Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Review of the Commission's Rules Governing the 896-901/935-940 MHz Band	)	WT Docket No. 24-99
	)	

REPLY COMMENTS OF THE ASSOCIATION OF AMERICAN RAILROADS AND THE AMERICAN SHORT LINE AND REGIONAL RAILROAD ASSOCIATION

I. INTRODUCTION

The Association of American Railroads ("AAR") and the American Short Line and Regional Railroad Association ("ASLRRA") (collectively, "the Railroad Associations") submit these reply comments in response to the Federal Communications Commission's ("Commission") Notice of Proposed Rulemaking ("*NPRM*") in the above-captioned proceeding.[1]

Numerous commenters oppose a 5/5 megahertz broadband transition in the 896-901/935-940 MHz ("900 MHz") band. As the record demonstrates, the 900 MHz band continues to play a vital role in railroad operations, supporting crucial safety-of-life communications. Authorizing a 5/5 megahertz broadband segment—before the end of the five-year 3/3 megahertz transition period, and without any proposed alternative spectrum to support displaced operations—would jeopardize the reliability of incumbent operations and result in harmful interference. The record highlights the ongoing challenges and limitations of the 3/3 megahertz transition, and commenters

[1] *See Review of the Commission's Rules Governing the 896-901/935-940 MHz Band*, WT Docket No. 24-99, Notice of Proposed Rulemaking and Order, FCC 25-8 (rel. Jan. 16, 2025) ("*NPRM*"). ASLRRA joins these comments as its member railroads also depend on the 900 MHz band for critical infrastructure railroad safety operations.

justifiably question whether transitioning to a 5/5 megahertz broadband segment is necessary at this time.

If a 5/5 megahertz transition is authorized, the Commission must, at minimum, maintain the existing technical safeguards, including the 70-mile interference protection zone. In all events, broadband proponents must provide appropriate assurances to protect critical railroad safety communications systems. Any agreement with broadband proponents to relocate railroad operations must include at least 10 channels of 25 kHz narrowband spectrum, configured as a single nationwide ribbon license; full cost recovery; and reasonable transition timelines.

II. THE RECORD DEMONSTRATES THAT A 5/5 MEGAHERTZ BROADBAND SEGMENT TRANSITION IS UNWARRANTED

As stated in AAR's comments, adopting rules to enable a 5/5 megahertz broadband segment in the 900 MHz band is inappropriate and premature at this time.[2] Motorola explains that "[m]any narrowband operators continue to rely on the availability of spectrum in the 900 MHz band for time-sensitive and potentially lifesaving use cases, including critical safety and emergency communications."[3] This is particularly true for the railroad industry, which depends on the 900 MHz band for critical infrastructure railroad safety operations. AAR currently holds a 140-mile nationwide ribbon license in the band, which tracks railroads' rights-of-way across the United States.[4] The railroad industry uses the band to manage train movements; to ensure safe, efficient dispatching across the rail network; and to support new safety operations, including

[2] *See* Comments of the Association of American Railroads, WT Docket No. 24-99, at 5-6 (filed May 16, 2025) ("AAR Comments"). Unless otherwise indicated, all comments cited in this document were filed on May 16, 2025 in WT Docket No. 24-99.

[3] Comments of Motorola Solutions, Inc. at 5 ("Motorola Comments").

[4] *See* AAR Comments at 3.

obligations and recommendations established by the Federal Railroad Administration and the National Transportation Safety Board, respectively.[5]

Regulatory changes in the 900 MHz band over the past several years have disrupted the operations of the railroad industry and other incumbents significantly. Motorola explains, as an initial matter, that the ongoing application freeze in the band "has had a 'damaging effect' on narrowband systems used to power emergency and public safety communications."[6] The 3/3 megahertz transition of railroad operations to another segment of the band has also been highly burdensome and costly for the industry. As AAR has previously explained, next-generation technologies have not matured enough to support widespread, reliable deployment across the railroad industry.[7] The transition was further complicated by the unique operational and regulatory requirements of working within active railroad rights-of-way.[8] Implementation had to be carefully coordinated around active nationwide train operations. The required physical reconfiguration proved more complex than expected due to high costs, scheduling difficulties, and other logistical constraints.[9] In addition, the process was complicated by extensive and costly co-channel coordination to address interference concerns, and was impeded by a lack of legacy Advanced Train Control System vendor options and supply chain shortages for transitioning the systems during an unforeseen global pandemic.[10]

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[5] *See id.* at 3-4.

[6] Motorola Comments at 7.

[7] *See* AAR Comments at 8.

[8] *See id*.

[9] *See id*.

[10] *See id.* at 8-9.

