NENA Technical Requirements Document On Model Legislation E9-1-1 for Multi-Line Telephone Systems

NENA Technical Requirements Document on Model Legislation,
E9-1-1 for Multi-Line Telephone Systems
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Multi-Line Telephone Systems Model Legislation Working Group

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TECHNICAL REQUIREMENTS DOCUMENT
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NENA's Technical Committee has developed this document. Recommendations for change to this document may be submitted to:
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1 Executive Overview

Recent technology innovations have made it important to update the MLTS Model Legislation recommended in 2000. The following revised Policy document reflects changes in IP technology; Implementation & Testing; Training and the use of building code Fire Zones to facilitate the creation of the Emergency Response Location.

A companion Technical Information Document (06-502) was created to aid in educating policy officials, government agencies and users of MLTS systems specific to E9-1-1 obligations. The accompanying Technical Information Document and diagrams discuss many of the issues related to the location of individuals during emergencies in the MLTS environment. It further outlines the current suggested methods of dealing with the challenge as recommended by the National Emergency Number Association (NENA) MLTS Policy Work Group.

The purpose and scope of the model legislation and the technical document is to help the owners of the MLTS to understand the issues related to identifying the location of users of the system during emergencies. Wireless voice devices connected to MLTS may present challenges with providing an accurate location to the PSAP from where the call originated or to identify the movement of the caller due to the technology commonly available today.

The following is an update and reissue of *NENA Technical Requirements Document on Model Legislation E9-1-1 for Multi-Line Telephone Systems* originally issued in 2000 as a Technical Information Document (06-501).

2 Introduction

2.1 Operational Impacts Summary

No operational impact is anticipated by this document.

2.2 Security Impacts Summary

No security impact is anticipated by this document.

2.3 Document Terminology

The terms "shall", "must" and "required" are used throughout this document to indicate required parameters and to differentiate from those parameters that are recommendations. Recommendations are identified by the words "desirable" or "preferably".

2.4 Reason for Issue/Reissue

NENA reserves the right to modify this document. Upon revision, the reason(s) will be provided in the table below.

Version	Date	Reason For Changes
Original	01/30/2000	Initial Technical Information Document 06-501
2	02/19/2009	Document converted from a TID 06-501 to TRD 06-750 and revised to reflect changes in IP technology, fire zone testing and emergency response location footprints; liability and consumer education.
3	01/03/2011	Clarified the definitions for ANI and ELIN to indicate number must be North American Numbering Plan number that is routable and dialable.

2.5 Recommendation for Additional Development Work

Not Applicable; however, FCC changes in manufacturer requirements should be monitored to ensure no additional standards work is needed.

2.6 Date Compliance

All systems that are associated with the 9-1-1 process shall be designed and engineered to ensure that no detrimental, or other noticeable impact of any kind, will occur as a result of a date/time change up to 30 years subsequent to the manufacture of the system. This shall include embedded application, computer based or any other type application.

To ensure true compliance, the manufacturer shall upon request, provide verifiable test results to an industry acceptable test plan such as Telcordia GR-2945 or equivalent.

2.7 Anticipated Timeline

NENA urges all States to prioritize the implementation of the Model Legislation provided in this document and pass the appropriate required. States with existing MLTS legislation are encouraged to review the contents of this updated document and take steps to review and amend existing legislation accordingly.

2.8 Costs Factors

No new costs to implement have been identified. Costs are absorbed by the users of MLTS systems.

2.9 Future Path Plan Criteria for Technical Evolution

In present and future applications of all technologies used for 9-1-1 call and data delivery, it is a requirement to maintain the same level or improve on the reliability and service characteristics inherent in present 9-1-1 system design.

New methods or solutions for current and future service needs and options should meet the criteria below. This inherently requires knowledge of current 9-1-1 system design factors and concepts, in order to evaluate new proposed methods or solutions against the Path Plan criteria.

Criteria to meet the Definition/Requirement:

1. Reliability/dependability as governed by NENA's technical standards and other generally accepted base characteristics of E9-1-1 service;

2. Service parity for all potential 9-1-1 callers;

3. Least complicated system design that results in fewest components to achieve needs (simplicity, maintainable);

4. Maximum probabilities for call and data delivery with least cost approach;

5. Documented procedures, practices, and processes to ensure adequate implementation and ongoing maintenance for 9-1-1 systems.

