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
	)	
	)	PS Docket No. 06-229
Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band	)	
	)	
	)	WT Docket No. 06-150
Service Rules for the 698-746, 747-762 and 777-792 MHz Bands	)	

COMMENTS OF THE UTILITIES TELECOM COUNCIL

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November 1, 2012

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SUMMARY

UTC urges the Commission to expand eligibility in the band to include critical infrastructure industry (CII) entities, such as electric, gas and water utilities. Expanding eligibility for this identified class of entities under the Commission's rules will promote efficient and effective use of the 4.9 GHz band, and will open up opportunities for complementary use of the band with the 700 MHz public safety broadband network. UTC does not support expanding eligibility to a larger class of commercial providers on a secondary basis, which could lead to congestion and interference to primary users in the band. UTC supports the Commission's proposal to establish a database to help coordinate operations in the band. It also urges the Commission to remove restrictions in the rules that limit fixed point-to-point and point-to-multipoint non-broadband operations only on an ancillary, secondary basis. Such restrictions are unnecessary and would discourage utility operations in the band. In addition, UTC urges the Commission to increase the maximum permissible power and channel widths for fixed point-to-point and point-to-multipoint operations, as more fully described below.

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Pursuant to Section 1.405 of the Commission's Rules, the Utilities Telecom Council ("UTC") hereby files its comments in response to the Commission's Fourth Report and Order and Fifth Further Notice of Proposed Rulemaking in the above-referenced proceeding.[1] UTC supports expanding eligibility so that critical infrastructure industry (CII) entities,[2] including utility companies, should be eligible to hold 4.9 GHz licenses on primary basis.[3] Expanding eligibility to include critical infrastructure industry entities, including utility companies will also

[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] *Fourth Report and Order and Fifth Further Notice of Proposed Rulemaking* at ¶43.

promote the Commission's goals in making the 4.9 GHz band complementary with the 700 MHz public safety broadband network. UTC also supports a registration and database coordination methodology in which certified public safety frequency coordinators, should handle coordination functions for the 4.9 GHz band.[4] Finally, UTC supports allowing fixed point-to-point and point-to-multipoint operations, including narrowband and broadband operations, to be licensed on a primary basis.

I. INTRODUCTION

UTC is an international trade association for the telecommunications and information technology interests of utilities and other critical infrastructure industries. Its members own, manage and control extensive communications networks that they use to support the safe, reliable and efficient delivery of essential electric, gas and water services to the public at large. These members include large investor-owned utilities that may serve millions of customers across multi-state service territories, as well as smaller rural electric cooperative utilities or municipal utilities that serve only a few thousand customers in isolated communities or remote regions of the country.

Utilities and other critical infrastructure industry entities are initiating smart grid and other applications that require additional communications capabilities. Networks need increased capacity and coverage to support greater visibility further into the grid, water works or pipeline. For some applications, latency needs to be exceptionally low. Moreover, reliability and resiliency of the network needs to be exceptionally high, so that communications are maintained, especially during emergencies such as power outages.

In order to meet their increasing communications demands, utilities need access to

[4] *Id.* at ¶¶28 and 34.

additional spectrum that supports the capacity and coverage and other requirements that utilities must meet. Utilities and other critical infrastructure industry entities do not currently have access to suitable spectrum to meet the demands from smart grid and other applications. Land mobile spectrum that they use is narrowband and subject to interference and congestion. Microwave spectrum has been reallocated for commercial services and utilities have been relocated to higher frequency bands. Unlicensed spectrum is subject to power limitations and interference, reducing its coverage and reliability. Hence, utilities need access to spectrum that provides the capability for wideband fixed and mobile applications to provide additional wide-area coverage and backhaul.

As the Commission is aware, UTC and others have been advocating for access to spectrum for utilities and other critical infrastructure industries in a variety of different proceedings.[5] In response, the Commission recommended in the National Broadband Plan that the National Telecommunications and Information Administration (NTIA) and the FCC should continue their joint efforts to identify new uses for federal spectrum and should consider the requirements of the Smart Grid.[6] It explained that "[i]dentifying a nationwide band in which Smart Grid networks could operate would speed deployment of a standardized and interoperable broadband Smart Grid. Establishing a nationwide band would also promote vendor competition and lower equipment costs."[7] The Commission also recognized in the National Broadband Plan

[5] *See e.g.* AEP Comments in response to the Commission's Public Notice #2 in the National Broadband Plan proceeding (hereinafter NBP PN#2), GN Docket No. 09-51, filed Oct. 2, 2009; Centerpoint Comments in re NBP PN #2, filed Oct. 2, 2009; UTC Comments in re NBP PN #2, filed Oct. 2, 2009; Edison Electric Institute in re NBP PN #2, filed Oct. 2, 2009.

