

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 and other lifeline industries, 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 Information and Communications Technology (ICT) 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 automated frequency coordination system is adequate.

The proposed rule comes almost two years after two agency bureaus granted a waiver permitting a startup company to operate a nationwide mobile network in the 6 GHz band. The waiver allowed the company to operate nearly 50,000 mobile devices to support Internet of Things (IoT) applications controlled through a spectrum database that it will manage and operate. Following this action, the FCC in October 2018 launched a broad rulemaking into whether it should expand the 6 GHz band for use by other entrants.

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 attention. 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. 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 by pursuing a rulemaking on expanding the 6 GHz system, the FCC will consider the numerous concerns in opposition. 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.

UTC CONTACTS

Sharla Artz, VP of Government Affairs, Policy and Cybersecurity
Email: Sharla.Artz@utc.org

Brett Kilbourne, VP & General Counsel
Email: Brett.Kilbourne@utc.org

Rob Thormeyer, Director of Communications and Advocacy
Email: Rob.Thormeyer@utc.org