This basic technical policy is a guideline to focus technical development work on maintaining fundamental characteristics of E9-1-1 service by anyone providing equipment, software, or services.

2.10 Cost Recovery Considerations

Normal business practices shall be assumed to be the cost recovery mechanism.

2.11 Additional Impacts (non cost related)

The information or requirements contained in this NENA document are not expected to have additional impacts, based on the analysis of the authoring group.

2.12 Intellectual Property Rights Policy

NENA takes no position regarding the validity or scope of any Intellectual Property Rights or other rights that might be claimed to pertain to the implementation or use of the technology described in this document or the extent to which any license under such rights might or might not be available; nor does it represent that it has made any independent effort to identify any such rights.

NENA invites any interested party to bring to its attention any copyrights, patents or patent applications, or other proprietary rights that may cover technology that may be required to implement this standard.

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2.13 Acronyms/Abbreviations/Definitions

This is not a glossary. See NENA 00-001 - NENA Master Glossary of 9-1-1 Terminology located on the NENA web site for a complete listing of terms used in NENA documents.

The following Acronyms are used in this document:		
Acronym	***Description***	***** N)ew (U)pdate***
ALI	Automatic Location Identification	
ANI	Automatic Number Identification	
APCO	Association of Public-Safety Communications Officials	
ATIS	Alliance for Telecommunications Industry Solutions	
BUI	Building Unit Identification	
ELIN	Emergency Location Identification Number	
ERL	Emergency Response Location	
IEEE	Institute of Electrical and Electronics Engineers	
IETF	Internet Engineering Task Force	
ISP	Internet Service Provider	
KTS	Key Telephone System	
MLTS	Multi-Line Telephone System	
MSAG	Master Street Address Guide	
PSAP	Public Safety Answering Point	
TIA	Telecommunications Industry Association	

The following Terms and Definitions are used in this document:		
Term	***Definition***	***** N)ew (U)pdate***
Key Telephone System (KTS)	A type of Multiple-line Telephone System designed to provide shared access to several outside lines through buttons, or keys, typically offering identified access lines with direct line appearance or termination on a given telephone set.	U
Local Notification	A system capability whereby a call to 9-1-1 from a MLTS extension is directed through the 9-1-1 Network to a Public Safety Answering Point and simultaneously notifies an attendant or designated personnel to identify the location of the telephone that has dialed 9-1-1.	U
Multi-Line Telephone System (MLTS)	A system comprised of common control unit(s), telephone sets, control hardware and software and adjunct systems used to support the capabilities outlined herein. This includes network and premises based systems. e.g., Centrex, VoIP, as well as PBX, Hybrid, and Key Telephone Systems (as classified by the FCC under Part 68 Requirements) and includes systems owned or leased by governmental agencies and non-profit entities, as well as for profit businesses.	U
Multi-Line Telephone System (MLTS) Operator	The entity responsible for ensuring that a 9-1-1 call placed from an MLTS is transmitted and received in accordance with this model regardless of the MLTS technology used to generate the call. The MLTS Operator may be the MLTS Manager or a third-party acting on behalf of the MLTS Manager.	U
Multi-Line Telephone System (MLTS) Manager	The entity authorized to implement an MLTS, either through purchase or lease of an MLTS or the purchasing of MLTS services, as the means by which to make 9-1-1 calls.	N
Temporary Residence	The use of MLTS to provide temporary occupancy in a facility such as dormitories, hotel/motel, health care and nursing homes, or other similar facilities.	N

** Required entry of New or Update. Any change made to an existing Acronym, Abbreviation or Definition constitutes an Update.