[6] National Broadband Plan, Recommendation 12.5.

[7] *Id.*, *citing* Comments of Sempra in re NBP PN #2, filed Oct. 2, 2009, at 15; Comments of AEP Comments in re NBP PN #2, filed Oct. 2, 2009; Centerpoint Comments in re NBP PN #2, filed Oct. 2, 2009; UTC Comments in re NBP PN #2, filed Oct. 2, 2009.

that utilities and public safety have similar communications needs,[8] and that utilities could contribute capital funds and infrastructure that would lower costs for the construction, operation and maintenance of the 700 MHz public safety broadband network.[9]

In allowing utilities to access the 4.9 GHz spectrum on a primary basis, the Commission will help to address the communications needs of utilities, consistent with the recommendations in the National Broadband Plan. The 4.9 GHz band would provide 50 MHz of spectrum that utilities and other critical infrastructure industry entities could use for point-to-point backhaul or point-to-multi-point coverage over a given area for smart grid and other applications. In addition, the 4.9 GHz band could be used to complement the nationwide 700 MHz public safety broadband network (NPSBN) that may be shared with utilities and critical infrastructure industry entities, under provisions in the Middle Class Tax Relief and Job Creation Act of 2012. Thus, allowing utility access to the 4.9 GHz band on a primary basis would help to fulfill the Commission's recommendations to find spectrum for smart grid and to promote sharing the 700 MHz NPSBN between utilities and public safety.

Therefore, UTC is pleased to provide its comments in response to the Commission's *Fourth Further Notice of Proposed Rulemaking*. As UTC describes below, utilities and other critical infrastructure industry entities are keenly interested in accessing the 4.9 GHz for smart grid and other applications. In addition, such access could promote greater use of the spectrum, which could in turn reduce equipment costs in the band, as well as promote other synergies that would benefit public safety use of the band. Therefore, UTC has a direct interest in this

[8]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.")

[9]*Id.*

proceeding which could be advanced if the Commission expands eligibility to allow utilities and other critical infrastructure industry entities to access the 4.9 GHz band on a primary basis.

II. 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 supports allowing utilities and other critical infrastructure industry entities to be licensed on a primary basis in the 4.9 GHz band. There are several reasons why the Commission should license utilities and critical infrastructure industry entities on a primary basis. First, allowing utilities and critical infrastructure industry entities to access the band on a primary basis would provide much needed spectrum that could provide capacity and coverage for smart grid and other applications. Second, such access would promote investment in and more effective use of the spectrum. Finally, such access would be compatible with public safety operations, and would promote the use of the band as a complement to the 700 MHz PSBN.

A. Access to the 4.9 GHz band would help to provide utilities and critical infrastructure industries with suitable spectrum for smart grid and other applications.

The Commission should expand eligibility in the 4.9 GHz band to include utilities and other critical infrastructure industry entities in order to support the need for access to suitable spectrum to support smart grid and other applications. These applications are placing increasing demands for capacity and coverage on utility communications infrastructure. While utilities have deployed smart grid and other applications using a variety of communications technologies to meet their needs, wireless communications technologies are commonly used by utilities and other critical infrastructure industry entities. Moreover, utilities have used a variety of different wireless communications technologies, which use a variety of different spectrum bands. Many of these spectrum bands are either narrowband or unlicensed, and are subject to interference and

congestion. Some of the bands that utilities and critical infrastructure industries use are subject to reallocation, rebanding or a freeze on further licensing, making worse an already suboptimal situation. Thus, access to the 4.9 GHz band would provide a nationwide allocation of spectrum to support utility and critical infrastructure industry needs for more robust, reliable, uniform and interoperable wireless communications.

