in this band to operate a mobile voice system that provides mission-critical push-to-talk group communications between its field workers and its command and control dispatch centers. Within this radio system, Oncor has over 2000 mobile radios installed in vehicles, as well as over 500 portable radios, that employees use while working throughout the Oncor service area that covers roughly 90,000 square miles. These field radios are connected to several transmission and distribution dispatching centers via about 100 tower sites, where standby power resources are installed and maintained to meet current Electric Reliability Council of Texas (ERCOT) requirements and other regulatory controls. The towers are interconnected with central system switches via a hardened backhaul network that relies primarily upon private microwave and fiber-based communications pathways.

This system is relied upon by Oncor as its primary voice communications connection to field workers during the wide-ranging operational activities required to operate and maintain the electric grid in Texas. These activities include not only day-to-day routine maintenance activities, but also storm damage responses, major events like ice storms or hurricanes, and large-scale blackout restoration actions. Because carrier-grade communications architectures can be negatively impacted by huge public demands during the major events when Oncor's communications to the field are crucial, its current system was designed and is maintained to provide maximum separation from such public telecommunications networks.

Under its company-wide strategic communications investment plan, Oncor has concluded that its licensed trunked mobile radio system must be refreshed with a modern digital radio system based upon one of the international protocol standards like DMR, P25 or TETRA. At the same time, Oncor will also upgrade much of its private hardened backhaul network to effectively carry the refreshed radio system's digital communications from all tower sites back to central server-based switches and then on to Oncor's dispatch centers. Continued access to 900 MHz *narrowband* channels, that can appropriately support this refreshed mobile radio system for mission-critical push-to-talk group communications, will be vital to Oncor for the next ten to twenty years.

Oncor's strategic communications plan studied a variety of networks providing increased capacity and coverage to support greater visibility into a variety of substations, transmission and distribution field infrastructure locations and customer end points on the grid. The planned implementation of smart grid applications require additional data communications capabilities, both *narrowband* and *broadband*. For some applications,

bandwidth is less important than latency (i.e. delay in sending/receiving message content), which must be exceptionally low. Reliability and network resiliency must be extremely high so that communications are maintained, especially during emergencies such as power outages, natural disasters or grid emergencies. Thus, Oncor has a conceptual communications network design that it anticipates implementing beginning in 2015 for *narrowband* IP-enabled applications utilizing the 900 MHz band (using some 12.5 kHz channels freed up by the replacement of Oncor's current trunked mobile radio system and/or some newly-acquired channels possibly leased from PDV) for low-speed point-to-multipoint mission-critical IP-based smart grid applications. These applications include various transmission and distribution functions such as transmission line rating monitoring, distribution feeder automation (remote switching, Voltage and VAR management, load management, etc.) and the T&D supervisory control and data acquisition ("SCADA") necessary to support, monitor, control and secure various end points within the grid's field infrastructure.

For other applications, bandwidth must be high along with security and reliability/resiliency. Therefore, Oncor also has *broadband* IP-enabled applications that could be well suited for the proposed "build-to-suit" 3/3MHz network proposed by EWA and PDV in their petition. These broadband communications are NOT served appropriately by carrier-grade networks that carry inherent risks of congestion caused by huge public demands during major disaster events, or even complete failure during major electric grid system emergencies (i.e. blackouts). The Petition states that this broadband network will be dedicated to Private Enterprises (who use the B/ILT band) with a requirement to provide priority access to CII entities like Oncor. This priority access

requirement, along with an end-to-end hardened network design, is the key differentiator that allows Oncor to consider using the proposed Private Enterprise Broadband (PEBB) network for almost all smart grid applications.

Accordingly, Oncor supports efforts whereby the FCC reviews the Petition by EWA and PDV and holds public hearings where all parties, including CII entities, interested in the Petition can meet and thoroughly examine the concepts presented. A full public examination of the Petition will allow the band's stakeholders' interests and opinions to be considered.

