Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	WP Docket No. 07-100
Amendment of Part 90 of the Commission's Rules	)	

To: The Commission

COMMENTS
OF THE
ENTERPRISE WIRELESS ALLIANCE

Respectfully submitted,

ENTERPRISE WIRELESS ALLIANCE

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November 29, 2021

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The Enterprise Wireless Alliance ("EWA") urges the Commission to adopt rules in response to the Eighth Further Notice of Proposed Rulemaking ("FNPRM") in this proceeding that, at last, will allow the 4.9 GHz band to reach its full potential. It has been more than a decade since the FCC first concluded that more intensive use should be made of this spectrum. It is time to act on that conclusion, which the extensive record in the proceeding supports.

The FNPRM confirms that this band must continue to maximize its use by public safety entities, but explores various models for shared spectrum use, models that have been adopted for different portions of the spectrum. While some of those models theoretically might be workable, all would involve considerable time and effort to implement, resulting in even further delays in achieving the Commission's goals in this proceeding.

Instead, the Commission need look no further than the National Public Safety Telecommunications Council ("NPSTC") plan recommended in 2013, a plan that NPSTC has continued to endorse over the past eight years. That plan, a consensus proposal from the public safety community, recommended that the 4.9 GHz band be shared with Critical Infrastructure Industry ("CII") entities. It proposed licensing and other refinements that would spur innovation in the band, improve coordination, and drive down costs. EWA, which represents a number of CII entities and other large business enterprise companies eager to invest in private broadband networks, has supported the NPSTC Plan, while also recommending that the CII category be expanded to track the definition developed by the Department of Homeland Security. Decades of experience in other bands, including 800 MHz, demonstrate that public safety and business enterprise entities can share spectrum compatibly pursuant to a well-tested frequency coordination process that protects the operations of incumbents while promoting new entrants and thereby maximizes investment in and utilization of valuable spectrum.

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The Enterprise Wireless Alliance ("EWA" or "Alliance"), in accordance with Section 1.415 of the Federal Communications Commission ("FCC" or "Commission") rules, submits these comments in response to the Eighth Further Notice of Proposed Rulemaking in this proceeding.[1] The 4.9 GHz band was reallocated from Federal Government to non-Government use in 1999, more than 20 years ago.[2] It was allocated by the FCC for public safety use in 2002 with licensing and service rules adopted in 2003.[3] The FCC has been investigating public safety operations and options for increasing utilization of the band since 2007.[4] All parties with a genuine interest in the 4.9 GHz band presumably agree that the rules adopted in response to this Eighth FNPRM should support public safety use, should maximize the band's potential, and – importantly – should be a tested process so those goals can be achieved expeditiously.

The fundamental issue in this proceeding is what entities should be given access to this band along with public safety and under what regulatory structure. EWA endorses the FCC's

[1] *Amendment of Part 90 of the Commission's Rules,* WP Docket No. 07-100, Eighth Further Notice of Proposed Rulemaking, 86 FR 59934 (Oct. 29, 2021) ("FNPRM").
[2] Omnibus Budget Reconciliation Act of 1993, Pub. L. No 103-66, 107 Stat. 312.
[3] *The 4.9 GHz Band Transferred from Federal Government Use,* WT Docket No. 00-32*,* Memorandum Opinion and Order and Third Report and Order*,* 18 FCC Rcd 9152 (2003).
[4] *Amendment of Part 90 of the Commission's Rules,* WP Docket No. 07-100, Notice of Proposed Rulemaking, 22 FCC Rcd 35190 (2007).

conclusion that the rules adopted in 2020, rules that would have resulted in a fragmented state-by-state approach to the band, would not have advanced its objectives and were not in the public interest, although the Association viewed them as a possible step forward in a lengthy proceeding.[5] The FNPRM now seeks comment on a variety of regulatory models for this band, both to foster greater public safety use and to facilitate non-public safety access. Some of those models have been used effectively in certain bands, but their suitability for this spectrum is uncertain and need not be tested. It is time to adopt a regulatory approach for the 4.9 GHz band with a track record of success and with the tools in place to be implemented promptly. The basic framework is described in the recommendations submitted by the National Public Safety Telecommunications Council ("NPSTC"), a federation of public safety organizations, in multiple filings throughout this proceeding.[6] As detailed below, decades of experience in other bands, including 800 MHz, demonstrate that public safety and business enterprise entities can share spectrum compatibly pursuant to a well-tested frequency coordination process that protects the operations of incumbents while promoting new entrants and thereby maximizes investment in and utilization of valuable spectrum.

