

FCC Threatens Interference to Utility Systems in the 6 GHz Band Issue Brief

SUMMARY

Electric, water, and natural gas utilities, along with railroads and other critical infrastructure industries (CII), use fixed wireless microwave communications networks that operate in the 6 GHz spectrum band. These networks carry mission-critical communications that are essential to the safe, reliable and secure delivery of utility services.

In spite of significant concerns about potential interference to systems operating in the band, the Federal Communications Commission (FCC, the Commission) is considering expanding the use of the 6 GHz band for other fixed and mobile commercial communications services. Doing so could threaten the reliability of mission-critical communications used by existing networks already in the band used by utilities, public safety entities and others.

UTC POSITION

The Utilities Technology Council opposes expanding the use of the 6 GHz band because it threatens to interfere with existing utility microwave systems in the band. Utilities use these systems for mission-critical functions to ensure the continued reliable delivery of essential electricity, water, and natural gas services.

The potential benefits of expanding the use of the 6 GHz band would be outweighed by the threat of interference to incumbent mission-critical utility communications systems. The 6 GHz band is heavily used already, which increases the probability that new entrants would cause interference to incumbent systems. Moreover, the magnitude of the risk of interference to incumbent systems is significant, given the importance of energy and water services to everyday life. In addition, utilities need to increase capacity and coverage of their incumbent systems in the 6 GHz band to meet future electricity demands, and expanding the use of the 6 GHz band

by new mobile and fixed operations would consume this additional capacity.

It should also be recognized that utilities lack alternatives to the 6 GHz band, while the commercial communications industry has much more spectrum and far better alternative bands that could be used. Therefore, the FCC should protect incumbent utility and CII systems from interference and enable these systems to grow, rather than forcing them to relocate and thereby threatening the underlying safety, reliability, and security of the nation's energy and water critical infrastructure.

Utilities rely on these systems for data and voice communications to monitor and control electric substations and gas valves, as well as to talk with utility personnel who may be working to restore services after an electrical outage or repair a gas leak.

BACKGROUND

The FCC is expected to issue a rulemaking on expanding the use of the 6 GHz spectrum band this fall. This announcement comes on the heels of a Notice of Inquiry in August 2017 that invited comment on the possibility of expanding the 6 GHz band and other mid-band spectrum for commercial communications services. The NOI itself was released after an FCC bureau decision in January 2017 to grant a waiver to a company called Higher Ground to operate a nationwide mobile network in the 6 GHz band. UTC and numerous other existing users in the band strongly opposed this decision.

UTC and others CII organizations oppose expanding the 6 GHz band due to concerns about the potential for interference and the impact it would have on mission-critical communications. Numerous studies have substantiated the significant potential for interference.

UTC and others also opposed and have asked the FCC to reconsider its waiver to Higher Ground, stating that the waiver should have been denied because Higher Ground had failed to demonstrate that the public interest would be served by waiving restrictions that required all operations to obtain prior coordination and that also prohibited any mobile operations in the 6 GHz band.

Utilities 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 back-bone for a variety of utility applications, such as supervisory control and data acquisition 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.

Ironically, utilities migrated to the 6 GHz band after the FCC in the 1990s forced them to relocate out of the 2 GHz band in order to make way for commercial mobile radio services. With the FCC already allowing Higher Ground to operate a nationwide mobile network in the 6 GHz band and now considering opening the band more broadly to other companies for additional fixed and mobile operations, utilities may likely be forced to relocate again, possibly disrupting existing systems and imposing additional costs to their customers.

CALL TO ACTION

Now that the FCC has indicated that it plans to conduct a rulemaking proceeding to consider expanding the 6 GHz band for additional licensed services and

unlicensed operations, it is important that utilities raise awareness at the FCC, Congress and within their own organizations about the potential for and the impact of interference on utility mission critical communications that are carried over the 6 GHz band.

Specifically, utilities should file comments of their own (in support of the comments by UTC), contact their representatives in Congress as well as their government affairs staff in Washington and educate their senior executives in their own organizations about this issue. The big commercial communications companies are pushing hard on the FCC to give them this band, and the utility industry needs to push back hard to protect this band against interference that could significantly affect the safety, reliability and security of utility mission-critical communications for voice and data with utility personnel and critical assets, such as substations and control centers.

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, Vice President of Government Affairs, Policy and Cybersecurity

Email: Sharla.Artz@utc.org

Brett Kilbourne, Vice President & General Counsel

Email: Brett.Kilbourne@utc.org

Rob Thormeyer, Director of Communications and Advocacy

Email: Rob.thormeyer@utc.org