Other commenters confirm that a 5/5 megahertz broadband transition would pose serious challenges for critical railroad operations. Ondas highlights that "[t]he proposed 5x5 broadband operations in the 900 MHz A-Block would likely cause harmful interference to the narrowband 900 MHz channels and compromise safety critical railroad operations."[11] A further 900 MHz band transition would jeopardize critical railroad operational safety, especially given the lack of alternative spectrum and the absence of proposed spectrum relocation options.[12] The railroads' communications systems rely on purpose-built, low-latency, redundant, interference-protected communications. As Ondas explains, "[r]ailroad operators and technology suppliers shaped the recently ratified IEEE 802.16t standard with modern features specifically designed to enable mission-critical, secure and robust Railroad communications, while optimizing use of the 900 MHz A-Block spectrum."[13] Any further transition must account for the operational requirements of critical railroad communications systems to ensure that safety and reliability are not compromised.

Beyond operational disruptions, a 5/5 megahertz broadband transition would undermine existing investments in critical communications infrastructure.[14] Siemens correctly notes that the *2020 Order*[15] "provided the regulatory certainty that spurred suppliers—including Ondas

[11] Comments of Ondas Networks at 2 ("Ondas Comments").

[12] As previously explained, in 2020, AAR, in coordination with the FRA, published a report demonstrating that the railroads' spectrum holdings, particularly in the 220 MHz and 900 MHz bands, are heavily utilized and nearing exhaustion, underscoring the need to preserve the railroads' existing narrowband capacity. *See* AAR Comments at 10 and n.16.

[13] Ondas Comments at 1.

[14] *See* Ondas Comments at 2; Comments of Siemens Mobility Rail Infrastructure at 1 ("Siemens Comments"); AAR Comments at 5-6.

[15] *See Review of the Commission's Rules Governing the 896-901/935-940 MHz Band*, Report and Order, Order of Proposed Modification, and Orders, 35 FCC Rcd. 5183 (2020) ("*2020 Order*").

Networks—to invest significantly in the research and development of advanced technologies for Railroad use of the 900 MHz A-Block."[16] Ondas and Siemens emphasize that an abrupt policy reversal under the *NPRM* would "compromise railroad operational safety, undermine years of R&D and discourage future innovation in safety-enhanced railroad wireless technologies."[17] The Railroad Associations agree. A further transition would undermine the millions invested by the railroad industry and others, injecting uncertainty and effectively stalling progress on next-generation railroad technologies in the 900 MHz band until a clear framework is reestablished.

A further transition in the 900 MHz band is unwarranted. Stakeholders acknowledge the limitations of the current 900 MHz broadband allocation and question the need for a further expansion at this time. Edison Electric Institute observes, for example, that "[t]he current 3/3 MHz segment is often insufficient to meet evolving needs"[18] and "emphasizes that even a 5/5 MHz segment will not fully meet utility broadband needs."[19] Others propose alternative solutions. For example, Space Data Corporation suggests shifting the broadband allocation upward to avoid overlap and to integrate it with the Narrowband Personal Communications Service band.[20] This approach would not only offer greater flexibility but would also provide greater safety for narrowband incumbents. The record is clear that stakeholders in the band are not aligned, and the Commission should refrain from taking further action at this time.

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[16] Siemens Comments at 1; *see also* Ondas Comments at 2.

[17] Ondas Comments at 2; *see also* Siemens Comments at 1.

[18] Comments of the Edison Electric Institute at 3.

[19] *Id.*

[20] *See* Comments of Space Data Corporation at 12, 14-15.

III. COMMENTERS SUPPORT THE NEED FOR MAINTAINING CURRENT TECHNICAL RULES TO PROTECT INCUMBENT OPERATIONS IN THE BAND

Likewise, the Commission must maintain existing technical rules to protect and preserve incumbent narrowband operations. Specifically, the Commission must maintain the 70-mile interference protection zone to ensure the safety and integrity of critical railroad communications systems. Oncor previously questioned whether the 70-mile minimum separation distance would adequately protect 900 MHz narrowband networks from 900 MHz broadband operations.[21] Further, this protection zone serves as a bright-line safeguard to prevent unforeseen interference that could compromise safety-critical functions. Railroad communications systems depend on interference-free, low-latency, and highly reliable connectivity to support operations, and any erosion of this zone risks interference that could delay or disrupt safety messages—posing serious dangers to public safety, rail personnel, and national freight mobility.