I. INTRODUCTION

EWA is a national trade association representing business enterprises, wireless sales and service providers, hardware and software system vendors, and technology manufacturers. The Alliance also represents a significant number of private carrier operators that offer primarily two-way dispatch communications for business and governmental customers.

[5] FNPRM at ¶¶ 16-24.
[6] *See, e.g.*, NPSTC, 4.9 GHz National Plan Recommendations, Final Report (2013); NPSTC Comments, WP Docket No. 07-100, submitted July 6, 2018; NPSTC *ex parte* letter, WP Docket No. 07-100, submitted August 13, 2021.

These businesses are the cornerstone of the American economy. They are responsible for delivering electricity, water, oil and gas, and all other essential services. They build roads, bridges, airports, refineries, and every other imaginable facility needed to support the American economic engine. They design, manufacture, and deliver innumerable goods to other businesses and to consumers. These activities undoubtedly will accelerate and thereby require increased communications capability as a result of Federal funding made available in the 2021 infrastructure legislation.[7] The American economy simply cannot function without a private enterprise marketplace that has access to the tools, including telecommunications tools, that enable it to operate efficiently in this country and compete effectively throughout the world.

While the functionality and advanced capabilities of broadband technology have been offered on commercial wireless networks for some years, recognition of the critical importance of private LTE for the nation's businesses has emerged more recently. Enterprise entities, like those described above, are investigating incorporating broadband into their communications portfolios and, in some instances, replacing multiple narrowband and/or wideband systems with a private broadband platform. EWA has explained in previous filings in this proceeding that some of these users' broadband needs may be addressed on commercial networks. But even as those networks expand beyond more densely populated areas, certain EWA members have coverage, operational, reliability, and resiliency requirements that will not be met on consumer-oriented commercial systems.

For example, utilities require licensed broadband spectrum for myriad mesh applications, especially SmartGRID deployments such as AMI and DACR. Many types of enterprise users are investing in IoT capabilities that EWA defines as "Interconnection of Things," since private LTE networks often are not connected to the Internet for obvious security and resiliency reasons.

[7] Infrastructure Investment and Jobs Act, Pub. L. No. 117-58 (2021).

They also have an urgent need to deploy unmanned aerial system ("UAS") technologies for routine surveillance and maintenance activities and to address system problems before they have a cascading effect on operational capabilities. UAS capability reduces the time, cost, and human risk in addressing these types of issues. The greatest impediment they identify in embracing these advanced technologies is their difficulty in accessing licensed spectrum with geographic parameters suited to their service areas. They also need spectrum for fixed operations, as backhaul is an essential component of broadband and other advanced technology deployments.

A significant number of private broadband networks at 4.9 GHz will have the additional benefit of deploying infrastructure built to the demanding standards of public safety users in areas where commercial networks may not be available, notwithstanding Federal government efforts to support commercial coverage in rural areas. Utilities, oil and gas pipelines, national delivery services, and other business entities require reliable, resilient coverage in those areas. Their infrastructure can be leveraged to also support public safety facilities, thereby reducing the cost for both types of entities.

The FCC continues to excel at identifying spectrum for commercial broadband deployments. Low-band, mid-band, and high-band allocations are available for licensed and unlicensed commercial use. Perhaps for this reason, there has been no serious indication from the commercial wireless community[8] or from proponents of unlicensed spectrum of an interest in accessing this band. There has been ample opportunity since 2007 for interested parties to express their intentions. Their absence from this proceeding, when compared to their active participation in numerous other allocation and band repurposing rulemakings, speaks volumes.

[8] The Wireless Internet Service Providers Association ("WISPA") is an exception. It supports access by its members to the 3.45-3.55 GHz, 2.5 GHz, 6 GHz, and 5.9 GHz bands, along with the 4.9 GHz band.

