BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Wireless Telecommunications Bureau	)	WT Docket No. 02-46
Seeks Comment On Report On Technical	)	
And Operational Wireless E911 Issues	)	
	)	

COMMENTS OF THE
TELECOMMUNICATIONS INDUSTRY ASSOCIATION

The Telecommunications Industry Association ("TIA") hereby submits comments in response to the Public Notice in the above-captioned proceeding.[1] TIA is the leading trade association representing the communications and information technology industry, with 1,000 member companies that manufacture or supply the products and services used in global communications. Among their numerous lines of business, TIA member companies design, produce and deploy terrestrial and satellite wireless network and terminal equipment including equipment used in the provision of Enhanced 911 ("E911") services. As a result, TIA has a substantial interest in current and future Commission decisions related to E911 services.

The Federal Communications Commission ("FCC" or "Commission") seeks comment on the final report, "*A Report on Technical and Operational Issues Impacting*

[1] Public Notice, DA 02-2666 (released October 16, 2002).

The Provision of Wireless Enhanced 911 Services" prepared for the FCC by Dale N. Hatfield and filed on October 15, 2002 ("Hatfield Report").

In the fall of 2001, the Commission announced that Dale N. Hatfield, former Chief of the Commission's Office of Engineering and Technology, would conduct an inquiry into technical and operational issues with wireless E911 deployment. The purpose of the inquiry was to obtain an expert, informed, unbiased assessment of the technical and operational issues that affect wireless E911 deployment. The FCC's Wireless Telecommunications Bureau ("WTB") stated that information would be gathered and evaluated from many sources, including from technology vendors, network equipment and handset manufacturers, carriers, the public safety community, and other sources concerning technology standards issues, development of hardware and software, and supply conditions. The WTB indicated that the focus of the inquiry was on the future of the wireless E911 deployment, including obstacles to deployment and steps that might be taken to overcome or minimize them.

On October 15, 2002, Mr. Hatfield filed a report conveying the results of his inquiry. Mr. Hatfield makes several findings about current E911 implementation efforts and offers a number of recommendations to address some of the principal issues and concerns raised during the course of the inquiry.

I. *Discussion*

The Hatfield Report Captures the Complexity of Issues Related to E911 Deployment

In his report, Mr. Hatfield notes the importance of wireless E911 for emergency services, the progress that has been made in wireless E911 implementation over the past several years, especially in the development and selection of technologies for obtaining location information, and the critical role Local Exchange Carriers ("LECs") play in implementation of wireless E911.

The issues surrounding E911 deployment are indeed complex and difficult. Much work remains to be done by the various parties involved. The FCC should carefully consider the economic consequences and funding mechanism impacts of decisions it renders related to E911 deployment. For example, the FCC needs to carefully consider the current and future deployment impact(s) of any proposed changes to E911 location parameters.

TIA has been actively engaged for many years in public policy and standards activities related to E911. Attachment A is a compendium of wireless E911 technical work activities at TIA, which summarizes technical documents and ongoing efforts in this area. In addition to the wireless E911 efforts detailed in Attachment A, TIA has been active in wireline E911 activities through TR41.1, *Multiline Terminal Systems Engineering Committee* and TR41.4, IP Telephony Infrastructure and Interworking

Engineering Committee. These groups are on the process of completing standards for multiline terminal system and voice over IP support for E911.

No New Advisory Committee Is Needed As Existing Organizations Already Are Serving Advisory Roles

In his report, Mr. Hatfield recommends the establishment of an advisory committee to address the technical framework for the further development and evolution of E911 systems and services including technical standards. TIA believes that the establishment of such a committee is unnecessary since this work is already being conducted in established fora.

As noted in the previous section, TIA has played a key leadership role in the development of E911 technical standards. Another example is the Alliance for Telecommunications Industry Solutions' Emergency Services Interconnection Forum ("ESIF"). An existing industry-led group such as ESIF could pursue the creation of a functional, descriptive document to seek an end-to-end solution to the various technical issues encountered with E911 deployment. This is similar to industry efforts conducted when seeking solutions for Wireless Priority Service. To date, such an effort has not been conducted by all of the parties involved.

