Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Amendment of Part 90 of the	)	WT Docket No. 11-69
Commission's Rules to Permit	)	
Terrestrial Trunked Radio (TETRA)	)	
Technology	)	
	)	
Request by the TETRA Association for	)	ET Docket No. 09-234
Waiver of Sections 90.209, 90.210 and	)	
2.1043 of the Commission's Rules	)	

To: The Commission

COMMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION

I. INTRODUCTION AND SUMMARY

The Telecommunications Industry Association (TIA) hereby submits comments to the Federal Communications Commission (Commission) in the above-captioned proceeding.[1] TIA and its members appreciate the opportunity to provide unique stakeholder comment on the issues raised by the Commission in the TETRA NPRM.

TIA represents the global information and communications technology (ICT) industry through standards development, advocacy, tradeshows, business opportunities, market intelligence and world-wide environmental regulatory analysis. For over eighty years, TIA has enhanced the

[1] In the Matter of Amendment of Part 90 of the Commission's Rules to Permit Terrestrial Trunked Radio (TETRA) Technology, Request by the TETRA Association for Waiver of Sections 90.209, 90.210 and 2.1043 of the Commission's Rules, *Notice of Proposed Rulemaking and Order*, ET Docket No. 09-234, WT Docket No. 11-69, FCC 11-63 (rel. Apr. 26, 2011) (TETRA NPRM).

business environment for broadband, mobile wireless, information technology, networks, cable, satellite, and unified communications. TIA's 600 member companies' products and services empower communications in every industry and market, including healthcare, education, security, public safety, transportation, government, the military, the environment and entertainment. TIA is accredited by the American National Standards Institute (ANSI). A number of TIA members produce public safety narrowband devices and are involved in Project 25, the initiative that continues to develop standards for narrowband interoperability.[2]

TIA is a long-time supporter of the Commission's efforts to enhance spectral efficiency, and, given the implications of the request, commends the examination of the TETRA Association's proposed changes to Part 90 of the Commission's rules under a rulemaking, as opposed to through the waiver process.[3] Among others, a key tenant of TIA's spectral policy advocacy is the protection for licensees from harmful interference.[4] In no other area of use is protection from interference more important than in public safety, where life, health and property are at stake. For this reason, TIA must express concerns with the Commission's proposal to permit the use of

[2] TIA's TR-8 has created a series of technical documents known as the TIA-102 suite of standard. This consensus-based standard describes and/or defines a number of the interfaces associated with The Project 25 Standard digital land mobile radio system. Law enforcement and other public safety entities may or may not utilize wireless communications systems and equipment which include the TIA-102 standard, in whole or in part. Additionally, in cases where public safety utilizes TIA-102-based equipment, such equipment may also include features and functions that are not defined by the standard, but which features and functions a public safety agency requires for addressing that agency's operational needs. *See* http://www.tiaonline.org/standards/committees/committee.cfm?comm=tr-8.

An overview of the most recent TR-8 activity is provided in TIA's annually released report on its standards activity. *See* TIA, *2010-2011 Standards & Technology Annual Report* (rel. Apr. 2011) at 8-11, *available at* http://tiaonline.org/standards/about/documents/StarReport_10-11.pdf.

[3] TIA has urged the Commission not to utilize the waiver process to allow for the use of TETRA technology, and to instead examine the issue in a rulemaking. Comments of TIA, ET Docket No. 09-234 (filed Jan. 15, 2010) at 2-4 (TIA Comments).

[4] *See* Comments of TIA, ET Docket No. 10-237 (filed Feb. 28, 2011) at 2-3.

TETRA technology on a permanent basis[5] instead of deferring to the standard development ecosystem for narrowband public safety communications already in existence. TIA strongly urges the Commission to encourage further detailed study of this system and to integrate TETRA technology into existing Project 25 uses through the standardization of channeling plans.