Some of the Commission's spectrum decisions also have created opportunities for private LTE operations. EWA members are investing in 900 MHz spectrum for wider-area coverage and CBRS for greater capacity in more confined facilities such as plants and refineries. But this essential contributor to the American economy is in urgent need of more broadband options. Sharing the 4.9 GHz band with public safety entities pursuant to channelization and frequency coordination processes with which both user communities are fully familiar would help address this deficiency in the FCC's spectrum allocations, while also advancing the Commission's goals in this proceeding. It would serve public safety and major business enterprises and thereby promote the public interest.

II. COORDINATED PUBLIC SAFETY/BUSINESS ENTERPRISE SHARED USE OF 4.9 GHz WOULD ADVANCE THE FCC'S POLICY OBJECTIVES

EWA concurs with the Commission's conclusion that the 50 MHz of 4.9 GHz spectrum could support more intensive usage. That situation could be addressed immediately by extending eligibility to core constituencies in the business community. The Alliance participated in development of the 2013 NPSTC Report in which there was a consensus by the public safety community that a portion of the 4.9 GHz band could be shared on a co-equal basis with entities classified as Critical Infrastructure Industries ("CII") in the Commission's rules[9] immediately and the entire band three years later.[10] While EWA believes the Plan should be modified in

[9] *See* 47 C.F.R. § 90.7.

[10] This phased-in approach for non-public safety eligibility should no longer be necessary. Public safety entities had eight years to deploy facilities since NPSTC sought that protection, before the FCC adopted a freeze on the band, a freeze that no longer applies to incumbents. *See Public Safety and Homeland Security Bureau and Wireless Telecommunications Bureau Announce Temporary Filing Freeze on the Acceptance and Processing of Certain Part 90 Applications for the 4940-4990 MHz Band*, WP Docket No. 07-100, Public Notice, 35 FCC Rcd 9522 (PSHSB/WTB 2020); *see also Public Safety and Homeland Security Bureau and Wireless Telecommunications Bureau Modify Temporary Filing Freeze on the Acceptance and Processing of Certain Part 90 Applications for the 4940-4990 MHz Band*, WP Docket No. 07-100, Public Notice, DA 21-1320 (rel. Oct. 21, 2021).

certain respects as discussed below, its framework addresses the FCC's objectives in this proceeding: supporting public safety, leveraging technological advances, promoting a more robust equipment market, and providing for non-public safety operations in the band.

EWA was pleased to work with NPSTC in 2013 when a forward-looking plan was developed that would promote the FCC's goals by allowing at least CII entities to have co-primary status with public safety throughout the 4.9 GHz band within a reasonable amount of time. Nonetheless, it has always been the Alliance's position that the CII definition in the FCC rules, while perhaps appropriate in the specific context in which it was adopted decades ago, does not capture the scope of the nation's businesses that, in fact, are critical to its day-to-day functioning. It has recommended that the FCC instead adopt a modified version of the Department of Homeland Security ("DHS") definition.[11] DHS's objective was to create a collaborative, integrated approach toward strengthening the nation's various critical infrastructure elements through management of physical and cyber risks. Those risks have increased exponentially in the intervening eight years, a compelling factor in the growing interest in private LTE networks, networks that are not tied to the Internet. The DHS definition included the following industries as part of the Critical Infrastructure Section in addition to governmental and emergency services:

- Chemical
- Critical Manufacturing
- Information Technology
- Nuclear Reactors, Materials & Waste
- Food and Agriculture
- Defense Industrial Base

[11] *See* U.S. Department of Homeland Security. *NIPP 2013: Partnering for Critical Infrastructure Security and Resilience.* Available at: NIPP 2013: Partnering for Critical Infrastructure Security and Resilience (dhs.gov) (July 7, 2017).

- Energy
- Healthcare and Public Health
- Financial Services
- Water and Wastewater Systems
- Transportation Systems

This more inclusive list will promote robust enterprise activity, activity that will significantly expand investment in the band with the expected concomitant reduction in equipment cost and expansion of technology options that will benefit public safety entities as well. Within this broader community, it is entities with significant operational scale and financial resources that will justify deployment of their own 4.9 GHz facilities. They are the same entities that historically have proven to be compatible sharers of spectrum with public safety. They can achieve a balance that will permit public safety growth opportunities, while still accomplishing the objectives set out by the Commission.