Contrary to claims by Anterix and SDG&E,[22] the 70-mile interference protection zone is not overly conservative. It reflects the engineering realities of geographically adjacent co-channel spectrum use, particularly in systems involving public safety. The protection zone also provides administrative clarity in coordination, minimizing disputes and enabling effective, unambiguous enforcement. As SDG&E recognizes, "the current 70-mile rule is intended to protect against

[21] Comments of Oncor Electric Delivery Company LLC, WT Docket No. 17-200, at 11 (filed June 3, 2019) (explaining that the minimum separation distance has effectively prevented interference between "homogenous high-site/high-power narrowband licensees[,]" but it is "unclear" whether this distance would protect narrowband networks from interference by broadband networks, noting that similar interference issues prompted the Commission to reconfigure 800 MHz spectrum in 2003); *see also 2020 Order ¶* 158 ("While no commenter objects to the minimum spacing criteria proposed in the *NPRM*, Oncor Electric Delivery Company LLC contends it is uncertain that this separation distance will protect 900 MHz narrowband operations from 900 MHz broadband operations.").

[22] *See* Comments of Anterix, Inc. at 10; Comments of San Diego Gas & Electric Company at 4 ("SDG&E Comments").

harmful interference between co-channel systems."[23] To the extent Anterix and SDG&E seek a reduced interference protection standard, neither have provided engineering studies to support their claims. In short, the interference protection zone is both technically sound and operationally vital.

IV. THE RAILROAD ASSOCIATIONS AND OTHER COMMENTERS EMPHASIZE THAT NEW BROADBAND LICENSEES MUST PROVIDE ASSURANCES BEFORE ANY COMMISSION-AUTHORIZED TRANSITIONS

The Commission should not authorize a further transition. If it does, however, new rules should not be adopted until broadband licensees and incumbents reach agreements that include specific, necessary assurances.[24] Any such agreements must ensure that AAR, as a nationwide provider of rail safety communications, receives equivalent replacement spectrum to continue operations (configured by the Commission into a single nationwide geographic ribbon license), full compensation for transition costs, and reasonable timelines for implementation.

Any voluntary agreement with prospective broadband licensees must provide AAR with equivalent spectrum—specifically, a minimum of ten 25 kilohertz narrowband channels—configured by the Commission into a single nationwide geographic ribbon license. The Railroad Associations acknowledge that the Commission's involvement would be needed to effectuate this request. One potential path would involve working with the Commission and stakeholders to aggregate, reconfigure, realign, and/or reauthorize access to 220 MHz "picket fence" licenses in

[23] SDG&E Comments at 4.

[24] On May 29, 2025, AAR met with Anterix to discuss the necessary assurances. Anterix has not provided further updates on the issues discussed since the meeting.

the FCC's spectrum inventory or held by private parties, restructured into 25 kilohertz channels nationwide and assigned to the railroads under a single nationwide geographic ribbon license.[25]

AAR must be fully compensated for both current transition costs and future expenses associated with enabling 5/5 megahertz broadband deployments. Motorola agrees, stating that a 5/5 megahertz transition "should fully compensate narrowband operators for relocation costs, and incumbents must be protected from harmful interference."[26] Motorola further emphasizes that "[a]ny voluntary relocation process [ ] must ensure that narrowband operators are fully compensated for 'all frequency relocation and system modification costs resulting from the relocation to other available narrowband spectrum.'"[27] Appropriate compensation must include costs for modifying or replacing equipment, losses stemming from recent infrastructure investments, and potential service disruptions impacting critical operations. This is particularly crucial for small business railroads who cannot easily absorb these types of losses.

AAR also requires reasonable transition timelines, as well as at least 20 years of protection from any future transitions. Reasonable transition timelines are important to prevent disruptions to critical railroad operations and to protect existing and future investments. A minimum of 20 years of protection from further transitions is also crucial. The development and deployment of next-generation communications equipment for public safety and rail systems involve long lead times and substantial capital investment. Much of this equipment is not commercial, off-the-shelf products that can be reused or repurposed. Transitions—including a 5/5 megahertz broadband reconfiguration—often require buying and installing entirely new equipment, which can cost

[25] AAR recognizes that some 220 MHz licenses are held in the FCC's spectrum inventory, while others may be obtained from private parties.

[26] Motorola Comments at 8-10.

[27] *Id.* 9.

thousands to millions of dollars. The railroad industry and equipment manufacturers need assurance that their investments will not become obsolete within a few years. Regulatory certainty is crucial for these operations. An appropriate protection period therefore provides the stability needed to justify and enable such long-term commitments.

V. CONCLUSION

The Railroad Associations appreciate the Commission's attention to these important issues, and emphasize that the impact on critical public safety operations must be fully addressed. Broadband licensees must provide assurances to incumbents before any transition, and the Commission must preserve technical rules to protect ongoing incumbent operations in the band.

Respectfully submitted,

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