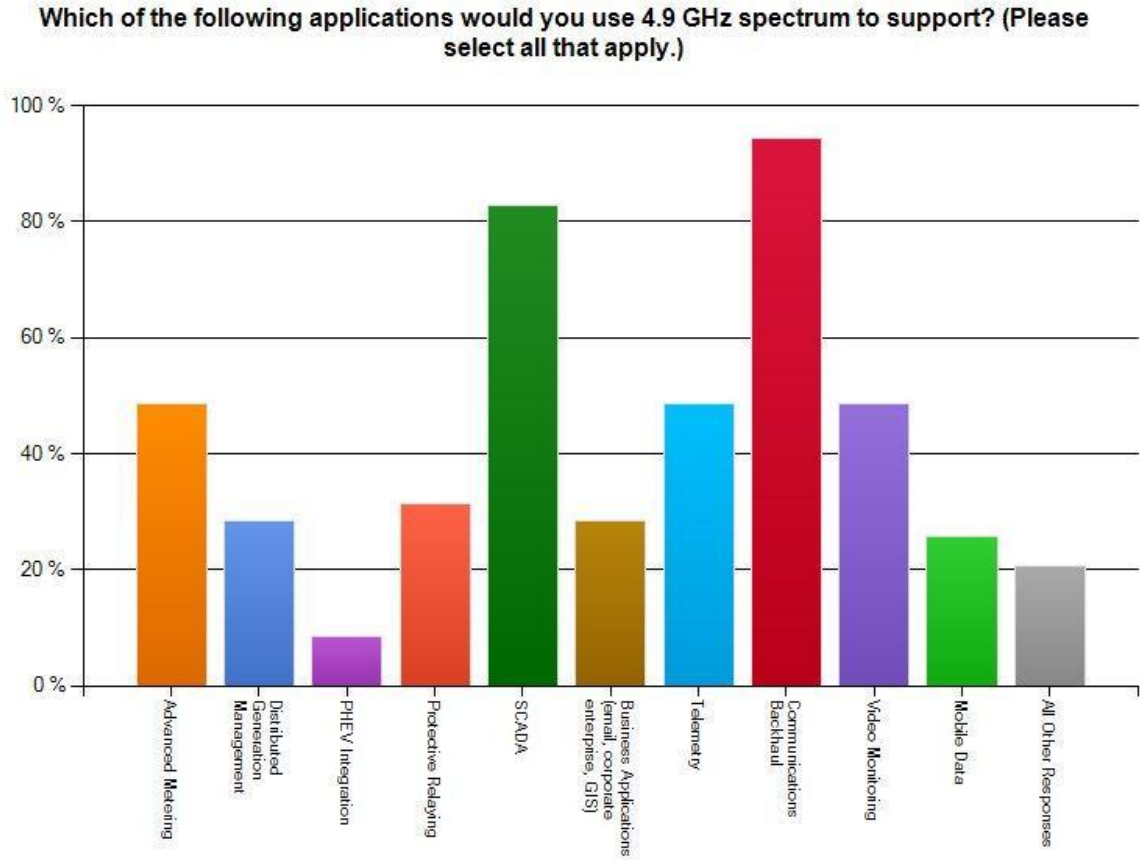
Expanding eligibility to include utilities and other critical infrastructure industries would also advance several overarching national policy objectives, including energy independence, environmental quality, homeland security and public safety. By promoting smart grid, it would enhance operational efficiency, thereby reducing demand and improving performance. In turn, lower generation would reduce carbon emissions. Meanwhile, improved monitoring and control of operations would enhance infrastructure security against physical and cyber attacks. Last but not least, public safety would be promoted because improved communications would promote increased reliability of essential electric, gas and water services to the public at large and public safety entities. In addition, access to the 4.9 GHz band by critical infrastructure industry entities, including utilities, would promote interoperability with public safety during emergencies. Thus, expanding eligibility to include critical infrastructure industry entities, including utilities, would promote several national policy objectives.

B. Expanding eligibility to include critical infrastructure industry entities on a primary basis, eliminating the secondary use restriction on non-broadband fixed links and increasing power limits and channel width for fixed operations would promote investment in and more effective use of the spectrum.