The activities of a group such as ESIF should include active participation by the various stakeholders in E911 deployments, including those entities that will have to bear the financial burden of deployment.

An industry-led group such as ESIF could define standards requirements to support E911 deployments and identify technical issues. TIA, as one of the industry's premier ANSI-accredited standards development organizations, would then provide the ideal forum for the actual writing of the technical standards. TIA presently convenes a joint standards group developing the J-STD-036 family of standards addressing E911. While standards setting activities take time, by no means is it too late for this type of coordinated effort.

In sum, since industry groups already exist and are capable of addressing the technical issues related to the further development and evolution of E911 systems, no new advisory committee is necessary.

Testing and Certification of Wireless E911 Systems

The Hatfield Report recommends that the Commission urge stakeholders to develop industry-wide procedures for testing and certification of wireless E911 to ensure that they meet the accuracy requirements specified in the Commission's rules.

TIA agrees that testing and certification are important issues. Testing and certification is best accomplished by voluntary compliance with industry-approved procedures. These procedures should be developed in a consensus building organization

like TIA to ensure close interaction between testing certification procedures and the standards used as a basis for those tests.

TIA is willing to work closely with the FCC and other regulatory bodies to ensure that the testing and certification needs of E911 systems are met. TIA has the infrastructure in place to perform such testing and certification. This includes TIA's existing activities within its' Technical Regulatory Issues Committee, User Premises Equipment Division Regulatory Issues Working Group, and Conformity Assessment Issues Working Group. Finally, TIA has extensive related experience as co-sponsor of the Administrative Council for Terminal Attachments which was established to adopt technical criteria for terminal equipment developed by ANSI-accredited standards development organizations and maintain a registration database of equipment approved as compliant with the technical criteria of Part 68 of the Commission's Rules.

Education of State and Local Governments and PSAPs

The Hatfield Report recommends that the Commission actively coordinate with and support efforts to educate state and local governments and PSAPs on the benefits and importance of wireless E911 services.

Industry should participate actively in this effort with the full support of the FCC and the U.S. Department of Transportation's Wireless E911 initiative. Together this

government/industry partnership should seek to educate PSAPs and subscribers on the benefits and limitations of E911 systems.

State, Regional, and Local Government Coordination on the Rollout of Wireless E911

Historically, 911 services have been implemented and are maintained at the local governmental level, usually through a city or county governmental organization. Furthermore, these systems were originally designed and deployed to meet the needs of a geographically concentrated population with wireline phones. Most 911 systems today maintain a provincial outlook, thus the administrators are usually not overly concerned or involved with matters or issues that go on in neighboring jurisdictions. Local control is a cornerstone of 911 services today and closest to the community needs.

The major wireless carriers who have existing nationwide wireless systems are trying to interconnect into this current patchwork panorama of authority. The Hatfield Report sees a National Office as assisting in coordinating these efforts so as to hasten the deployment of wireless E911 services. While there is merit in these types of coordination efforts, it is difficult to interpose a federal authority over systems that have historically been administered locally.

II. *Conclusion*

TIA member companies design, develop and manufacture communications equipment, including systems that are subject to, and affected by, the Commission's regulatory oversight. TIA therefore has a direct and substantial interest in the wireless E911 deployment activities of the Commission and, more specifically, in the outcome of the issues addressed in the Hatfield Report. TIA requests that the Commission take into consideration the views expressed above.

Respectfully submitted,

Telecommunications Industry Association

By: /s/

Bill Belt
Director, Technical Regulatory Affairs

Derek Khlopin
Director, Law and Public Policy

Grant Seiffert
Vice President, External Affairs & Global Policy

1300 Pennsylvania Ave., NW, Suite 350
Washington, DC 20004

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ATTACHMENT A

Compendium of Wireless Emergency Location-related Technical Work Activities within the Telecommunications Industry Association (TIA)

INTRODUCTION

This document identifies and summarizes technical documents and ongoing Wireless Emergency Location Services -related work activities within the TIA (including joint work with other SDOs), and is presented for information and reference. Such work includes published documents or work currently being developed under TIA TR-45 Engineering Committee (TR-45), and may proved beneficial in regards to regional implementation. TIA is accredited by the American National Standards Institute (ANSI) and recognized under the International Telecommunication Union-Telecommunication Standardization Sector (ITU-T) Recommendations A.5 and A.6, involving the referencing of documents in ITU-T Recommendations and cooperation and exchange of information.

