

Protect Mid-Band (6 GHz) Radio Spectrum

Need

Protection from interference in the use of Mid-Band 6 GHz Spectrum to protect mission-critical communications by utilities.

Background

The mid-band spectrum, commonly referred to as the 6 GHz frequency, spans approximately 1,200 MHz of frequency band from 5.9 GHz through 7.1 GHz. Many utility licensees moved into the 6 GHz band in the 1990s after being required by the FCC to leave the 2 GHz band, which was being reallocated for personal communication and mobile satellite services.

Utilities use the 6 GHz radio spectrum for communications with multiple substations, generation facilities, and office sites over a large geographical area. The ability to send large data and control signals over this spectrum ensures reliability, safety, effectiveness, and efficient operations of the electrical grid. As utilities install renewable generation facilities in multitudes of locations over large geographic locations to offset the loss of fossil fueled units, reliable communication with those facilities is critical to reliability. In much of Minnesota, and presumably many other states, areas where renewables are viable do not have reliable, if any, broadband access, and the 6 GHz radio frequency is the only reliable means of constant real time communications. Continued development of renewables in remote locations will require expanded use of the 6 GHz spectrum. Reduction in the availability of this spectrum for utilities is counterproductive to expanded use of renewables, and the integration of renewable resources into the grid.

The attributes that make the 6 GHz band well suited for critical utility communications also make it susceptible to interference. Until very recently, no spectrum sharing was allowed in the band. But with mounting pressure by large technology companies to open more bands of spectrum for unlicensed uses, and with new federal policies that direct the National Telecommunications and Information Administration (NTIA) and the Federal Communications Commission (FCC) to facilitate spectrum sharing where possible, electric utilities now face the real threat that spectrum sharing in the 6 GHz band will be allowed. Splitting of the 6 GHz spectrum will severely limit utilities' ability to effectively control and monitor renewable resources and will result in system instability, reduced reliability, decreased safety and reduced efficiency in renewable dispatch. Further, there is no evidence that current technology will protect against interference, and any claim to the contrary would need extensive testing. Moreover, there are no current reasonable alternative bands for utilities to migrate to if interference is not mitigated.

MMUA Position

MMUA opposes opening the 6 GHz band to unlicensed users due to the unacceptable risk of interference to mission-critical electric utility communications.