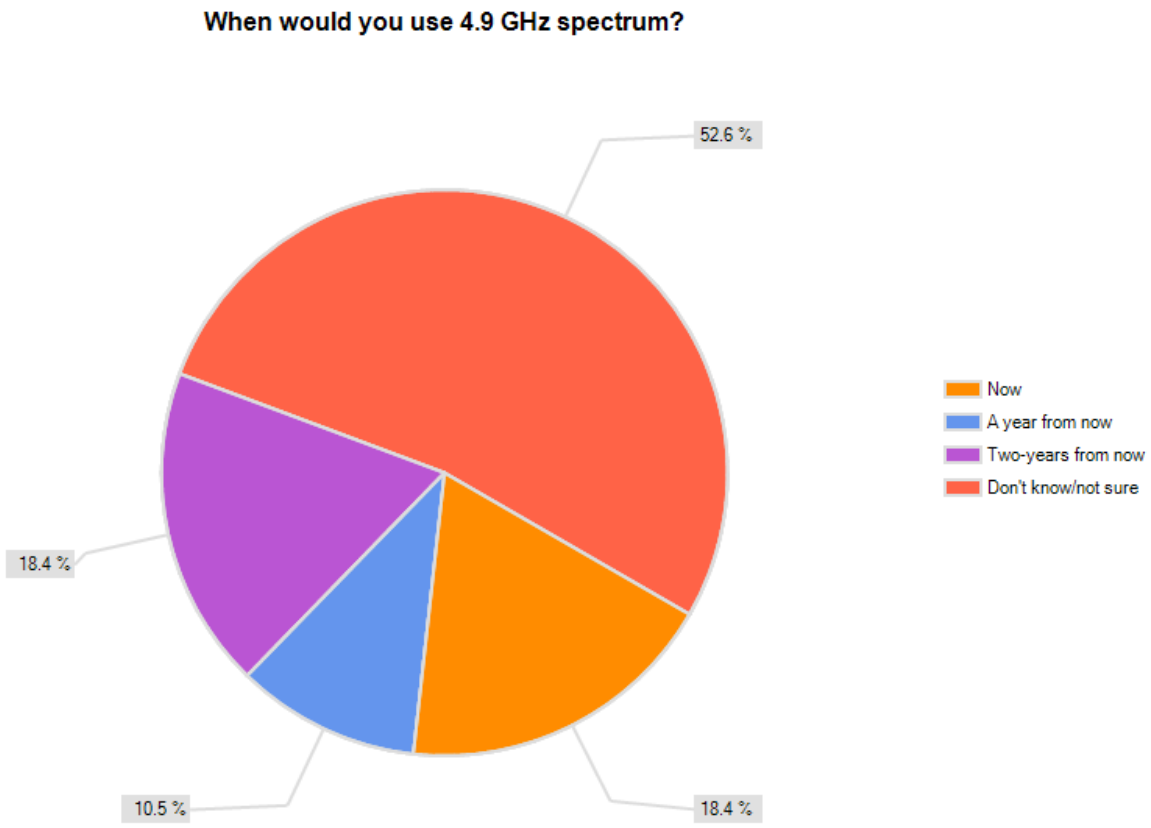
The Commission should expand eligibility to include critical infrastructure industry entities on a primary basis in order to promote investment in and more effective use of the spectrum. Utilities would make effective use of the band due to the critical need for suitable spectrum, as described above. In addition, utilities and other critical infrastructure have access to

infrastructure and resources to accelerate the deployment of 4.9 GHz networks.

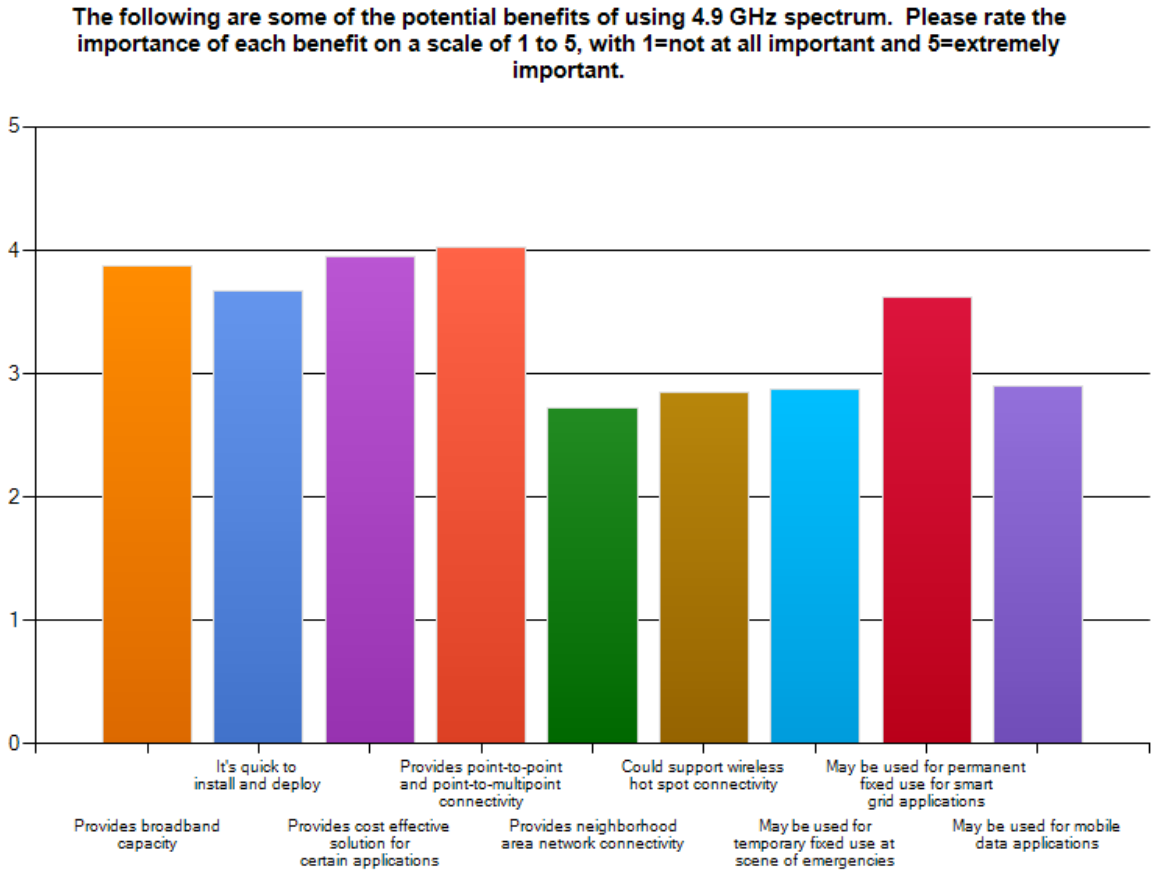
UTC surveyed its members to determine the ways that utilities and other critical infrastructure industries would use the band if they were eligible on a primary basis. As the table below indicates, most of the utilities that responded to the survey indicated that they would use the spectrum for communications backhaul or SCADA. Other applications such as video monitoring, advanced metering and telemetry were also cited by half of the utilities responding to the survey.



