

October 19, 2023

Scott Blake Harris
Senior Spectrum Advisor, Office of the Assistant Secretary
National Telecommunications and Information Administration
U.S. Department of Commerce
1401 Constitution Avenue, NW
Washington, DC 20230

Re: Development of a National Spectrum Strategy (Docket No. NTIA-2023- 0003)

Dear Mr. Harris:

America's electric utilities perform the vital life-sustaining function of maintaining the flow of power. The infrastructure that delivers this essential service to the public is increasingly reliant on advanced communications systems and technologies that allow for enhanced monitoring and control. This drives greater resiliency, reliability, and security of the nation's electric grid. These communications also enable the emergence of distributed generation, greater penetration of renewable resources, and other efficiency efforts – all of which require real-time control to be able to perform reliably and effectively.

The growing prevalence of “smart grid” and other advanced devices and technologies across the grid, combined with the constant risk of cyberattacks, has heightened the imperative for electric utilities to directly control and operate the communications networks that underpin these vital grid support operations, rather than outsourcing this increasingly sensitive and vital function to third parties.

To fulfill these critical communications needs, utilities require spectrum.¹ Currently, utilities have very few options for accessing spectrum, and those limited options are increasingly insufficient in bandwidth. Electric utilities, like other industry segments, also are progressively looking to broadband technologies – private LTE and 5G – to support their business and operational communications needs, which necessarily requires access to larger amounts of spectrum.

Utilities require access to licensed, exclusive-use spectrum – particularly in sub-1 GHz bands, but also in mid and high portions of the spectrum band – that is sufficiently adjacent to bands available for licensed commercial use. Access to this spectrum should be made available to utilities on terms that recognize their critical infrastructure role, geographic coverage, and regulated business models. Finally, utilities must be able to operate their spectrum free of harmful interference, meaning that their communications systems are not subject to interference that degrades the performance and reliability requirements of their grid support systems, which are designed and expected to perform at a level of 99.999% reliability.

¹ See, e.g., *Utility Uses for Wireless Spectrum: Evaluating the Importance of Spectrum in the Utility Sector*, White Paper prepared for the Utilities Technology Council (2018) (available at <https://utc.org/wp-content/uploads/2018/10/UTC-Utility-Uses-for-Wireless-Spectrum.pdf>). According to this white paper, “[t]he grid is now undergoing a revolution due to the introduction of system automation devices and distributed energy resources” and “as the grid gets ‘smarter’ and modernized, utilities’ reliance on spectrum will only grow.” *Id.* at 4.

As NTIA considers the National Spectrum Strategy and how spectrum may be utilized going forward, the undersigned electric utilities urge that the following principles be considered and incorporated:

- Licensed spectrum for exclusive use should be directly available to utilities to support the nation's critical energy infrastructure;
- Spectrum should be available and accessible for utilities in the low, medium, and high portions of the spectrum band;
- Access to that spectrum should be on terms that considers their role and business model; and
- Utilities must be able to operate their systems free from harmful interference.

Licensed exclusive use of spectrum allows utilities to directly control their networks and operate them in a way that meets the levels of reliability and resiliency necessary to support the safe, efficient, and reliable delivery of essential electric services to the public. Commercial service providers in many cases generally cannot meet the levels of coverage, reliability, and security required by utilities and other operators of critical infrastructure and are unable or unwilling to provide the dedicated capacity needed for data-intensive, low latency critical infrastructure applications and uses. It is also uncertain whether commercial service offerings would be capable of meeting federally-mandated reliability requirements for communications involving critical components of the electric utility infrastructure.

Most significantly, operating and controlling their own communications networks enables utilities to implement and maintain cybersecurity requirements to protect their electric generation, transmission, and distribution systems from attacks and intrusions. Given the geopolitical landscape, the recommended cybersecurity posture is for operational data traffic for critical infrastructure to be completely segmented from the internet, including from commercial carriers' networks, so that any electric grid control data traverses only the utilities' own networks and infrastructure. Rather than a cyber-attack taking down a major carrier and all of its customers, including any utilities, utilities would have the capability to remain functioning and to even "island" their networks if commercial carriers or the broader Internet should become subject to a wide-scale attack.

