4.9 GHz: It's Not Just for Public Safety Anymore

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When I was a kid, I used to love watching commercials. You had the classic, "It's not nice to fool mother nature" line for Chiffon margarine. Then, you had the "He likes it! Hey Mikey!" line for Life Cereal. But, one of the all-time classic commercial lines was "it's not just for breakfast anymore" for Florida orange juice. That campaign gave birth to hundreds of similar product pitches and is probably one of the most successful slogans in advertising history.

Which brings us to the 4.9 GHz band and the Federal Communications Commission's (FCC, the Commission) further notice of proposed rulemaking (FNPRM). When the Commission adopted the FNPRM in April, the Chairman and practically every commissioner issued separate statements decrying the alleged underusage of the 4.9 GHz band by public safety. For example, in his statement, Chairman Ajit Pai cleverly interweaved references to the Roomba, which was a robot vacuum cleaner that was introduced in the same year that the FCC allocated the 4.9 GHz band for public safety use. The punch line to his separate statement was, "[i]f America has the ingenuity and vision to make a success of robot vacuum cleaners, then surely with your help we can make a go of the 4.9 GHz band." What a sales pitch!

Meanwhile, Commissioner Michael O'Rielly, Commissioner Brendan Carr and Commissioner Mignon Clyburn all observed that there was only an estimated 3.5 percent of the eligible public safety licensees that were actually using the spectrum. They each offered different views of how to remedy the situation, and Commissioners Carr and O'Rielly decidedly favored opening the band to other use cases, including commercial communications purposes. Commissioner Jessica Rosenworcel refrained from issuing a separate statement, but simply offered her support by verbally offering her hope that this Sixth Further Notice of Proposed Rulemaking will prove to be the charm.

While some dispute the premise that the band is underused, the Commission is clearly convinced that this spectrum isn't being used effectively enough -- and as former Reagan strategist Lee Atwater used to say, in politics, perception is reality. So, the central question for the FNPRM is not if, but how to revise the rules to improve the use of the band. While the Commission suggests changing the technical rules, it also considers fundamentally altering the service rules by expanding eligibility, sharing the band or opening it up partly or completely for commercial use. If the 4.9 GHz band was Florida orange juice, the FCC would be saying "it's not just for public safety anymore."

Enter utilities. As a way to make more effective use of the 4.9 GHz band, the Commission is considering expanding eligibility in the band to include utilities and other critical infrastructure industry entities. The concept is not new; the Commission first proposed expanding eligibility to include utilities and CII back in 2012. At the time, UTC worked with the National Public Safety Telecommunications Council (NPSTC) to develop a plan which recommended various ways to promote the use of the band, including making utilities eligible for licensing. That plan was submitted to the Commission in 2013, and UTC filed comments in support of the NPSTC band plan. The Commission considered the comments and circulated a draft FNPRM in 2016, which was pulled from the FCC's November Open Meeting agenda before it could be adopted. The delay was expected to be short, but it has taken nearly another year and a half for the FCC to take the FNPRM up again. To echo Commissioner Rosenworcel's remarks, maybe the sixth time around will be a charm and the FCC will finally decide to expand eligibility to include utilities and CII.

But getting there is half the battle. Now that the FNPRM has been adopted, utilities must convince the FCC that including them as eligible licensees is the answer to making efficient and effective use of the band. There are many reasons in favor of this idea. Utilities have increasing communications needs yet they lack access to any licensed spectrum with as much bandwidth as the 4.9 GHz band. It could prove to be effective at supporting a variety of high capacity utility applications in the field area network. Moreover, utilities and public safety have similar communications requirements in terms of high reliability,

availability and resiliency. Therefore, they are compatible users of the spectrum, and utilities could share systems with public safety to help to cost-effectively promote the development, construction and operation of statewide public safety/public service networks. In this way, utilities and public safety are like peanut butter and chocolate, two great tastes that taste great together.

