

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of Part 90 of the Commission’s Rules)	WP Docket No. 07-100
)	
Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band)	PS Docket No. 06-229
)	
Service Rules for the 698-746, 747-762 and 777-792 MHz Bands)	WT Docket No. 06-150

REPLY COMMENTS OF THE UTILITIES TELECOM COUNCIL

Pursuant to Section 1.405 of the Commission’s Rules, the Utilities Telecom Council (“UTC”) hereby files its reply comments in response to the Commission’s Fourth Report and Order and Fifth Further Notice of Proposed Rulemaking in the above-referenced proceeding.¹

The comments on the record demonstrate that there is widespread support for expanding eligibility so that critical infrastructure industry (CII) entities,² including utility companies, should be eligible to hold 4.9 GHz licenses on a primary basis.³ There is also broad support

¹ *Amendment of Part 90 of the Commission’s Rules*, Fourth Report and Order and Fifth Further Notice of Proposed Rulemaking, WP Docket No. 07-100, 27 FCC Rcd. 6577 (2012)(hereinafter *Fourth Report and Order and Fifth Further Notice of Proposed Rulemaking*).

² See definition of “Critical Infrastructure Industry (CII)” in 47 C.F.R. § 90.7: “State, local government and non-government entities, including utilities, railroads, metropolitan transit systems, pipelines, private ambulances, volunteer fire departments, and not-for-profit organizations that offer emergency road services, providing private internal radio services provided these private internal radio services are used to protect safety of life, health, or property; and are not made commercially available to the public.” *Id.*

³ Comments of the American Petroleum Institute, the Energy Telecommunications and Energy Association, and the National Rural Electric Cooperative Association in WP Docket No. 07-100 at 4-7; Comments of Cambium Networks Ltd at 1 (filed Oct. 1, 2012); Comments of the Edison Electric Institute in WP Docket No. 07-100 at 5-6 (filed Nov. 1, 2012); Comments of Great River Energy at 1 (filed Nov. 1, 2012); Comments of Motorola Solutions,

among public safety for promoting access to the 4.9 GHz band by CII in general.⁴ Expanded eligibility by CII will also promote greater use of the 4.9 GHz band as a complementary solution for the 700 MHz public safety broadband network, because it would encourage the seamless, reliable backhaul of traffic from the 700 MHz PSBN by CII. Finally, while there is support for CII eligibility, there is widespread opposition to expanding eligibility to commercial users on a secondary basis.⁵ This opposition is borne from concerns about congestion and interference from commercial use of the band.⁶

There are larger concerns with interference generally under the current rules, and as such, there is widespread support for the coordination of existing and future operations in the band by establishing a national database and requiring registration of existing operations and coordination of new facilities.⁷ Coordination will be increasingly important to promote increased efficiency and intensive use of the band by a wider variety of uses, including fixed and mobile operations,

Inc. at 4-5 (filed Nov. 1, 2012); and Comments of Southern Company Services at 2-9 (filed Nov. 1, 2012).

⁴Comments of the American Association of State Highway and Transportation Officials at 18 (filed Oct. 31, 2012)(hereinafter Comments of AASHTO); Comments of the Association of Public-Safety Communications Officials-International, Inc. at 3-4 (filed Nov. 1, 2012)(hereinafter “Comments of APCO”); Comments of Forestry Conservation Communications Association, International Association of Fire Chiefs, and the International Municipal Signal Association at iii, 14-15 (filed Nov. 1, 2012) (hereinafter “Comments of FCCA, IAFC and IMSA), and Comments of National Public Safety Telecommunications Council at 9 (filed Nov. 1, 2012)(hereinafter “Comments of NPSTC).

⁵ Comments of Cambium Networks, Ltd. at 5-6 (filed Oct. 1, 2012); Comments of Enterprise Wireless Association at 4 (filed Nov. 1, 2012); Comments of Great River Energy at 12 (filed Nov. 1, 2012); Comments of Motorola Solutions, Inc. at 4-5 (filed Nov. 1, 2012); Comments of FCCA, IAFC and IMSA at iii and 14 (filed Nov. 1, 2012); Comments of NPSTC at 8-9 (filed Nov. 1, 2012).

⁶ *Id.* See also Comments of APCO at 4 (filed Nov. 1, 2012)(deferring on commercial use of the band because “the hodgepodge of largely unregulated and uncoordinated uses in the band creates concerns that essential public safety operations will be subject to dangerous interference.”)