II. FURTHER STUDY SHOULD BE UNDERTAKEN TO ENSURE THAT THE USE OF TETRA TECHNOLOGY AS PROPOSED DOES NOT RESULT IN INCREASED HARMFUL INTERFERENCE TO LICENSED USES

Given the mission-critical uses in the would-be affected public safety spectrum under the proposed rules,[6] the Commission should take the utmost care with regards to protecting public safety communications from interference. The potential risk to public safety bands of interference implicates degraded service for uses that protect health, life, and property. Furthermore, utility uses – including smart grid – within 800 MHz frequencies may be negatively affected. Frequency use by any entity, governmental or non-governmental, providing for the protection of life, health, or property must be protected from interference.

The Commission has implemented rules for bandwidth, emission masks, and certifications based on detailed testing procedures. As discussed by numerous commenters on the TETRA Association's waiver request, studies submitted by the TETRA Association do not demonstrate that unacceptable interference with existing Land Mobile Radio (LMR) technologies can be

[5] TETRA NPRM at ¶8.

[6] Public safety systems are prevalent in the 806-824/851-869 MHz and the 450-470 MHz bands. *See* Comments of NPSTC, ET Docket No. 09-234 (filed Jan. 15, 2010) at 3.

sufficiently avoided by TETRA equipment that currently does not comply with Part 90 rules.[7] TIA believes that, at minimum, TETRA equipment in existing and scheduled National Public Safety Planning Advisor Committee (NPSPAC) uses in 821-824/866-869 MHz and 806-809/851-854 MHz, which are in the process of 800 MHz rebanding, should not be allowed until further conclusive study demonstrates that interference will not occur. Further detailed study is needed on how TETRA technology, or any other technology, presents a risk of interference and additionally may inhibit interoperability in public safety communications, particularly in light of the TETRA Association's statement that "very little" risk of interference exists to other Part 90 operations.[8] The danger of "near-far" interference – described in detail by the Commission in the TETRA NPRM[9] – is of concern, and the Commission should not at this time adopt rules on the use of TETRA technology in the proposed bands without further study.

In addition, the existence of TETRA use in other countries is merely anecdotal, because none of the uses cited take into account the unique circumstances experienced in the U.S. LMR frequencies, such as the vastly different geographic circumstances that exist in across the country and the heightened level of frequency congestion experienced in high-population areas, among others. The need for further study to ensure interference protection should also apply to the Commission's discussion in the TETRA NPRM of providing "additional flexibility to accommodate other technologies that might be developed."[10]

[7] *See* TIA Comments at 5; Comments of Motorola, ET Docket No. 09-234 (filed Jan. 15, 2010) at 4; Comments of Harris Corporation, ET Docket No. 09-234 (filed Jan. 15, 2010) at 3.

[8] TETRA Association, Request for Waiver of Sections 90.209, 90.210, and 2.1043, ET Docket No 09-234 at 9 (filed Nov. 20, 2009).

[9] TETRA NPRM at ¶9

[10] *Id.* at ¶10

Through additional detailed study that would occur in the standardization process as discussed below, only through an organization with the expertise on public safety communications that TIA has can TETRA technology be integrated into current LMR uses in the most efficient manner. As noted in TIA's related Petition for Clarification,[11] until such further study occurs, TETRA equipment should not be used within ESMR public safety frequencies.

III. THE COMMISSION SHOULD ENCOURAGE TETRA CHANNELIZATION PLANS TO BE STANDARDIZED ACROSS THE UNITED STATES

In the TETRA NPRM, the Commission asks how to ensure that interoperability exists between TETRA systems and Project 25 systems and other narrowband systems that are currently deployed or being deployed.[12] TIA believes that the most streamlined and cost-efficient way for the Commission to accomplish this goal is to encourage TETRA technology integration via the thriving voluntary and consensus-based standard development system. The Commission must ensure that in promoting narrowband interoperability, a comprehensive approach that is inclusive of all affected infrastructure and users is taken. Past protocols, ensuring interoperability will require accurate programming and coordination between agencies, as well as consideration of all affected users. As detailed below, the standardization process can ensure that interoperability issues are holistically studied, evaluated, and resolved.

[11] *See* Petition for Clarification filed by TIA, ET Docket No. 09-234, WT Docket No. 11-69 (filed May 26, 2011).