The public safety and business enterprise organizations that support shared, co-equal use of the band also agree that sharing requires accurate information about what spectrum is being used where and for what purposes. The FNPRM states that "More robust information on public safety operations in the band could help improve predictability for public safety operations and facilitate robust, non-interfering access to the band for non-public safety entities."[12] EWA and NPSTC agree that operations in this band should be licensed on an exclusive basis in a publicly available data base. While the FNPRM questions how much data should be required and where that data should be maintained, there is no need to look beyond the FCC's own Universal Licensing System ("ULS") as the repository. ULS is designed to collect the system-specific information needed to protect incumbent operations while facilitating additional usage. Public

[12] FNPRM at ¶ 32.

safety and business enterprise entities are familiar with the input process and, for non-public safety users, FCC application processing and regulatory costs.

EWA is not aware of any rationale to support the introduction of a third-party managed database that would replicate capabilities already available in ULS.[13] That alternative would increase costs and complexity without providing any apparent benefit. Moreover, it presumably would require the FCC to oversee the process of selecting the third-party data base manager from among competing parties and monitoring its performance on an ongoing basis. The former would delay the time by which all eligible entities would be able to access the band, and the latter would absorb Commission resources that would be better applied to other projects.

The collection of system-specific data, the licensing process, enables the third-party frequency coordination of mobile and fixed wireless systems that the FCC has relied upon to promote sound spectrum management and reduce the burden on FCC staff in multiple bands for many decades.[14] The entities that perform that function do so on a not-for-profit, non-discriminatory basis. Public safety and business enterprise entities, as well as the vendors that serve these markets, are familiar with that process. It has enabled them to avoid instances of mutual exclusivity at the application stage and interference once operational in bands such as 800 MHz and would work as effectively at 4.9 GHz. It has promoted the deployment of facilities throughout the country without the need to designate a nationwide licensee or band manager. It is an optimal balance of local autonomy through market-specific knowledge and national oversight through the coordination process that harmonizes operations between areas.

Moreover, it has been demonstrated that the process works when all organizations with the capability and commitment to process applications in accordance with FCC rules and policies

[13] FNPRM at ¶ 35.
[14] *See, e.g.*, 47 C.F.R. §§ 90.7 and 90.175.

are allowed to preform that function. Ensuring that public safety entities enjoy appropriate access to the band and protection from interference once licensed does not require excluding qualified entities, such as EWA or the commercial organizations with significant expertise in coordinating fixed operations in multiple microwave bands, from coordinating applications for 4.9 GHz spectrum.[15]

Effective coordination also can be enhanced by FCC rules that group like applications on the same sub-bands within an allocation. This approach has been recommended by NPSTC and EWA agrees. Designating specific 4.9 GHz channels for UAS, for robotics, and for IoT technologies will further promote efficient use of this spectrum. EWA is prepared to work with the FCC, NPSTC, and other parties in fine-tuning these categories to maximize spectrum utilization and efficiency.

III. OTHER APPROACHES TO FACILITATING NON-PUBLIC SAFETY USE OF THE BAND ARE UNNECESSARY AND/OR OVERLY COMPLEX

The FNPRM sets as a goal "a cohesive and predictable shared spectrum landscape that would also allow for planning and investing in the band by public safety and non-public safety users alike."[16] It then requests comment on a variety of sharing approaches that have been considered and, in some instances, adopted in other bands. These models have their place in the Commission's arsenal of regulatory options. However, none are better suited to the FCC's objectives or able to be implemented more expeditiously than the well-tested, coordinated public safety/business enterprise sharing arrangement described above.

[15] Frequency advisory committees ("FACs) such as EWA, APCO, IAFC and others already certified by the FCC, as well as the organizations that currently perform microwave coordination, have demonstrated their technical expertise to coordinate spectrum in multiple bands. Nonetheless, EWA would not object to a requirement that it demonstrate its competence to coordinate 4.9 GHz spectrum. FNPRM at ¶ 50.
[16] *Id*. at 61.