⁷ See e.g. Comments of AASHTO at 6 (filed Oct. 1, 2012); Comments of Alarm Industry Communications Committee at 5 (filed Nov. 1, 2012); Comments of APCO at 2 and 5 (filed Nov. 1, 2012); Comments of API, ENTELEC and NRECA at 9 (filed Nov. 1, 2012); Comments of FCCA, IAFC, and IMSA at 6 (filed Nov. 1, 2012); Comments of Great River Energy at 6 (filed Nov. 1, 2012); Comments of National Regional Planning Council at 8; Comments of Southern Company Services at 10 (filed Nov. 1, 2012); Comments of NPSTC at 7 (filed Nov. 1, 2012).

and users, including public safety and CII. Therefore, UTC reiterates its support for coordination of existing and future operations by establishing a national database and requiring registration of existing operations and coordination of new facilities.

Also, in order to promote increased efficiency and more intensive use of the band, UTC reiterates its support for wider channels and higher power for fixed point-to-point and point-to-multipoint operations. This will result in more reliable paths and longer range, thereby promoting greater use of the band particularly in difficult environments and rural areas. In addition, UTC reiterates its support for allowing fixed point-to-point and point-to-multipoint operations, including narrowband and broadband operations, to be licensed on a primary basis. This will promote greater use of the band by CII for smart grid and other mission critical applications, many of which are fixed operations,⁸ and which need primary status to ensure reliability.

I. THE COMMISSION SHOULD EXPAND ELIGIBILITY IN THE 4.9 GHZ BAND FOR UTILITIES AND OTHER CRITICAL INFRASTRUCTURE INDUSTRY ENTITIES TO BE LICENSED ON A PRIMARY BASIS.

UTC reiterates its support for allowing utilities and other critical infrastructure industry entities to be licensed on a primary basis in the 4.9 GHz band. As UTC and others explained in their comments, the Commission should license utilities and CII on a primary basis in order to make more effective use of the spectrum that would also be compatible and indeed complementary with public safety operations. As UTC demonstrated in its comments, utilities and CII would make effective use of the spectrum because they plan to use the spectrum for a variety of applications, including SCADA and backhaul communications. Also, utility and CII use of the spectrum would be compatible with public safety because they have similar

⁸ See e.g. Comments of API, ENTELEC and NRECA at 7 (filed Nov. 1, 2012)(emphasizing that “[t]he 4.9 GHz Band Should Be Transitioned To Fixed Use Only And Made Available In Conjunction With Mobile Applications In The 700 MHz Band.”)

communications needs and missions, as the Commission itself recognized as part of the National Broadband Plan when it recommended that utilities share spectrum with public safety.⁹ Indeed, utility and CII access to the band could be complementary, because it could promote interoperability with public safety during emergency response and it could promote the use of the 4.9 GHz band as a backhaul solution for the 700 MHz national public safety broadband network (NPSBN).

That said, UTC cautions against unnecessary preconditions and arbitrary limitations on access by utilities and CII, either in terms of the type of use or the bandwidth of the application.¹⁰ Such preconditions and limitations are not necessary and would discourage access by utilities, and with it – utility investment. As Southern Company Services explained in its comments, access by utilities and CII has been discouraged by the current rules that only allow the 4.9 GHz band to be used by state or local government entities or by non-government organizations (“NGOs”) that have authorization or sponsorship from a government public safety agency.¹¹ “A government agency may unilaterally terminate its sponsorship of a non-government entity’s use of the spectrum at any time, with or without cause.... and their use of a vital communications resource, could be rendered worthless at any time, including when that resource is needed

⁹ National Broadband Plan, Recommendation 12.4 (explaining that “the wide-area network requirements of utilities are very similar to those of public safety agencies. Both require near-universal coverage and a resilient and redundant network, especially during emergencies. In a natural disaster or terrorist attack, clearing downed power lines, fixing natural gas leaks and getting power back to hospitals, transportation hubs, water treatment plants and homes are fundamental to protecting lives and property.”)

¹⁰ *See e.g.* Comments of APCO at 4 (“However, public safety uses need to maintain primary status, and appropriate limitations on CII use (including bandwidth limitations for certain uses) are needed to ensure ongoing access to the spectrum for public safety licensees.”); and Comments of the FCCA, IAFC and IMSA at 15 (“Even using spectrum licensed to public safety entities, CII users should not be permitted to use more than 10 megahertz in an area in aggregate (whether a single CII user or multiple CII users), so that the use of the 4.9 GHz band is not foreclosed to public safety entities.”)

¹¹ Comments of Southern Company Services, Inc. at 2.

most.”¹² Therefore, to promote greater use and investment in the 4.9 band by utilities and CII, the Commission should license their operations on a primary basis.

