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FCC moves on plan to allocate broadband spectrum for utilities

By George Lobsenz

Overriding concerns raised by some electric utilities about costs and potential impacts on their current telecommunications operations, the Federal Communications Commission last week advanced a proposal to allocate part of the wireless broadband spectrum to serve the fast-growing data connectivity needs of electric utilities and other critical infrastructure operators.

The commission Thursday unanimously approved a notice of proposed rulemaking to implement a plan by pdvWireless (PDV), a private wireless provider, and the Enterprise Wireless Alliance (EWA) calling for the agency to realign part of the 900 MHz LTE spectrum so it can be offered to utilities as a more robust, secure data network than the fragmented wireless communication operations that now characterize the electricity sector.

PDV, a New Jersey-based firm led by the founders of Nextel Communications, has been pushing for the FCC action since 2014, shortly after acquiring 900 MHz spectrum from Sprint. EWA is a national association representing business enterprise wireless users and suppliers to the wireless industry.

PDV and EWA say enabling utilities to standardize on a realigned 900 MHz band will not only address cyber-security anxieties but enable utilities to more cost-effectively pursue the broader wireless communications capabilities needed to handle the growing tidal wave of data that is coming with grid modernization.

However, the proposed reallocation of the 900 MHz band drew objections from several large electric utilities that currently use that part of the spectrum for internal communications, including emergency operations. Florida Power & Light (FPL) was among the most outspoken critics, saying the reallocation could disrupt its current use of the 900 MHz band and impose huge new transition costs in its telecommunications operations.

FPL and other utilities belonging to the Critical Infrastructure Council (CIC) submitted an analysis to the FCC in September 2018 that said the direct costs of reallocating the 900 MHz band in the parts of Florida served by FPL would 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," FPL and other CIC members said in a follow-up October 26 letter to the FCC.

"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," the letter added.

"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."

The letter said other CIC members were Duke Energy, Exelon, Alliant Energy, Salt River Project, Jackson Electric Membership Corp. and Santee Cooper.

However, other big utilities—including Southern and Ameren—backed the PDV-EWA proposal, saying realignment of the 900 MHz band would help utilities facing huge new connectivity needs due to the growth of smart meters as well as distributed energy resources and energy storage providers that are increasingly being tied into their transmission networks. Those green energy resources are being integrated into the grid through new interactive communication systems that must handle and analyze reams of new operating data for dispatch and payment, often in real-time.

PDV has acknowledged the concerns of utilities and other 900 MHz band users about potential disruption of their existing telecommunications operations, but has pledged to work cooperatively with utilities and others with "narrow-band" 900 MHz operations to relocate those operations to other parts of the spectrum through voluntary agreements—an approach that the FCC proposed in its rulemaking. However, the commission also included provisions to address "holdouts" that refuse to relocate their operations to accommodate the reassignment of the 900 MHz band.

The FCC noted the continuing opposition of some utilities in its proposed notice of rulemaking, but said most of the comments it received on the PDV/EWA proposal were positive.

"Most commenters support, at least in principle, the creation of a 900 MHz broadband service," the commission said. "They recognize that broadband is an effective tool for addressing the current and future communications needs of a wide range of the 900 MHz band users, and they agree that a broadband service targeted to Business/Industrial Land Transportation (B/ILT) entities could provide the coverage and

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reliability that electric and other utilities require but cannot obtain from consumer-oriented commercial wireless carriers.

"Some commenters unreservedly advocate adoption of EWA and PDV's realignment plan. Others' support is contingent on the commission addressing certain concerns, such as preserving their ability to operate and expand 900 MHz narrowband systems, preventing interference to such operations from broadband systems, and minimizing the cost and disruption of band realignment. Based on such concerns, a smaller group of commenters, mostly electric and other utilities, ask that we not designate any portion of the 900 MHz band for broadband operations."

However, the FCC said it was convinced the proposed realignment of the 900 MHz band for business broadband use would have particular benefits for electric utilities, and noted that Ameren already was exploring the potential of that band to enhance its telecommunications operations under an experimental license granted by the FCC in May 2018.

"High-speed broadband is essential for robust business growth, and providing an opportunity for broadband in the 900 MHz band could enable a wide variety of businesses to unlock the full potential of broadband and its applications," the commission said. "Electric utilities in particular have many ways to enhance their operations, such as installing smart grid systems and using dedicated broadband spectrum to improve coverage, latency, and throughput.

"For example, Ameren Services Company is testing 900 MHz broadband solutions for metering, monitoring and control of energy facilities pursuant to experimental authorization. Even entities that use commercial [wireless] services throughout many parts of their business assert that they cannot use such services for mission-critical communications, and instead rely on private radio systems.

"We believe that realigning the 900 MHz band will create opportunities for robust broadband networks that fully support critical communication systems and that ensure the low latency and ultra-high reliability required by electric and other utilities, as well as other B/ILT...spectrum users," the FCC concluded. "Accordingly, we propose to realign the 900 MHz band to enable broadband deployment, and we seek comment on how to realign the band, how to conduct a transition, and the technical rules needed to make the realignment a reality."