[12] TETRA NPRM at ¶15.

TIA's TR-8 has developed the Project 25 suite of standards for use in public safety communications.[13] TR-8 is made up of 14 active subcommittees, which formulate standards for many of the technologies involved in private radio systems. The work of these subcommittees covers topics from antennas and propagation to equipment measurement and performance, over-the-air protocols and infrastructure wireline interface, and issues of interoperability among communications systems of different jurisdictions and from different manufacturers are of the utmost importance.

The separate entities that comprise Project 25 collaborate to establish user requirements and develop standards designed to satisfy their needs. Project 25 standards facilitate interoperability with backward compatibility, interoperability across system boundaries, open interfaces to radio frequency subsystems to facilitate interlinking of different vendors' systems, and future interoperability by enabling public safety users to migrate to new, compatible bands while re-using existing spectrum. The work of TR-8 makes extensive use of participation and input by users of the technology. In that respect, TR-8 is unique among engineering standards committees. In order to encourage such participation, much of the initial standards drafting work is carried out in task groups made up of technology users as well as TIA member organizations. This affords user representatives a voice with the manufacturers in the early standards drafting

[13] The P25 suite of standards is sponsored by the Association of Public-Safety Officials International (APCO), the National Association of State Telecommunications Directors (NASTD) and agencies of the federal government. Project 25 standards are developed to provide digital voice and data communications systems suited for public safety and first-responder applications. The current Project 25 standards suite consists of 68 documents: 48 TIA standards, 21 of which are ANSI standards; and 20 Telecommunications Systems Bulletins. Several new areas for standardization include Project Phase II, an extension of the technology to a two-slot TDMA system. This system results in a radio channel efficiency of one talk path for every 6.25 kHz of spectrum. Several standards for the Inter-RF subsystem Interface (ISSI), Console Interface and Fixed Station Interface (FSI) have also been worked on and published.

work. The Commission would be remiss to exclude the time-tested process and technical expertise available within TIA's TR-8.

TIA believes that through existing voluntary and consensus-based processes – which will naturally include detailed study to ensure interference mitigation and interoperability – the goals of the Commission in the TETRA NPRM can be realized. Industry stakeholders will be able to collaborate and work together within the ANSI-approved processes to study interference and interoperability issues, and resolve them in the most streamlined and cost-efficient setting possible.

Specifically, the Commission inquires whether there new specifications that have to be developed for these systems to support interoperability, and suggests the use of gateways.[14] TIA notes that such fully functional gateway(s) do not currently exist, and that in various parts of the country, critical infrastructure uses do not require interoperability with public safety uses. An interface between TETRA Inter-System Interface (ISI)[15] and P25's Inter RF Subsystem Interface (ISSI)[16] will be required for interoperability between technologies. A lack of this interface will pose a problem for interoperability, particularly when multimode subscription capability is required. Through standard development that will include further study, the long-term

[14] TETRA NPRM at ¶15.

[15] TETRA's ISI standards allow for a radio user to move from one TETRA network to another. *See* TETRA Association, *ISI Insight – Making separate TETRA systems work together* (last visited Jun. 23, 2011), *available at* http://www.tetramou.com/tetramou.aspx?id=4710&terms=ISI.

[16] The P25 ISSI provides a wireline interface for connecting multiple P25 systems together, allowing users to roam onto other P25 systems providing network of network interoperability. P25 ISSI allows public safety radio users to utilize the coverage areas of existing connected networks while maintaining secure and encrypted IP traffic across networks, and to roam while remaining able to communicate with the home dispatcher, allowing multiple-band interoperability.

implications of the Commission's proposals are fully understood, and the appropriate designs used.

Therefore, TIA recommends that the Commission forgo adopting further new regulations related to TETRA use at this time, and instead encourage the standardization of TETRA channeling across the U.S. within the existing voluntary and consensus-based standard development process.

IV. CONCLUSION

For the foregoing reasons, TIA urges the Commission to take into consideration its views in this proceeding.

Respectfully submitted,

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