900 MHz Realignment Issue Brief

SUMMARY

The radio portion of the electromagnetic spectrum is needed to enable wireless applications for utilities, public safety, and telecommunications providers, among others. This radio spectrum is subdivided into various bands" (measured in "hertz") that have different properties. Under a proposal pending at the Federal Communications Commission (FCC), the 900 MHz band would be realigned into two separate blocks: narrowband and broadband.

The broadband block of spectrum would be used to provide utilities and other critical infrastructure industries with broadband access on a priority basis during emergencies. It would also be made available to other radio operations on a non-priority basis. The narrowband block of spectrum would be reserved for traditional land mobile operations.

UTC POSITION

The proposal raises some utilities' concerns regarding the potential impact on incumbent utility private networks, which support mission critical communications. Utilities often operate their own "private" communications networks (which, in this case, means networks not operated by telecommunications providers, typically to ensure optimal reliability for critical infrastructure sectors such as utilities). Such utilities have, in some cases, purchased or otherwise gained access to certain bands of spectrum to enable wireless applications.

These incumbents in the 900 MHz would need to relocate into the narrowband block of spectrum to make way for the broadband block. Therefore, they are concerned that there will be insufficient spectrum to accommodate the relocation of these incumbents. These incumbent utilities are also worried about increased interference to these systems as a result of the relocation. Finally, incumbent utilities may face increased costs due to the realignment of the band, both in terms of the relocation and the buildout and operation of the broadband networks. The Utilities Technology Council (UTC) has raised these concerns in filings with the FCC and called for them to be addressed prior to any realignment of the band.

BACKGROUND

Many utilities have networks that operate in the 900 MHz band, and they use them for a variety of mission critical communications. Utilities and their consumers continue to make substantial investments in these systems and cannot afford to incur interference or reduced coverage on their 900 MHz systems from a mission critical reliability perspective. Nor can they afford to strand financial investments already made, which would ultimately be borne by their customers.

pdvWireless (PDV) and the Enterprise Wireless Alliance (EWA) have proposed to the FCC that the 900 MHz band be reconfigured to create a contiguous 3X3 MHz block of spectrum at 898-901 MHz/937-940 MHz for broadband operations--the Private Enterprise Broadband Block (PEBB). This would support a broadband "long-term evolution" (LTE) network, which is a standard for high- speed wireless communications.

Incumbent private systems that operate on channels in those frequency ranges would have the option to participate in the broadband network or relocate their narrowband operations down in a 2X2 MHz block of spectrum at 896-898 MHz/935- 937 MHz. Under the proposal, any costs associated with relocating incumbents deciding to move to comparable facilities would be paid for by the PEBB licensee. Alternatively, if a utility decided to participate in the

broadband network, it would be provided priority access to available capacity during emergencies. Under the proposal, the broadband network would be constructed to meet the utility's specifications.

In concept, the proposal offers utilities with the opportunity to access broadband spectrum that would provide capacity and coverage needed to meet communications needs. In practice, however, the proposal raises some concerns for incumbent users in the band.

Utilities are primarily apprehensive about the impact that the broadband network and the relocation of incumbents would have on utility operations in the 2X2 narrowband block of spectrum. Incumbent systems could suffer disruption from being forced to relocate and retune all of their equipment from their current channels. Moreover, relocating could also re- duce the coverage of and increase interference to these systems. Finally, there simply might not be enough capacity in the 2X2 MHz block of spectrum to accommodate all incumbents deciding to relocate their systems from the channels in the 3X3 MHz block of spectrum.

Even if relocation could be accomplished as a practical matter, there is the possibility that the cost of relocation will not be fully reimbursed by the PEBB licensee and/or the system will not be comparable to the previous system. Though PDV and EWA have assured utilities that all of the costs of the relocation will be reimbursed, the actual costs covered are in dispute, as is the definition of interference. Moreover, even if the broadband block could be configured in the 900 MHz band, the question of the cost to build and operate such a network, particularly one designed and constructed to utility reliability and resiliency standards, remains.

SITUATIONAL AWARENESS

UTC shares the concerns about the proposal to reconfigure this band and has urged the FCC to address these issues before it adopts any rules for reconfiguring the band – including conducting a cost-benefit analysis. While utilities do need access to broadband spectrum, it should not come at the expense of existing systems. A realignment should only be adopted if the benefits to utilities are clear and the risks minimal.

UTC is engaging with PDV/EWA to facilitate field tests with utilities to help assess the potential for interference to and from narrowband systems. Such tests should answer some of the questions surrounding the proposal to realign the bands, at least from a technical feasibility perspective. In the meantime, the FCC is conducting an inquiry proceeding in response to the petition.

This petition represents both an opportunity and a challenge for utilities. While it offers utilities access to broadband spectrum in a frequency range that would support their capacity and coverage requirements and it would provide priority access for utilities and other critical infrastructure during emergencies, it raises the potential of interference to utility narrow- band land mobile systems that would operate below 937MHz.

ABOUT UTC

The Utilities Technology Council (UTC) is a global trade association dedicated to serving critical infrastructure providers. Through advocacy, education and collaboration, UTC creates a favorable business, regulatory and technological environment for companies that own, manage or provide critical telecommunications systems in support of their core business.

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