While most utilities were not sure when they would use the 4.9 GHz spectrum, almost 20% said they would use it within a year and nearly another 20% said they would use it within two years.



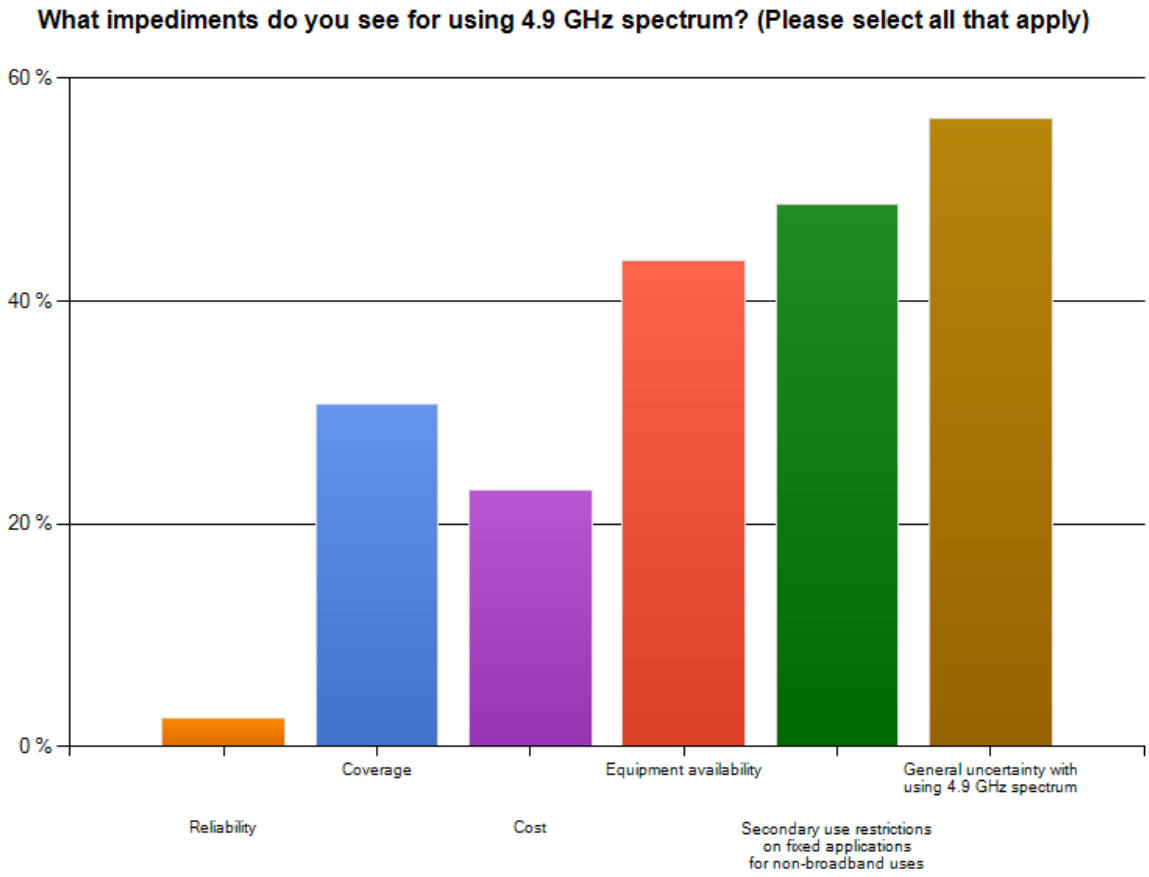
Finally, utilities indicated that the biggest benefits from the 4.9 GHz spectrum would be that it provides broadband capacity, that it provides point-to-multipoint connectivity, and that it is quick and easy to deploy. In addition, utilities also cited other benefits including that it could support neighborhood area networks, wireless hot spots, temporary fixed use at emergencies, permanent fixed use for smart grid, and mobile data applications.