Alignment of utility spectrum with the commercial market is important, as that will enable the inclusion of utility-specific spectrum along with commercially-targeted spectrum as new technologies and standards are developed. Manufacturers would be able to address utility equipment and technology needs without having to develop and produce relatively small amounts of specialized equipment capable of operating in a very few, disparate portions of the spectrum band. Moreover, utilities would be able to avail themselves of new technological developments and the economies of scale enjoyed by the commercial communications sector, which will bring needed equipment and applications to the market – and to the grid – more rapidly and in a more cost-efficient and cost-effective manner.

Utilities must also be able to acquire spectrum on terms that can be incorporated into their regulated business models. Any capital investment by utilities ultimately is borne by the utilities' customers through the rates charged and the amounts billed each month. This model does not lend itself to the highest bidder auction approach that the U.S. has relied upon to

allocate spectrum for licensed exclusive use. While spectrum auctions are praised for their revenue-generating potential for the U.S. Treasury, it is not an approach whereby utilities can succeed in obtaining spectrum at a price that their customers can bear. In a report prepared for Congress, the Congressional Research Service (CRS) observed that “auction-centric spectrum policies appear to have generally been focused on assigning licenses to commercial competitors in traditional markets that serve consumers and businesses.”² However, as the CRS report further observes:

Some companies that might be well suited to meet social goals, such as access in rural areas, might have been precluded from bidding [at spectrum auctions] at all because of constraints not considered relevant to market-driven allocations. For example, public utilities, municipal co-operatives, commuter railroads, and other public or quasi-public entities face a variety of legal, regulatory, and structural constraints that limit or prohibit their ability to participate in an auction or buy spectrum licenses. Many of these constraints exist at the state level *but federal spectrum policy plays a role in perpetuating the status quo*.³

Finally, utilities must be able to operate their communications systems free from harmful interference. The emerging trend regarding interference appears to be a policy push for all spectrum licensees to accept increasing levels of interference to both their existing and future communications systems, regardless of the performance and reliability standards their systems are required to meet for the services they provide. While there may be bands and services for which interference is an inconvenience, interference with electric grid control devices and other critical infrastructure communications is a significant disruption that can have serious and costly consequences – much more so than a screen freezing during a virtual meeting.

Internationally, other countries are further along than the U.S. in recognizing the importance of spectrum for utilities. Canada, multiple European nations, and countries across North Africa and the Middle East have all taken steps towards making spectrum available for utilities. Not only do their actions underscore these countries’ recognition of the importance of spectrum to critical infrastructure communications, but they also represent progress towards economies of scale and scope for equipment achieved by focusing on common spectrum bands, another key aspect of dedicated utility spectrum. While more work remains to be done globally around spectrum availability for utilities, the U.S. should not continue to lag behind the efforts accomplished thus far.

As NTIA prepares and finalizes the National Spectrum Strategy and looks ahead to the implementation plan that will follow, the undersigned electric utilities urge that language be included that recognizes their communications needs, specifically for licensed exclusive-use spectrum, and incorporates those needs in a clear and direct fashion into the strategic thinking and planning that will ensue. The undersigned electric utilities recognize that the demand for spectrum is high and therefore also request that NTIA actively convene and coordinate with other federal agencies to ensure that the needs of all users of the nation’s spectrum are appropriately addressed.

² Linda K. Moore, *Spectrum Policy in the Age of Broadband: Issues for Congress*, CRS Report for Congress R40674 at 11 (2013) (available at <https://crsreports.congress.gov/product/pdf/R/R40674>).

³ *Id.*, Appendix A at 14 (emphasis added).

Respectfully submitted,

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