The public safety nature of these utility and CII communications services is undisputable, particularly in the aftermath of Hurricane Sandy. Without power, communications went down and gas stations were inoperable. Without water, fires burned out of control. Without gas or electricity, there was no heat in the middle of a major Nor’easter snow storm. Thus, electricity, water and gas are essential to public safety -- and utility and CII communications are too.

During Hurricane Sandy and in its aftermath, utilities and other CII primarily relied on their private internal communications systems in order to maintain and restore essential electric, gas and water services. These communications systems support voice dispatch of trucks and personnel, as well as SCADA systems that automatically clear faults on electric lines. Without reliable communications, including interoperability during mutual aid, service restoration is delayed and faults can lead to extensive outages and catastrophic consequences. Hence, Congress recognized that these communications are “public safety radio services”,¹³ and the FCC codified the term “critical infrastructure industry” because “[a]ny failure in their ability to communicate by radio could have severe consequences on the public welfare.”¹⁴ Therefore, expanding eligibility to include utilities and CII on a primary basis *would* promote public safety.

¹² *Id.* at 3.

¹³ Public safety radio services are defined as “private internal radio services used by State and local governments and non-government entities and including emergency road services provided by not-for-profit organizations, that (i) are used to protect the safety of life, health, or property; and (ii) are not made commercially available to the public.” Congress explained that “public safety radio services” includes private internal radio services used by utilities, railroads, metropolitan transit systems, pipelines, private ambulances, and volunteer fire departments. H.R. Conf. Rep. No. 105-217, 105th Cong., 1st Sess. at 572 (1997), *emphasis added*.

¹⁴ 47 C.F.R. 90.7. *See also, Implementation of Sections 309(j) and 337 of the Communications Act of 1934, as Amended*, WT Docket No. 99-87, Report and Order, 15 FCC Rcd. 22709, 22747, ¶ 77 (2000) (explaining that “utility companies need to possess the ability to coordinate critical activities during or following storms or other natural disasters that disrupt the delivery of vital services to the public such as provision of electric, gas, and water supplies.”)

Conversely, expanding eligibility to include commercial service providers or other commercial entities could lead to congestion and interference that could impair the use of the spectrum for public safety communications. This view is shared by comments on the record by public safety, as well as critical infrastructure industries.¹⁵ As a technical matter, TV whitespace databases and dynamic spectrum allocation may offer a solution that will promote greater use of the spectrum, but that does not necessarily mean that the band should or could be opened up to commercial use, even on a secondary basis subject to automatic shut-down.¹⁶ More likely, the band would become saturated by commercial services that would effectively displace public safety and critical infrastructure or at least discourage them from relying on the band for mission critical communications. Therefore, the Commission should not expand eligibility to include commercial service providers and other commercial entities. Alternatively, the Commission should defer on this issue, pending further study, as several comments suggest.¹⁷

II. UTILITIES AND CII CAN HELP PROMOTE 4.9 GHZ AS A COMPLEMENT TO 700 MHZ

UTC reiterates its support for encouraging the development of the 4.9 GHz band to

¹⁵ See e.g. Comments of FCCA, IAFC, and IMSA at iii (“Given the importance of the 4.9 GHz band to public safety entities, the Commission should not permit the commercial use of the band at this time.”); Comments of Great River Energy at 12 (“GRE does not support expanding eligibility of the band to commercial providers on a secondary basis. If the band is used by commercial providers, it may become congested and potentially cause interference to primary users.”); Comments of Motorola Solutions, Inc. at 5 (“The band should not be opened up to commercial users, however, as this could quickly exhaust the available supply of 4.9 GHz licenses, as well as cause interference issues to critical public safety uses that would be difficult to track, control, and coordinate.”) and Comments of NPSTC at 8-9 (“NPSTC has concerns about opening the band to commercial use and we want an opportunity to more closely examine the issues in the context of developing a national plan before we finalize our position on commercial access. Opening the 4.9 GHz band to general commercial use, could impact the capacity available for public safety operations, set the stage for increased security problems and further complicate the frequency coordination process.”)

¹⁶ See e.g. Reply Comments of the Wireless Internet Service Provider Ass’n. at 3 (emphasizing that “A Geolocation Database Will Enable Spectrum Sharing While Protecting Primary Users.”)

