

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)
)
Amendment of Part 90 of the Commission’s Rules) WP Docket No. 07-100
)
To: The Commission)

**REPLY COMMENTS
OF
PDVWIRELESS, INC.**

pdvWireless, Inc. (“PDV” or “Company”), in accordance with Section 1.415 of the Federal Communications Commission (“FCC” or “Commission”) rules, is pleased to submit its Reply Comments in the above-entitled proceeding.¹ The Sixth FNPRM raises important questions about whether more intensive use could be made of the 4.9 GHz band, including by expanding the universe of entities eligible to operate on this spectrum and thereby promoting a more robust equipment marketplace with enhanced capabilities at reduced cost. PDV concurs with the Joint Comments filed by the Utilities Technology Council, the Edison Electric Institute, the National Rural Electric Cooperative Association, and the Gridwise Alliance (collectively, the “Utilities”), the Joint Comments submitted by the American Petroleum Institute (“API”) and the Energy Telecommunications and Electrical Association (“ENTELEC”) (collectively, “API/ENTELEC”), as well as the Comments submitted by the Enterprise Wireless Alliance (“EWA”), the National Public Safety Telecommunications Council (“NPSTC”), Southern Company Services, Inc. (“Southern”), the American Association of State Highway and Transportation Officials (“AASHTO”), and others urging the Commission to authorize primary eligibility in the 4.9 GHz band for Critical Infrastructure Industry (“CII”) entities, in some cases subject to certain

¹ Amendment of Part 90 of the Commission’s Rules, WP Docket No. 07-100, *Sixth Further Notice of Proposed Rulemaking* FCC 18-33 (2018) (“Sixth FNPRM”).

conditions. CII's need for licensed broadband spectrum is urgent and expanding rapidly. While narrowband systems may continue to play a role in CII operations for some time, they cannot support the IP-based communications required to support most of the advanced applications needed to enable these entities to meet ever-expanding demands on their capabilities. This band represents one allocation in which the FCC can begin to address this spectrum deficit that threatens to undermine the electric grid on which every citizen, business and governmental entity in this nation relies every day.

The criticality of this issue is expressed in stark terms by the Utilities:

Utilities and other CII lack access to additional spectrum to meet their increasing communications needs, and the existing spectrum bands these entities use are subject to increasing congestion and interference....²

More specifically:

In order to meet their increasing communications demands, utilities and CII need access to additional spectrum supporting the capacity, coverage, and other requirements that utilities and CII must meet. Utilities do not currently have access to suitable spectrum to meet the demands from smart grid and other applications. The land-mobile spectrum utilities currently use is narrowband and subject to interference and congestion....Unlicensed spectrum is subject to power limitations and interference, reducing its coverage and reliability. Hence, utilities and CII need access to spectrum that provides the capability for wideband fixed and mobile applications to provide additional wide-area coverage and backhaul.³

API/ENTELEC also emphasized the vital importance of broadband spectrum for the petroleum, natural gas, pipeline, and electric utility entities they represent:

...our membership overwhelmingly feels the 4.9 GHz band offers the Commission a great opportunity to provide broadband spectrum that is needed by critical infrastructure and new technology interests.⁴

The Joint Comments filed by the Utilities highlight an essential fact regarding CII spectrum requirements: even 4.9 GHz would not address all their broadband needs and would not be a

² Utilities Joint Comments at 2.

³ *Id.* at 6-7.

⁴ API/ENTELEC Comments at 2.

substitute for spectrum in other bands that is used to support different applications. The increasing complexity of utility communications is driven in large part by the escalating demands of the electric grid. The industry is evolving from centralized generation and distribution to a more efficient and resilient distributed model. This evolution promises major improvements in our electric grid in terms of customer service, security, resiliency, and efficiency, but it cannot be accomplished without a comparable evolution in the capabilities of the underlying communications grid.⁵

Data connectivity is the neural system that makes a coordinated, interactive approach possible, but today's amalgam of narrowband and limited-application networks is too inefficient, complex, and capacity-constrained for utilities to sustain for current usage, much less to support future modernization efforts. It is expected that the number of connected data-generating devices will increase by a factor of eight in the next decade, and the amount of data each device generates also will grow. A modernized grid will offer new service capabilities IF it is supported by robust, secure, high-capacity wireless broadband data networks.

PDV uses the plural – networks – advisedly. Different bands have different propagation and penetration capabilities and are subject to different FCC regulations in terms of bandwidth, emission masks, power, antenna height, geography, and other factors. As the Utilities explained:

Utility Information and Communications Technology (ICT) networks need increased capacity and coverage to support greater visibility into the critical infrastructure owned and operated by [CII] entities. For some applications, latency needs to be exceptionally low. Moreover, reliability and resiliency of the network needs to be exceptionally high....⁶

⁵ Southern noted that “The Commission recognized the need for spectrum for Smart Grid networks, and the similar communications needs of utilities and public safety agencies, in the National Broadband Plan.” Southern Comments at 7, citing Federal Communications Commission, *Connecting America: The National Broadband Plan* (March 16, 2010).

⁶ *Id.* at 6.

Spectrum at 4.9 GHz is optimally suited for certain CII applications, but not all. The same is true for 3.5 GHz, which may not be auctioned in license sizes recommended by CII entities, while 6 GHz microwave links remain a mainstay for CII and many other users. As stated by the Utilities: “To be sure, utilities need access to additional spectrum and although the 4.9 GHz band will help, it will not meet all of utility additional spectrum requirements, nor could it substitute for continued access to existing spectrum bands.”⁷

This multiplicity of CII operational requirements prompted PDV to join with EWA in proposing a realignment of the 900 MHz band to provide for continued narrowband use while dedicating a portion of the band for broadband facilities operated by CII and other business enterprise users.⁸ PDV is pleased that the record in those proceedings reflects growing support for reconfiguring spectrum already allocated for use by CII and others to create a broadband option for those same entities in a band with superior propagation and penetration characteristics. Access to licensed broadband spectrum in various bands – 900 MHz, 4.9 GHz, 3.5 GHz, and others – will provide the complementary suite of spectrum options needed for the modernized, smart, secure electric grid.

Respectfully submitted,

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⁷ *Id.* at 3.

⁸ See Petition for Rulemaking of the Enterprise Wireless Alliance and Pacific DataVision, Inc., RM-11738 (filed Nov. 17, 2014); see also Review of the Commission’s Rules Governing the 896-901/935-940 MHz Band, WT Docket No. 17-200, *Notice of Inquiry*, 32 FCC Rcd 6421 (2017).