TIA Standards and Technology Department: http://www.tiaonline.org/standards/

TIA standards and their descriptions can be accessed at:

http://www.tiaonline.org/standards/search_n_order.cfm

Clarification regarding TIA documents: Most documents included in this compendium involve American (ANSI-approved) National Standards (ANS), Interim Standards (IS), Telecommunications Systems Bulletins (TSB) and TIA-only standards. An ANS has been approved through the TIA and the ANSI balloting process and are indicated, in the title, by the prefix ANSI/TIA/EIA-xx. Note that the term "standards" implies voluntary, consensus-based development and does not specifically indicate an industry or national mandate, but more aligns with the international SDO term "Recommendation," unless mandated by governmental rules and regulations (*i.e.*, FCC, etc.).

Note that as of August 2, 2002, any newly published TIA ANS will NOT include the EIA (*e.g.*, TIA/EIA) in its standard designation number. However, the actual document will indicate status as an ANS or a TIA-only standard (*i.e.*, ANSI/TIA-xxx in title).

Work Activities of TR-45 Engineering Committee,

Mobile and Personal Communications Systems

This Engineering Committee is responsible for performance, compatibility, interoperability and service standards for mobile and personal communications systems. These standards pertain to, but are not restricted to, service information, wireless terminal equipment, wireless base station equipment, wireless switching office equipment, ancillary apparatus, auxiliary applications, inter-network and inter-system operations and interfaces.

TR-45.1, *Analog Technology*

- **TIA/EIA/TSB-119 "*Enhanced System Access Procedures for E911 Calls for Analog Cellular.*"** The FCC has become involved in the resolution of issues concerning public safety in regards to enhanced call completion for E9-1-1 originations. As s result of the FCC 99-096 Second Report and Order (R&O), changes to the ANSI/TIA/EIA-553-A-99, "*Mobile Station - Base Station Compatibility Standard"* are required. In order to comply with this Second R&O, this TSB has been created.
- **TIA/EIA/IS-817, "*A Position Determination Service Standard for Analog Systems.*"** This Interim Standard provides, procedures, signaling and messages used in addition to TIA/EIA-553-A as one possible way to support E9-1-1 Position Determination services (there is mention of the FCC E9-1-1 docket 94-102).

- **TIA/EIA/IS-817-1, "*A Position Determination Service Standard for Analog Systems - Addendum 1.*"** This recently published addendum to TIA/EIA/IS-817 defines the order messages sent by the base station and the order confirmation messages sent by the mobile station, together with mobile station and base station procedures for Position Determination services when operating in analog mode.

TR-45.2, *Wireless Intersystem Technology*

- **TIA/EIA/TSB-114, "*Wireless Network Communication for Emergency Message Broadcast (EMB).*"** This document defines the requirements for broadcasting an announcement of a national, state, or local emergency to the mobile stations (MSs) used for cellular or personal communication services.

TR-45.2 Ad Hoc Group, *Emergency Services (AHES)*

- **J-STD-034, "*Wireless Enhanced Emergency Services.*"** This Joint TIA/Committee T1 document provides a solution for the handling of Wireless Enhanced Emergency Calls. Capabilities include provision of base station, cell site or sector identification information; subscriber identification; callback and reconnect features, as indicated in the FCC R&O (CC Docket No. 94-102) involving Phase 1 capabilities (callback phone numbers and cell/sector information). Involves Public Safety Answering Point (PSAP) perspective.
- **J-STD-036-A-2002, "*Emergency Services Data Communications.*"** This Joint TIA/Committee T1 document was published in June, 2002 and defines the messaging required to support information transfer to identify and locate wireless emergency

service callers (*e.g.*, wireless enhanced emergency calls). This standard incorporates J-STD-036 and 036-1, "*Enhanced Wireless 9-1-1 Phase 2, Addendum 1*." Note that position reporting privacy restrictions are beyond the scope of this standard. Additionally, note that an Addendum 1 for J-STD-036-A, involving position and callback for uninitialized phones, is being balloted within TIA and expects publication in 2003. TR-45.2 has also begun development of a more extensive addendum to J-STD-036-A (probably to be known as J-STD-036-B).