¹⁷ See e.g. Comments of APCO at 4 (“APCO recommends that issues concerning commercial access to the band be deferred until such time as the rule modifications suggested herein and by NPSTC regarding frequency coordination and planning are implemented, and a reasonable time period has passed to determine if those changes have led to the desired improvement in spectrum utilization and efficiency in 4.9 GHz.”)

support the 700 MHz PSBN. As UTC explained in its comments, expanding eligibility to include CII on a primary basis will promote the use of the 4.9 GHz band as a complement to the 700 MHz band by eliminating a potential barrier between the two. UTC believes that utilities and CII will likely partner with public safety on the 700 MHz NPSBN, and by expanding eligibility to include utilities and CII in the 4.9 GHz band, traffic could be seamlessly passed back and forth between the 700 MHz NPSBN and the 4.9 GHz lateral backhaul links to it. Similarly, the Commission would eliminate potential barriers between the two by declining to adopt any preconditions or limitations on utility and CII use of the 700 MHz band.¹⁸

UTC agrees with Southern Company Services that “[t]o the extent FirstNet will necessarily be working very closely with state and local government agencies on the construction, management and operation of the public safety broadband network, eligible government entities could enter appropriate agreements with FirstNet for access to the 4.9 GHz band and without the need for the Commission to amend its rules to make FirstNet, a federal entity, eligible for direct licensing on nongovernment spectrum.”¹⁹ Moreover, the same could be said if FirstNet partnered with utilities and CII on the 700 MHz PSBN. FirstNet wouldn’t need to license the 4.9 GHz band channels directly; it could rely on any eligible entity in the 4.9 GHz band to do it as part of a 700 MHz NPSBN partnership. Nor would FirstNet’s eligibility prevent such an arrangement. Therefore, UTC respectfully suggests that this is a non-issue.²⁰

¹⁸ See also Comments of Great River Energy at 14 (stating that “[i]n order to promote flexibility, which will in turn allow the band to be more efficiently used, GRE does not support mandating specific rules for use. Public safety users, like utilities, need multiple telecommunications options as one frequency band does not fit all applications and locations - what may work in one area may not work in another,” *emphasis added*.)

¹⁹ Comments of Southern Company Services at 9.

²⁰ UTC also notes that FirstNet has not filed any comments in this proceeding that would suggest that this is an issue for using the 4.9 GHz band to support the 700 MHz NPSBN as a complementary solution.

III. THE COMMISSION SHOULD REVISE THE COORDINATION PROCESS FOR LICENSING 4.9 GHZ OPERATIONS.

UTC reiterates its support for the Commission's proposal to revise the coordination process, and submits that it should permit certified frequency coordinators to coordinate the 4.9 GHz band using a registration and database approach. There is also widespread support in the comments for such a coordination process, even among public safety and the regional planning coordinators.²¹ UTC shares the concerns of Southern Company Services that, "[i]t is not clear that the additional expense of maintaining a real-time dynamic access database and incorporating geolocation capabilities into all 4.9 GHz equipment would be justified."²² Similarly, while some have suggested adopting a Part 101 approach,²³ the Commission has acknowledged the shortcomings of such an approach, which would leave it up to licensees to select technical parameters without any criteria "that will avoid interference in excess of permissible levels to other users."²⁴ UTC agrees with the assessment of the Commission that is supported by comments on the record that these Part 101-type coordination procedures "may not be appropriate for this band because they would add a level of uncertainty and complexity to the

²¹ See e.g. Comments of AASHTO at 10-14 ("AASHTO believes the public will be better served by requiring the services of a frequency advisory committee's coordination services which will bring structure and guidelines to the assignment of spectrum."); Comments of APCO at 2-3 (stating that "the most significant problem facing the 4.9 GHz band is the lack of effective frequency coordination and planning."); Comments of NPSTC at 7 ("NPSTC believes a national plan framework incorporating provisions for frequency coordination would provide a greater level of comfort in the public safety community regarding the viability of the band to support short range mission critical operations."); Comments of Region 54 700 MHz RPC at 2 ("The Region 54 700MHz RPC supports the Commission restoring certified frequency coordination of the 4940-4990 MHz band within its rules."); and Comments of Southern Company Services at 10 ("Southern agrees with the Commission's proposal to require registration of 4.9 GHz facilities in a database that would allow coordinators to select the most appropriate frequencies for new applicants")

²² Comments of Southern Company Services at 10.

²³ See e.g. Comments of the API, ENTELEC, and NRECA at 9.

