

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

In the Matter of )  
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Amendment of Part 90 of the Commission's ) WT Docket No. 11-69  
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 )

**COMMENTS OF APCO**

The Association of Public-Safety Communications Officials-International, Inc. ("APCO") hereby submits the following comments in response to the Commission's *Notice of Proposed Rulemaking*, FCC 11-63, released April 26, 2011 ("*NPRM*"), in the above-captioned proceedings regarding the introduction of Terrestrial Trunked Radio ("TETRA") technology equipment in the United States.

Founded in 1935, APCO is the nation's oldest and largest public safety communications organization. Most APCO members are state or local government employees who manage and operate communications systems for police, fire, emergency medical, forestry conservation, highway maintenance, disaster relief, and other public safety agencies. APCO is the largest FCC-certified frequency coordinator for Part 90, Public Safety Pool channels, and appears regularly before the Commission on a wide range of public safety communications issues.

APCO has always been, and remains, technology-neutral regarding the deployment of public safety communications equipment. However, APCO also firmly believes that technology standards -- such as Project 25 for digital narrowband voice communications, and LTE for

broadband -- are essential for interoperability among first responders and other public safety personnel in the field. Congress, the Executive Branch, and the FCC have correctly placed a very high priority on establishing and maintaining interoperability for public safety. The Commission must avoid steps that would undermine that interoperability or block further improvements by creating new islands of incompatible public safety communications. Therefore, new technologies proposed for public safety frequency bands must be compatible with relevant equipment standards and FCC rules intended to promote interoperability and interference-free operation. As discussed below, TETRA does not appear to meet that requirement, at least not at the present time.

Most importantly, TETRA is not compatible with Project 25 (a.k.a. “P25”), the FCC-mandated interoperability standard for 700 MHz narrowband voice communications.<sup>1</sup> Project 25 is also widely accepted as the interoperability standard in 800 MHz and other public safety frequency bands, and its use is a requirement for certain federal interoperability grant programs. Unless manufactures develop dual-mode TETRA/Project 25 equipment, TETRA equipment will not be able to interoperate with Project 25 equipment.

Even apart from Project 25, TETRA would not meet the Commission’s other technical requirements for interoperability. For example, Section 90.203(j)(1) of the Commission’s rules requires that radios used on public safety channels in the VHF (150-174 MHz) and UHF (450-470 MHz) bands have the capability to operate on specified national calling channels that require 12.5 KHz bandwidth, analog operation. TETRA does not, to our understanding, have the capability to operate in 12.5 kHz analog mode and, therefore, would not provide the required level of interoperability in the VHF and UHF bands. The only way that interoperability could

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<sup>1</sup> See 47 C.F.R. §90.547.

occur would be through multi-mode radios (*e.g.*, 12.5 kHz analog/TETRA), which would presumably lead to significantly higher equipment costs.

While public safety operations are APCO's primary focus, critical infrastructure industries (CII) in many areas are participants in regional public safety communications systems. APCO understands that some CII licensees are exploring the potential use of TETRA. However, unless manufacturers develop dual-mode equipment (TETRA/Project 25 or TETRA/12.5 kHz analog, as appropriate for the operating band), the deployment of TETRA on CII channels could also hamper CII interoperability with first responders in times of emergency.

APCO also notes that a 25 kHz TDMA technology such as TETRA would present serious frequency coordination and interference resolution challenges to the public safety community, particularly in the bands below 512 MHz where 12.5 kHz channel bandwidths are now the norm (and will soon be required). These challenges would include the use of many frequencies at low sites, high frequency re-use, and the need to do short-spacing analysis for each application.

APCO is also concerned about the potential for "near/far interference" to the extent that TETRA technology would be deployed in a low-site "cellularized" configuration and interleaved with high-site systems. This is precisely the problem that led public safety down the very long and expensive road of 800 MHz rebanding. Five years and over \$2 billion later, the public safety community and the industry is still working hard to complete the rebanding process. Obviously, the Commission needs to avoid any steps that could recreate that scenario.

## CONCLUSION

Therefore, APCO would oppose any waivers of current rules related to interoperability and interference protection for TETRA operation unless and until TETRA manufacturers overcome the issues noted above.

Respectfully submitted,

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