UTC emphasizes that the Commission should allow critical infrastructure industry entities to be licensed on a primary basis. Utilities and other critical infrastructure industry entities need reliable communications and would be reluctant to invest in the 4.9 GHz band, if they were subject to secondary access.[10] As primary licensees in the 4.9 GHz band, utilities and other critical infrastructure industry entities could invest with confidence that their

[10] *See e.g. Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services*, PR Docket No. 92-235, *Second Report and Order*, 12 FCC Rcd 143, 14329 (1997)(recognizing that utilities use communications "as a critical tool for responding to emergencies that could impact hundreds or even thousands of people… Although the primary function of these organizations is not necessarily to provide safety services, the nature of their day-to-day operations provides little or no margin for error and in emergencies they can take on an almost quasi-public safety function. Any failure in their ability to communicate by radio could have severe consequences on the public welfare…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.")

communications would not be subject to interference from other licensed operations in the band. As described above, utilities anticipate using the bands for backhaul and other mission critical applications like SCADA. Utilities and other critical infrastructure industry entities could not afford to risk compromising those mission critical communications, and would limit the use of the 4.9 GHz band to non-mission critical applications or refrain from using the band entirely, if they were only licensed on a secondary basis.



The table above serves as an illustration of the importance of the need for primary status. Utilities and other critical infrastructure industry entities reported that one of the greatest impediments to their use of the 4.9 GHz band would be secondary use restrictions on fixed point-

to-point and point-to-multipoint links for non-broadband uses. This is made more remarkable in the sense that non-broadband use is probably not the main way that utilities plan to use the 4.9 GHz band, considering that they reported that they primarily plan to use the spectrum for backhaul. Consequently, even for their fixed non-broadband use of the band -- which they expect to be relatively low compared to broadband uses -- secondary use restrictions are a major impediment. Therefore in order to promote greater and more effective use of the band, UTC urges the Commission to allow utilities and other critical infrastructure industry entities to be licensed on a primary basis in the 4.9 GHz band generally, and to eliminate the current secondary use restrictions in the rules that apply to non-broadband fixed point-to-point and point-to-multipoint operations in the 4.9 GHz band specifically.[11]

The Commission should 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.[12] Eliminating the restriction would provide the "maximum operational flexibility practicable" and will "lead to expanded use of 4.9 GHz broadband networks."[13] Eliminating the restriction would also, "address[] concerns about the uncertainty that secondary status may introduce in 4.9 GHz broadband networks utilizing fixed point-to-point or point-to-multipoint links."[14] Secondary use restrictions on non-broadband fixed point-to-point and point-

[11] UTC notes that the current secondary use restrictions apply to a) Permanent fixed point-to-point/multipoint links that deliver narrowband traffic and b) Permanent fixed point-to-point/multipoint backhaul of traffic originating from public safety bands not designated for broadband (i.e. public safety VHF, UHF, narrowband 700 MHz and 800 MHz) to other networks.

[12] 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).

[13] *Id.* at ¶10.

[14] *Id.*

to-multipoint operations is not necessary to "preserve and ensure the use of the 4.9 GHz public safety band in serving broadband needs."[15] To the contrary, by according primary status to fixed point-to-point and point-to-multipoint operations that backhaul traffic from narrowband networks other than 4.9 GHz systems, it will promote greater use of 4.9 GHz spectrum for broadband services.

Similarly, maximum permitted power levels should be increased 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.[16] This proposed power increase represents only a slight increase in the maximum permissible power levels currently under the rules.[17] These higher power levels will promote the use of the band for longer range communications as well, particularly in rural areas where coverage will be a key issue. This increased channel width will support OC3 capacity traffic as well as Sonet protection. By promote greater reliability and improved range through higher power levels and wider channels, the Commission would encourage greater use of the band for 4.9 GHz operations. Moreover, the use of 4.9 GHz is going to be critically important for providing the capacity that will be needed backhauling traffic off the 700 MHz PSBN, and the FCC could promote greater use of the 4.9 GHz band for 700 MHz backhaul by allowing for higher power levels and wider channels for point-to-point and point-to-multipoint operations.

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[15] *Id.* at ¶9 (stating that "[w]e limit primary status to fixed links in this manner [i.e. by granting primary status only to broadband fixed links] to preserve and ensure the use of the 4.9 GHz public safety band in serving broadband needs.").

