Why Do Utilities Need Access To Spectrum?

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SUMMARY

Our nation's most vital industries - energy and water utilities - are lacking a key ingredient to the modernization of the U.S. energy system: Spectrum. Utilities and other critical infrastructure industries use radio spectrum for the data and voice communications that help ensure the safe and reliable delivery of electricity, water, natural gas and oil. Spectrum allows personnel to safely maintain, upgrade, and repair power lines, pipelines, and much more. And it is absolutely vital as new "smart" technologies promise to give customers more control over their energy usage.

Spectrum is scarce and it is under increasing demand from competing purposes, such as commercial mobile services. Yet it is critically important that public policies support access to additional spectrum for utilities because everything in modern society depends on electricity and water. The Utilities Technology Council (UTC) is working with federal and state policymakers to promote access to suitable spectrum in support of utilities' increasing wireless communications needs.

To account for their unique and critical societal role, utilities' spectrum should be in a frequency range that will provide favorable coverage over a wide area in order to reach remote and populated areas. This spectrum should also be broadband or wideband to provide sufficient capacity to support the increasing amount of traffic that is carried over utility communications networks. Utilities are the most critical of all industries; when the lights go out for an extended period, societies can struggle to function. Clearly, ensuring access to suitable spectrum is more than just a matter of safety.

UTC POSITION

On behalf of its energy and water utility members, UTC supports opportunities for utilities to work with public safety officials to design, build and operate statewide shared spectrum systems, and we continue to advocate for policies that would enable utilities to partner with public safety and share the 700MHz nationwide broadband network.

At the same time, UTC is advocating for access to other spectrum bands that would provide favorable coverage as well as additional capacity to meet the needs of utilities and other critical infrastructure industries. It is important that the spectrum is made available to utilities nationwide and that it support the use of standardized technologies that are commercially available.

Simply put, without access to additional spectrum, the reliability, safety and security of utility services could be compromised. Therefore, UTC is working with other industry organizations and the U.S. government as well as international organizations to promote access to spectrum for utilities to ensure operational reliability, safety and security.

BACKGROUND

Utilities operate their own extensive wireline and wireless communications systems. While these wireless systems are highly reliable, they generally use licensed spectrum that is allocated in narrowband channels. In addition to being limited in capacity, this spectrum is subject to congestion and interference from competing and often incompatible radio frequency operations on the same or adjacent channels. Because there is no spectrum dedicated for use by utilities, different utilities will operate their communications systems in different spectrum bands. Ideally, utilities would have a nationwide spectrum allocation that promotes interoperability and economies of scale. Instead, there is a patchwork of disparate spectrum bands. In some of those bands, the Federal Communications Commission has reallocated spectrum, forcing utilities to move some of their communications systems to other bands.

As energy and water companies deploy new "smart" technologies, they must also improve the capacity and coverage of their wireless communications systems. This means additional spectrum capacity is needed because of the sheer number of devices that utilities will need to control and monitor, often in real-time. These communications systems must reach the entire utility service territory, which can extend across multiple states. Moreover, grid modernization will usher in a new era of consumer interaction. These technologies could revolutionize our nation's energy system, making it far more efficient, cleaner, and responsive to consumers' needs. The promise of these new technologies can only be realized with two-way, real-time communications deeper into the energy and water delivery networks. This is a fundamental change from the narrowband one-way communications systems that utilities have typically used.

In addition, utilities are meeting new standards for cybersecurity and reliability. These standards can result in increased communications requirements to protect critical assets for the bulk electric system. For example, the federal government has directed the electricity industry to develop standards to address risks related to the physical and cyber security of the grid. This may require utilities to upgrade communications in substations to address certain threats.

ABOUT UTC

The Utilities Technology Council is the 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 utilize critical telecommunications systems in support of their core business.
UTC was founded in 1948, to advocate for the allocation of additional radio spectrum for power utilities. Since then, UTC has evolved into a dynamic organization that represents electric, gas and water utilities, as well as natural gas pipelines, critical infrastructure companies and other industry stakeholders.

Utilities Technology Council™