²⁴ 47 C.F.R. § 101.103(d)(1). See also *Fifth Further Notice* at ¶22, quoting Reply Comments of Motorola, WP Docket No. 07-100 at 2-3 (filed Aug. 19, 2009)(stating that "requiring public safety agencies to coordinate and reply without standards to guide the engagement will lead to protracted and burdensome negotiations.")

coordination process.”²⁵ Therefore, UTC continues to support a registration and database approach for coordination by certified frequency coordinators.²⁶

IV. THE COMMISSION SHOULD REVISE ITS TECHNICAL RULES TO PROMOTE FIXED OPERATIONS

UTC continues to urge the FCC to eliminate the secondary use restriction on non-broadband fixed point-to-point and point-to-multipoint operations for many of the same reasons that the Commission eliminated the secondary use restrictions on broadband point-to-point and point-to-multipoint operations.²⁷ UTC also continues to urge the FCC to increase the maximum permitted power levels to at least 63 dBm for point-to-point and 53 dBm for point-to-multipoint to allow for reliable paths and 30 MHz wide channels should be permitted for greater capacity.²⁸

There were several comments that support primary status for fixed non-broadband operations.²⁹ As Great River Energy explained, “SCADA traffic generally does not require a significant amount of data, and this may be a very suitable and desirable application for fixed operation on a narrowband channel.”³⁰ Furthermore, Great River Energy explained that

²⁵ *Fifth Further Notice* at ¶24. *See also Fifth Further Notice* at ¶22, quoting Reply Comments of Motorola, WP Docket No. 07-100 at 3 (filed Aug. 19, 2009)(stating that “it would be difficult, if not impossible, to establish technical criteria for this band given the diversity of networks and devices that can be deployed in the 4.9 GHz band.”)

²⁶ If eligibility is expanded in the 4.9 GHz band to include critical infrastructure industry entities, the Commission should consider certifying UTC and other certified frequency coordinators that are representative of those CII eligible users to coordinate frequencies in the 4.9 GHz band.

²⁷ The Commission eliminated the secondary use restrictions on broadband point-to-point and point-to-multipoint operations in 2009. *See Amendment of Part 90 of the Commission’s Rules, Report and Order and Further Notice of Proposed Rulemaking*, WP Docket No. 07-100, 24 FCC Rcd 4298, 4303 ¶ 9; 47 C.F.R. § 90.1207(d).

²⁸ *See Fourth Report and Order and Fifth Further Notice of Proposed Rulemaking* at ¶58 (inviting comment on ERP and antenna gain limits for high power, permanent and temporary fixed transmitters.)

²⁹ Comments of Great River Energy at 10 (“GRE supports licensing both fixed point-to-point and point-to-multipoint operations on a primary basis for both broadband and narrowband traffic.”); and Comments of Region 54 700 MHz RPC at 6 (“All permanent fixed links should be considered primary regardless of whether they support broadband or narrowband.”)

³⁰ Comments of Great River Energy at 13.

interference concerns could be addressed by requiring coordination for all users. Moreover, as Region 54 700 MHz RPC explained, “In either application [broadband or narrowband] it is supporting mission critical public safety voice and or data communications.”³¹ Therefore, UTC continues to urge the FCC to license permanent fixed non-broadband operations on a primary basis.

There were also several comments that support higher power operations and wider channels for fixed point-to-point and point-to-multipoint operations.³² UTC agrees with Great River Energy that “the 4.9 GHz band provides a great opportunity to be used as backhaul for the 700 MHz PSBN; [and that] it is important that power levels be increased to at least 63 dBm for point-to-point operations and 53 dBm for point-to-multipoint operations to allow for reliable paths.”³³ UTC also agrees with Great River Energy that increasing the maximum power of fixed links would be important, if the 4.9 GHz band is used as a backhaul solution for the 700 MHz NPSBN.³⁴

V. CONCLUSION

WHEREFORE, the premises considered, UTC respectfully requests that the Commission act as requested herein. Specifically, the Commission should expand eligibility to include critical infrastructure industry entities, including utilities, on a primary basis. It should eliminate the secondary restriction on non-broadband fixed point-to-point and point-to-multipoint operations and permit higher power and wider channels for fixed operations. It should

³¹ Comment of Region 54 700 MHz RPC at 6.

³² See e.g. Comments of API, ENTELEC, and NRECA at 11 (emphasizing that “Power Limits Should Be Increased For Fixed Links But Not For Mobile Operations.”); and Comments of Great River Energy at 13.

³³ Comments of Great River Energy at 13.

³⁴ *Id.* at 14.

promote the use of the 4.9 GHz band as a complement to the 700 MHz PSBN by allowing utilities and critical infrastructure industry entities to access both bands so that traffic can be seamlessly routed from one network to the other. Finally, it should revise the frequency coordination process to adopt a registration and database approach involving certified frequency coordinators and requiring coordination of all possible uses of the 4.9 GHz band.

Respectfully submitted,

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November 30, 2012