[16] *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.)

[17] *See* 47 C.F.R. §90.113 (providing up to 33 dBm high power maximum conducted output power for 20 MHz wide channels and permitting transmitting antennas with an additional 26dBi directional gain for high power point-to-point and point-to-multipoint operations (both fixed and temporary-fixed rapid deployment)).

For example, utilities and other critical infrastructure industries may wish to use the 4.9 GHz spectrum to backhaul traffic from smart meters that communicate over narrowband channels, but they would be discouraged from doing so for fear that the 4.9 GHz link potentially carrying terabytes of aggregated smart meter data would be subject to interference from other primary fixed or mobile operations in the band. These fears would apply with equal force to public safety entities that would be discouraged from backhauling traffic from narrowband channels that they use.[18] Therefore, consistent with its decision to eliminate secondary use restrictions on broadband fixed links in the 4.9 GHz band, the Commission should eliminate the current secondary use restriction on fixed point-to-point and point-to-multipoint links that are used for non-broadband communications. In addition, it should allow for increased power levels and 30 MHz wide channels for fixed point-to-point and point-to-multipoint operations in the band, as described above.

C. Access to the 4.9 GHz by critical infrastructure industry entities would be compatible with public safety operations, and would promote the use of the band as a complement to the 700 MHz PSBN.

Utilities and other critical infrastructure industry entities are sensitive to the needs of public safety and would be compatible users of the 4.9 GHz band. As the Commission has recognized, utilities and public safety have similar communications requirements and missions. They both use communications primarily for private internal communications, and those communications are primarily to protect the safety of life, health and property. They could also use the 4.9 GHz band to improve interoperability between utilities and public safety during

[18] *See Id.* at ¶8, *citing* Letter from Kent D. Bressie, Patricia J. Paoletta, Damon C. Ladson, and Christopher P. Nierman, Counsel for M/A-COM, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission (dated Apr. 22, 2008)(stating that "[p]ublic safety users are concerned about running mission-critical applications on spectrum that has secondary status because of fears that they could be forced to relinquish frequency used for a particular application if their system interferes with a primary status user in the same geographic area," and noting that the Commission has shared this concern in the past in the context of 800 MHz rebanding.)

emergency response, which is critical. In addition, utilities and other critical infrastructure industries would use the 4.9 GHz band for targeted applications that could be coordinated with public safety and would not exhaust available spectrum for use by public safety. Finally, and most importantly, the term "critical infrastructure industry" is a defined term and limited in scope such that public safety would only need to contend with a relatively narrow class of newly eligible and compatible users of the spectrum.

Expanding eligibility to include utilities and critical infrastructure industry entities would strike an appropriate balance between the need to promote greater use of the band and the need to preserve the band for public safety use. UTC is concerned that if the Commission expands eligibility more broadly to include commercial entities on a secondary basis, the band could become subject to congestion and interference to primary operations in the 4.9 GHz band, effectively turning it into an unlicensed band filled with secondary commercial operations. Utilities and other critical infrastructure industry entities already have experienced challenges with using unlicensed and lightly licensed spectrum in other bands, and they have contended with congestion and interference in the private land mobile licensed spectrum below 512 MHz ever since the power, petroleum and railroad radio service pools became shared with a wide array of industrial/business category licensees in the mid-1990s. Past is prologue, and UTC is concerned that allowing commercial operations in the 4.9 GHz band would likely discourage utilities and critical infrastructure industry entities from relying on the band for mission critical applications, thus diminishing their effective use of the band for smart grid and other national policy objectives. Therefore, UTC submits that the Commission should consider other bands for commercial use, thus preserving the 4.9 GHz band for public safety and utilities, as well as other critical infrastructure industry entities.

Finally, UTC believes that expanding eligibility to include utilities and critical infrastructure industry entities would promote the use of the 4.9 GHz band as a complement to the 700 MHz nationwide public safety broadband network (NPSBN). Public safety is interested in sharing the 700 MHz NPSBN and partnering with utilities and other critical infrastructure industry entities on the construction, maintenance and operation of the NPSBN. Moreover, the Commission and Congress have encouraged sharing of the NPSBN and public-private partnerships with utilities and critical infrastructure industry entities. By expanding eligibility in the 4.9 GHz band to include utilities and critical infrastructure industry entities, the Commission would remove a potential barrier between using the 4.9 GHz band as a complement to the NPSBN. That way, traffic on the NPSBN that is shared with utilities and other critical infrastructure industry entities could be routed seamlessly onto a 4.9 GHz link and backhauled without eligibility issue standing as a barrier. That would also promote interoperability between utilities and critical infrastructure industry entities and public safety. Moreover, it would naturally promote greater investment in both 4.9 GHz and the 700 MHz NPSBN by utilities and critical infrastructure industry entities to the extent that they were eligible to access both bands. That would in turn lead to other benefits, including a larger market for equipment and services that would drive economies of scale, thus attracting additional investment, product and service development, and lower costs into the 4.9 GHz band. Therefore, the Commission should expand eligibility to include utilities and critical infrastructure industry entities in order promote the use of the 4.9 GHz band to complement the 700 MHz NPSBN.