One shared access model about which the FNPRM requests comment involves public safety licensees leasing excess capacity to non-public safety users.[17] It is theoretically possible that certain public safety entities might lease capacity, but there is no basis for concluding that the public safety community generally favors those arrangements,[18] or that non-public safety entities would invest in the band under the priority and pre-emption conditions the FCC correctly assumes would be imposed on them. Without questioning public safety's need for immediate access to spectrum in meeting its obligation to protect lives and property, enterprise users such as utilities, airlines, and others have comparable responsibilities that cannot be dependent on spectrum to which access could be denied at any time, however valid the reason. They will invest in equipment and system deployment when they can be confident of their right to utilize their facilities whenever needed. Secondary leasing or "preferred" rights do not provide the necessary assurance to support such investments.

The FNPRM also questions whether a dynamic Spectrum Access System ("SAS") or Automatic Frequency Coordination ("AFC") approach could provide for opportunistic use of spectrum by non-public safety entities.[19] Either model would add cost, complexity, and delay to an already multi-decade effort to promote more intensive use of this band. Both are still in relatively nascent stages of implementation; indeed, AFCs have not yet been tested at all in the real world. Experience in both the 3.5 GHz and 6 GHz bands suggests that it takes considerable time and resources, both governmental and private, to develop the procedures and the technology on which successful use of these models rely. In this case, there is no need to invent a "new wheel" since coordination procedures exist that allow successful spectrum sharing between

[17] FNPRM at ¶¶ 67-68.
[18] Public safety entities hold licenses in bands where spectrum leasing is permitted. EWA is unaware that they have availed themselves of that opportunity.
[19] FNPRM at ¶¶ 69-74.

public safety and business enterprise users, the model preferred by NPSTC and other public safety entities.

The recommendation from the Public Safety Spectrum Alliance ("PSSA") that this spectrum be assigned on a nationwide basis to the First Responder Network Authority ("FirstNet")[20] has not, to date, elicited broad support from the public safety community or from any party other than AT&T.[21] AT&T's *ex parte* communications were the first from that company in this proceeding since its 2009 Comments on the Commission's National Broadband Plan that involved multiple FCC rulemakings.

As noted in the FNPRM, assigning this spectrum to FirstNet "would also represent a marked departure from the approach that we have applied to the band up to this point, and it raises a variety of significant policy, legal, and operational questions."[22] Not least among those questions is the FCC's authority to assign spectrum to FirstNet, an entity that is an independent authority within the National Telecommunications and Information Administration ("NTIA"), without a rulemaking assigning the band for federal use or a legislative directive, as was the basis for the creation of FirstNet and the allocation to it of 700 MHz spectrum.[23] As the FCC's objective is the adoption of rules that will promote more intensive use of the 4.9 GHz spectrum in some reasonable timeframe, the PSSA's recommendation must be rejected.

IV. CONCLUSION

In 2013, it was the consensus of the public safety community, speaking through NPSTC, that its 4.9 GHz interests would be best served by allowing shared use of the band by CII entities.

[20] *See, e.g.*, Comments from the Public Safety Spectrum Alliance, WP Docket No. 07-100 (rec. Aug. 25, 2020).
[21] *See, e.g.*, AT&T *Ex Parte* letters, WP Docket no. 07-100 (rec. Sept. 21 and 22, 2020; Apr. 22 and 30, 2021).
[22] FNPRM at ¶ 51.
[23] Middle Class Tax Relief and Jobs Creation Act of 2012, Pub. L. 112-96, Title VI (2012).

That position has not changed. While EWA believes the CII definition should be expanded, as explained above, the fundamental point also has not changed. These two types of communications users have demonstrated an ability to share exclusive spectrum rights through a coordination process that has been tested over many decades. They have a desire to do so at 4.9 GHz, a band in which commercial service providers and unlicensed spectrum proponents have expressed little or no interest. The record supports the sharing arrangements endorsed by public safety and business enterprise representatives. The adoption of rules consistent with the positions herein will support the FCC's goals of protecting the operations of incumbents, while promoting new entrants that will maximize investment in and utilization of this spectrum.