TR-45.3, *Time Division Digital Technology*

- **ANSI/TIA/EIA-136-123-D-2002, "*TMDA Third Generation Wireless - Digital Control Channel Layer 3*."** This standard describes procedures that support emergency calls, including a provision in the protocols to specifically identify an emergency call. This facility may be used to remove the need for a subscriber to remember the emergency call dialed digits in various jurisdictions. Additionally, this ANS describes procedures that support an Emergency Information Broadcast, providing for a text message to be displayed to the subscriber, with selectable distinctive alerting. ANSI/TIA/EIA-136-123-A-1-2000 also describes a queued originate mechanism that may be used to support a priority access scheme (*e.g.*, PAS/WPS PACA) in the event that either radio or network resource is congested.
- **ANSI/TIA/EIA-136-740-2001, "*TDMA 3G Wireless - System Assisted Mobile Positioning through Satellite (SAMPS) Teleservices.*"** This document describes enhancements to TIA/EIA-136, including a teleservice that facilitates the exchange of information between a network entity and a mobile station to provide geographic

positioning, including protocols that support position reporting to the Public Safety Answering Point (PSAP) or call center, and other aspects related to E9-1-1 mobile caller identification. The SAMPS Teleservice defines the procedures and signaling for a handset-based positioning service. SAMPS supports various location-based services and addresses subscriber-positioning requirements in TIA/EIA-136-based networks by utilizing the existing Global Positioning System (GPS) infrastructure and utilizes the data capabilities of TIA/EIA-136 networks to enhance the performance of GPS-equipped MSs by providing "GPS assistance." For information about the network reference model used for SAMPS (when SAMPS is used for emergency calls), see J-STD-036-A. SAMPS Parameter message aspects are also dealt with in ANSI/TIA/EIA-136-123-D-2002.

- **ANSI/TIA/EIA-136-741-2002, "*TDMA Third Generation Wireless - System Assisted Mobile Positioning through Satellite (SAMPS) for Analog Systems*."** This ANS was published April, 2002 and describes the procedures, signaling, and transport on analog channels (ACC, AVC) that facilitate the exchange of information between a network entity and a mobile station to provide geographic location positioning.

Note: The above ANSI/TIA/EIA-136-xxx documents are included in the ANSI/TIA/EIA-136 Series, Revision D collection.

TR-45.5, *Spread Spectrum Digital Technology*

- **TIA/EIA/IS-2000.5, "*Upper Layer (Layer 3) Signaling Standard for cdma2000 Spread Spectrum Systems*."** Position Location Support was added to this Release 0 document. In Release A, the Global Emergency Call parameters and the Access

Control based on Call Type (ACCT) feature were added. Origination Messages with the Global Emergency Call Indicator must be encrypted. Note that the latest release is **TIA/EIA/IS-2000.5-C**.

- **TIA/EIA/IS-801, "*Position Determination Service Standards for Dual Mode Spread Spectrum Systems*"** and its addendum **TIA/EIA/IS-801-1,** defines a set of signaling messages between the mobile station and base station to provide a position (location) determination service. This document defines the position location feature which provides the capability to locate the mobile station and supports automatic forward link triangulation and GPS position location mechanisms.
- **TIA-916, "*Recommended Minimum Performance Specification for TIA/EIA/IS-801-1 Spread Spectrum Mobile Stations."*** This recently published TIA document details definitions, methods of measurement, and minimum performance characteristics for position location capable CDMA Mobile Stations.

TR-45.6, *Adjunct Wireless Packet Data Technology*

- **Project Number (PN)-3-0047 , "*Lawfully Authorized Electronic Surveillance (LAES) for Packet Data*"** (In committee development; Expected publication in 2003): This proposed standard will involve requirements for supporting packet mode communications surveillance, including collection functions and intercept access point (IAP) aspects.