Saying utilities are the answer for the 4.9 GHz band is one thing; proving it is another. For that, utilities need to not only show in the abstract that they have sufficient communications requirements to consume the 50 megahertz of spectrum in the 4.9 GHz band, but they also need to show how widely they plan to deploy systems across the country, as well as when and how much they plan to invest. In short, detailed business plans as well as technical information will be needed to make the case. It is also important to note that the Commission seems to understand that restrictions on utility access to the band -- including priority and preemption by public safety -- will discourage utilities from investing in the band. So, utilities need to also emphasize that ensuring communications reliability (e.g. priority) will be important for them to justify making substantial investments in the band. Like Smith Barney, utilities are going to need to make their case the old-fashioned way; they are going to have to earn it.

Enter Public Safety. While the focus of the FCC is clearly on spectral efficiency and the potential economic value of the spectrum, the Commission must also balance the public interest and public safety benefits at issue. The good news is that public safety – police, fire and rescue – generally support allowing utilities and CII to access the 4.9 GHz spectrum. They recognize that utilities and CII help to support public safety by providing electric, gas and water services, and that communications helps to ensure the safety, reliability and security of these essential services. Moreover, they recognize that public safety must coordinate with utilities and CII during emergencies, such as during a power outage, a fire, or a natural disaster, such as a hurricane or a major snow storm. Conversely, public safety recognizes that sharing the band with commercial service providers could lead to congestion, which would potentially undermine the reliability of public safety communications. As such, expanding eligibility to include utilities and CII provides public interest benefits that other options – such as auctioning the band for commercial services – wouldn't. It tastes great and it's less filling – or at least it's not overfilling (the way commercial use would displace public safety use of the band). The FCC must balance these public interest and public safety considerations, rather than being exclusively focused on converting spectrum to commercial purposes.

The FCC will need a steady hand to play this game of operation, though. It is under enormous pressure to provide additional spectrum to compete in the global race for 5G. Everything is on the table and the 4.9 GHz band is no exception. The Commission is considering using the band for Wi-Fi and LTE commercial services, and Commissioner O'Rielly has stated outright that, "it is time to redesignate this valuable spectrum for commercial use." Metaphorically speaking, it will only take three licks for the commercial carriers to get to the center of this Tootsie Pop, and Commissioner O'Rielly is positively salivating. Moreover, if the Commission does open-up the band for the commercial carriers, there won't be anything left for anyone else when they get done eating that Tootsie Pop.

In the FNPRM, the Commission concluded that, "we think there is sufficient remaining spectrum in the band to accommodate both expanded use by public safety and CII co-primary use. Stated otherwise, we think the benefits of coprimary use of the band by both CII and public safety can be realized at slight or no cost to public safety." While the Commission appeared to support access to the band by utilities and CII, it also questioned whether "granting CII entities eligibility for coprimary status is consistent with [its general] approach" in recent years to make spectrum available for flexible use rather than allocations to specific industries. The parting question from the Commission in that regard was "how CII entities' need for co-primary use of this band can be differentiated from the needs of other critical and safety-related industries that may seek access to this band in the future."

These passages from the FNPRM should spell relief for utilities because they are encouraging signs that the Commission views utilities as compatible users to share the 4.9 GHz band on a co-primary basis. Therefore, it shouldn't be hard for utilities to justify to the Commission that they uniquely deserve access to this spectrum.

Look no farther than the Commission's 2010 National Broadband Plan. The words there are instructive here. There, the Commission recommended allowing utilities to share public safety spectrum because it recognized that utilities and public safety have similar communications requirements, including "near universal coverage and a resilient and redundant network, especially during emergencies." Moreover, the Commission recognized that "[i]n a natural disaster or terrorist attack, clearing downed power lines, fixing natural gas leaks and getting power back to hospitals, transportation hubs, water treatment plants and homes are fundamental to protecting lives and property." Finally, the Commission recognized that the development of smart grid and broadband-connected utility crews would "greatly enhance the effectiveness of these activities." In addition, the Commission cited several examples of where utilities successfully shared networks with public safety entities, creating synergies that they bring together respectively.

For all these reasons, the FCC should "just do it" and let utilities share the 4.9 GHz band with public safety, so the band can "be all it can be." ■