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Interference in the 6 GHz Spectrum Band Issue Brief

SUMMARY

Electric, water, and natural gas utilities, along with railroads and other critical infrastructure industries, use fixed wireless communications networks housed in the 6 GHz spectrum band. These networks run mission-critical systems essential to the reliable delivery of utility services.

In spite of significant concerns raised by utilities, lifeline industries, and even other federal agencies, the Federal Communications Commission (FCC, the Commission) is proposing to expand the 6 GHz band to non-critical commercial entities. Doing so could threaten the reliability of the crucial communications networks already licensed to operate in the band.

UTC POSITION

The Utilities Technology Council (UTC) is concerned that expanding the 6 GHz band to unlicensed users will interfere with existing utility microwave systems in the band. Utilities use these systems for mission-critical communications networks which ensure the continued reliable delivery of essential electricity, water, and natural gas services.

Any benefit to expanding access within the band will likely be outweighed by the threat of interference to incumbent mission-critical utility communications systems. Given their importance to everyday life, utilities cannot tolerate even the threat of interference on their networks.

BACKGROUND

The FCC in October 2018 formally proposed to expand access to the 6 GHz band for unlicensed use. In its proposal, the FCC seeks comment on its plan to protect against interference through an untested, unproven automated frequency coordination system (AFC).

Utilities and other critical-infrastructure industries (CII) use the 6 GHz band for a variety of mission-critical operations to support the safe, reliable and effective delivery of essential electric, gas and water services. These systems must meet high standards of performance, as any failure of their operations can have severe and widespread consequences for public and worker safety, as well as operational integrity and security. The microwave systems serve as the backbone for a variety of utility applications, such as supervisory control and data acquisition (SCADA) networks that utilities use to monitor and control substations and valves as well as security and transfer-trip protection circuits that guard against external threats and isolate faults on the grid.

These systems also support voice applications, including utility nuclear emergency telecommunications systems. These systems are used for both primary and redundant communications.

Ironically, utilities migrated to the 6 GHz band after the FCC in the 1990s forced them out of another band in order to make way for commercial mobile radio services. With the

FCC considering opening the 6 GHz band more broadly, utilities may likely have to relocate again, a lengthy, expensive process that will impact their customers by imposing additional costs.

SITUATIONAL AWARENESS

The FCC's proposal to expand access to the 6 GHz band has generated tremendous controversy. UTC joined a coalition of energy, water, oil, and natural gas companies in expressing strong opposition to the proposal, citing considerable concern about how interference could impact these industries' critical communications systems.

Importantly, the U.S. Department of Energy, along with members of Congress, including Sen. Lisa Murkowski (R-AK), Sen. John Kennedy (R-LA) and a bipartisan group of 13 members of California's House delegation have sent letters to the FCC expressing strong concerns with the proposal and urging the agency to protect utilities and other critical infrastructure in the band. In addition, the Federal Energy Regulatory Commission held a panel discussion on the proposal at its 2019 annual Reliability Technical Conference, demonstrating the level of interest in the proceeding.

Also, other entities, such as railroads, public safety, and even telecommunications service providers, questioned whether the FCC's proposed untried and untested interference mitigation mechanism will work as planned.

UTC is hopeful that this opposition will force the FCC to consider the numerous concerns in opposition to its 6 GHz proposal. Given that utilities and other critical-infrastructure industries rely on their microwave systems to

support mission-critical communications, any unlicensed access to the band presents an unreasonable risk to safety, reliability and security.

Microwave systems are the workhorse of utility ICT networks and must meet and exceed high standards for reliability. Additionally, utilities lack alternatives to operating in the 6 GHz bands, as for many utilities, the 6 GHz bands are the only option providing what they need to communicate over long distances from point-to-point.

UTC is advocating on behalf of its members to ensure the FCC recognizes the needs of utility and other critical-infrastructure industry incumbents in the 6 GHz band.

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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