

Protecting Public Power Communications Systems in the 6 GHz Spectrum Band

1 Electric utilities typically own and operate their own communications systems (wireline and wireless) for
2 mission-critical operations throughout the electric system. These private communications networks are
3 designed to remotely control and monitor transmission, generation, and distribution assets to ensure the
4 safe and reliable delivery of power to homes, businesses, and communities. Many electric utilities,
5 including public power utilities, rely on the 6 gigahertz (GHz) band of spectrum for wireless
6 communications to operate their critical electric infrastructure. Currently, the Federal Communications
7 Commission (FCC or Commission) has proposed a rule to allow the operation of unlicensed devices in
8 this band.

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10 The attributes that make the 6 GHz band well suited for critical utility communications also make it
11 susceptible to interference. Currently, spectrum sharing is not allowed in the band. But with mounting
12 pressure by large technology companies to open more bands of spectrum for unlicensed uses and federal
13 policies that direct the National Telecommunications and Information Administration and FCC to
14 facilitate spectrum sharing where possible, electric utilities with critical communications networks in the
15 6 GHz band now face the real threat that spectrum sharing in the 6 GHz band will be allowed. It is likely
16 that many unlicensed devices operating in the band will cause interference. While spectrum sharing has
17 worked in some bands with little impact on incumbent operators in those band, there is a real concern
18 spectrum sharing could cause interference to communications networks operating in the 6 GHz band due
19 to its attributes.

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21 Electric utilities are subject to mandatory reliability standards issued by the North American Electric
22 Reliability Corporation (NERC) and enforced by the Federal Energy Regulatory Commission (FERC).
23 They rely on their communications systems to ensure their compliance with these reliability standards.
24 Any delay or degradation of communications signals on communication systems used by electric utilities
25 in the 6 GHz band could lead to the disruption of power delivery and/or threaten the safety of workers and
26 customers. Thus, utility communications must not experience harmful interference from unlicensed
27 devices in the 6 GHz band and must maintain communications reliability in order to ensure the safe,
28 reliable, and secure delivery of electric power and to comply with the FERC/NERC reliability standards.

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30 In October 2018, the FCC issued a Notice of Proposed Rulemaking (NPRM) to open the 6 GHz band to
31 unlicensed spectrum sharing. The FCC stated in the NPRM, “proposed rules will allow a valuable
32 spectrum resource to be more intensively used to benefit consumers while allowing the existing licensed
33 uses of the 6 GHz band to continue uninterrupted.” To address interference concerns, the FCC proposed

34 use of an “automated frequency coordination (AFC)” system to mitigate any potential interference. AFC
35 is a technology that has not yet been shown under real-world conditions to protect licensed users in the
36 band from harmful interference by unlicensed devices. Many commenters in the proceeding, including
37 the American Public Power Association (APPA) and other electric, gas, and water utility trade
38 associations expressed strong opposition to allowing unlicensed operations in the band. In addition, the
39 Department of Energy, FERC, and members of Congress expressed their concerns to the Commission on
40 the potential impacts of unlicensed devices on critical utility communications networks and asked the
41 Commission to conduct real-world testing of AFC technology before allowing spectrum sharing in the
42 band. Unfortunately, it appears the FCC will likely move forward this year on its proposal to allow
43 unlicensed devices to operate in the 6 GHz band.

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45 **NOW, THEREFORE, BE IT RESOLVED:** That the American Public Power Association (APPA) has
46 serious concerns with the Federal Communications Commission’s (FCC or Commission) proposal to
47 allow unlicensed devices to operate in the 6 gigahertz (GHz) spectrum band that could cause harmful
48 interference to licensed private utility communications networks that are used to control and monitor
49 transmission, generation, and distribution assets to ensure the safe and reliable delivery of power to
50 homes, businesses, and communities; and

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52 **BE IT FURTHER RESOLVED:** That APPA believes the FCC must conduct real-world testing of
53 automated frequency coordination (AFC) technology before it decides to allow unlicensed devices to
54 operate in the 6 GHz band to ensure unlicensed operations do not cause harmful interference to licensed
55 utility communications networks operating in the band; and

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57 **BE IT FURTHER RESOLVED:** That APPA would oppose an order issued by the Commission that
58 would allow unlicensed devices to operate in the 6 GHz band without demonstrating that AFC technology
59 will mitigate harmful interference to utility communications in real-world conditions.