II. QUESTIONS PROVIDED BY THE COMMISSION IN ITS PUBLIC NOTICE DATED NOVEMBER 26, 2014 (DA 14-1723).

Oncor offers these comments to the following questions that the Commission provided in its Public Notice:

> **Q: What need do B/ILT entities, particularly CII entities, have for broadband services that can be provided over a 3/3 MHz channel and cannot be met by existing broadband service providers? What functionality do these entities currently lack that could be provided pursuant to the proposed realignment? Does the need for such services exist nationwide?**

Oncor needs mission-critical grade broadband communications, particularly for substations, that can be fully separate from all public carriers and other carrier-grade networks. This is to ensure that Oncor's priority grid communications are NOT degraded or blocked by the public's rush to communicate during major disaster events. A mission-critical grade broadband network that is immune and insulated from public congestion pressures would keep Oncor's grid operation communications protected and fully available when the reliable operation of the grid needs secure telecommunications the most.

The PEBB network must also have redundant backhaul transport pathways to provide adequate capacity for possible surges in communications loading during various grid-related events. This network needs to be fully hardened with standby power supplies to operate through localized outages as well as through widespread blackouts.

Finally, the hardened network requirement generally exists for most utilities nationwide, but with a localized geographic requirement for interconnectivity with neighboring utilities and regional grid operators. This is related to the organization of the electric grid into a number of discrete geographic-based operational areas. ERCOT is one such operational area and Oncor must be able to integrate communications with ERCOT and other utilities within ERCOT in Texas.

Q: In addition to realigning the band, what changes to the Commission's technical rules would be required to enable the PEBB licensee to provide the contemplated broadband service? What other rule changes would be needed to prevent interference between the PEBB licensee and adjacent-channel operations?

Oncor believes that the primary rule change that will be needed is that adequate separation be provided between the PEBB and neighboring operations with the provision of appropriate guard band or guard bands. Technical assessments and public dialog need to be undertaken to guide the FCC in determining where guard bands are needed and what size they need to be to allow adjacent operations to continue with minimal or no interference. This is particularly true for the lower 2/2 MHz of the realigned 900 MHz band where all narrowband B/ILT voice systems will be relocated. These systems provide important mission-critical voice and narrowband data services to their users, including Oncor, as described above in section I. Interference with these services after the PEBB is operational will be unacceptable.

Another requirement vital to the success of the PEBB is that CII entities truly be provided with priority access, per the FCC's rule requirements on the realignment of the 900 MHz band. During the times of external stress mentioned above, utilities and other CII entities MUST have priority access to telecommunications resources to allow their mission-critical operations to continue. Other non-priority users of the PEBB will see some restrictions on their communications traffic, but they will benefit from being insulated from the public carriers and their risks for congestion. Society as a whole will also benefit as the CII users of the PEBB will be able to address emergencies effectively and quickly using this priority access to broadband communications.

Q: What are the estimated costs to relocate incumbents from the broadband segment to the narrowband segment? Will the narrowband segment accommodate all relocating licensees, even in congested areas?

Oncor believes that the costs to relocate most incumbent users of the 900 MHz band will be minimal IF their systems are capable of being re-tuned to channels allocated in the lower 2/2 MHz section of the realigned band. However, some older systems may require additional expense to move or might be candidates for replacement. Public hearings should consider how these systems are addressed between their owners and PDV.

The public hearings should fully consider how much spectrum PDV holds within the entire 900 MHz band. The ability to relocate all current narrowband users, including Oncor, to the 2/2 MHz narrowband segment of the realigned band is solely dependent upon how much spectrum PDV holds. Technical experts can consider the adequacy of their spectrum holdings for the realignment, in various areas, during the public hearings process.

Q: If the necessary changes to the technical rules are adopted to permit the contemplated broadband service, can the aggregation of spectrum to be accomplished by means other than the process proposed by Petitioners? For example, are existing secondary market rules sufficient to allow realignment that would effectively separate narrowband and broadband operations?

Oncor believes that the process proposed by the petitioners is required to generate adequate momentum for change to allow the PEBB to be created within the 900 MHz band. Oversight by the Commission will ensure that the incumbents will be protected during the relocation process with little to no impact on their operations. Also, rules by the Commission would allow the PEBB to offer services to various private enterprises with the restriction that CII users would have priority access during emergencies. Therefore, Oncor believes that public hearings on the Petition will allow all stakeholders a place to make their needs and concerns known.

CONCLUSION

Oncor respectfully requests that the Commission undertake hearings for the 900 MHz band realignment petition with spectrum assigned for both narrowband and wideband uses consistent with these comments. Oncor looks forward to working further with the Commission and its Staff on these issues of great importance to Oncor and its customers.

Respectfully submitted this 12th day of January 2015.

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