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

UTC supports 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. Based on the record developed in this proceeding and in the Commission's Workshop, it appears that the current process needs to be revised.[19] The process is vague, inconsistent and unreliable. Matters will only get worse if the Commission expands eligibility in the 4.9 GHz band. Different entities and different facilities would create greater potential for interference and uncertainty. Thus, the need to revise the coordination process is acute, particularly if the Commission expands eligibility to include non-public safety entities in the 4.9 GHz band. UTC believes that a registration and database approach is the most appropriate and that coordination should be conducted by certified frequency coordinators to promote the efficient and effective coordination of applications.

The Commission should adopt more formal frequency coordination processes in the 4.9 GHz band. Currently, 4.9 GHz licensees must merely "cooperate in the selection and use of channels in order to reduce interference and make the most effective use of the authorized facilities."[20] While some have suggested adopting a Part 101 approach, 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."[21] 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

[19] See video at http://www.fcc.gov/events/49-ghz-band-workshop. *See also* presentations and other documents during the workshop at http://transition.fcc.gov/pshs/summits/.

[20] 47 C.F.R. § 90.1209(b).

[21] 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."[22] Similarly, a regional plan approach to coordinate permanent fixed links, as well as mobile and temporary fixed links would only partially improve the shortcomings of the current process and would exacerbate and extend the fundamental problem with inconsistent and sometimes non-existent standards for coordination that are followed in different regions.[23]

The registration and database approach towards frequency coordination proposed by the Commission represents the most viable option. UTC agrees with the Commission's proposal "to require all current 4.9 GHz licensees to register the technical parameters of their permanent fixed point-to-point, point-to-multipoint and base-to-mobile stations, including permanent fixed receivers when applicable, into a database."[24] UTC also agrees with the Commission's tentative conclusion that it should "create and maintain a 4.9 GHz registration database that is modeled after an existing registration database."[25] UTC submits that the benefits of such registration would outweigh the burden considering the importance of the communications involved and the need to protect against harmful interference. Furthermore, RPCs should be permitted to recover reasonable costs from existing licensees that are incurred by RPCs as part of the registration process.[26] UTC believes that the Commission should allow all certified coordinators to handle coordination functions for the 4.9 GHz band instead of the RPCs, and that the Commission

[22] *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.")

[23] *See e.g. Fifth Further Notice* at ¶37 (recognizing that regional planning committees are unfunded) and ¶36 (observing that some RPCs are inactive). *See also Fifth Further Notice* at ¶39 (rhetorically asking "[h]ow would RPCs be able to coordinate new applicants successfully around incumbent operations without a comprehensive database?")

[24] *Fifth Further Notice* at ¶28.

[25] *Id*. at ¶30.

[26] *Id*. at ¶37 (inviting comment on whether the NRPC/RPCs should be entitled to charge licensees a fee for registration, as well as what the likely or appropriate amount of such fees or other costs would be and whether the benefits would outweigh the costs).

should adopt technical criteria to ensure that new 4.9 GHz facilities protect existing users from interference. These criteria should be industry-agreed standards that are submitted to the Commission for adoption.[27] Finally, the Commission should require coordination for all possible uses including temporary fixed, mobile, and (as NSMA has urged) secondary permanent fixed uses. Exempting certain uses and subjecting them only to Section 90.1209 would pose a substantial risk of interference, particularly if eligibility was expanded to include non-public safety entities on either a primary or secondary basis.[28]

[27] *Id.* at ¶34 (inviting comment on the use of frequency coordinators, the technical criteria that would apply and whether such criteria should be codified by the FCC or industry-agreed.

[28] *Id.* at ¶35 (inviting comment on whether the FCC should require coordination for other uses, such as temporary fixed, mobile, and (as NSMA has urged) secondary permanent fixed uses, and seeking comment on whether all possible uses should be subject to a coordination requirement, or whether certain uses should be exempt and be subject only to Section 90.1209.) *See also Id.* at ¶20 (stating that "NSMA recommends that coordination should be required for all permanent fixed systems, including secondary systems, for three reasons: site-by-site licensing is required for all fixed stations; secondary systems are potential interference sources; and this interference is most appropriately addressed in the coordination process.")

IV. 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 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 1, 2012