3 Model Legislation, Enhanced 9-1-1 Multi-Line Telephone Systems

Enhanced 9-1-1 for Multi-Line Telephone Systems	Supporting Information Explanation
The digits 9-1-1 are designated as the emergency telephone number. Enhancements to the 9-1-1 system typically enable the caller's telephone number and service address to be displayed to the Public Safety Answering Point (PSAP). As a result, when the caller is calling from a single-line telephone or a MLTS serving a compact area, the address associated with the caller's telephone number can be retrieved and usually provides a reasonably precise identification of the caller's location. Public safety agencies increasingly rely on the Enhanced 9-1-1 system to provide dependable and precise information about the caller's location and a reliable number to call back in order to reach the caller. However, in some cases 9-1-1 calls made from telephones connected to a MLTS may not be precisely located by the 9-1-1 system, eliminating some of the benefit of Enhanced 9-1-1. This lack of adequate location information can be life threatening if the caller cannot supply the correct location. The nature of 9-1-1 calls is such that the likelihood for the need to respond directly to the caller with minimal delay increases with the type of calls where the caller for some reason cannot provide information to the PSAP. Related problems occur when the caller is remote from the location supplied to the 9-1-1 system. In this instance not only is response delayed but limited public safety resources are dispatched where they are not needed. There may also be considerable disruption in business operations as the response units attempt to locate the caller. The purpose of this model legislation is to require MLTSs to provide a sufficiently precise indication of the caller's location, while avoiding the	*This right-hand column provides supporting information for the rules in the left-hand column to assist regulators in understanding the rationale for the proposed model legislation (i.e., why a particular rule is required and/or the logic behind its provisions), and the implications of such model legislation (i.e., what outcome will result or action will need to be taken as a result of implementing this provision). It is not intended that the commentary in this column become part of the final legislation.* *The FCC should also take action to incorporate into Part 68 requirements for MLTS that will facilitate the implementation of Enhanced 9-1-1 on MLTS i.e. PBX, Key,*

imposition of undue burdens on system manufacturers, providers and operators of MLTS.	*Hybrid, VoIP and Centrex systems.*
Section 1. Definitions	
"Alternative Methods of Notification" - Having the ability to locate the emergency caller and initiate emergency response. The adequacy of alternative methods of notification and responding to emergencies would be determined by appropriate governmental authorities operating pursuant to applicable legal requirements.	
"Automatic Location Identification (ALI)" - The automatic display at the PSAP of the caller's telephone number, the address/location of the telephone and supplementary emergency services information of a location from which a call originates.	
"Automatic Number Identification (ANI)" - The telephone number associated with the access line from which a call originates. The North American Numbering Plan number must be a routable and dialable number.	
"Building Unit Identifier (BUI)" - A room number or equivalent designation of a portion of a structure/building.	
"Call Back Number" - A number used by the PSAP to re-contact the location from which the 9-1-1 call was placed. The number may or may not be the number of the station used to originate the 9-1-1 call.	Although a call back number to the originating station is not required by this model legislation, the completion of a return call to the originating station by the PSAP is feasible for many MLTS configurations and is helpful in assisting emergency response.
"Emergency Location Identification Number" (ELIN) - A valid North American Numbering Plan format telephone number, assigned to the MLTS Operator by the appropriate authority, that is used to route the call to a PSAP and is used to retrieve the ALI for the PSAP. An ELIN may be the same number as a related station ANI. The North American Numbering Plan number must be a routable and dialable number.	**Rationale:** To differentiate from ANI which is the telecom industry term that has a specific meaning. **Implications:** The NENA Database Committee will complete work to ensure that the Emergency Location Identification Number (ELIN) is incorporated into the Calling Telephone Number field of the Data Exchange Format

	Standard.
"Emergency Response Location (ERL)" - A location to which a 9-1-1 emergency response team may be dispatched. The location should be specific enough to provide a reasonable opportunity for the emergency response team to quickly locate a caller anywhere within it.	If a MLTS has all of its telephones confined to a small building, the street address of that building is sufficient caller location information for the purposes of 9-1-1 calling. The MLTS telephones are said to be in a single Emergency Response Location (ERL), defined by the street address. But this street address is the location information that would normally appear on the 9-1-1 call-taker's terminal. So, there is no need for the MLTS to be modified to transmit caller ELIN, and for more precise caller location information to be loaded into the ALI database.
"Internet Service Provider (ISP)" - Company that provides Internet access to other companies and individuals.	
"Key Telephone System" - A type of Multiple-line Telephone System designed to provide shared access to several outside lines through buttons, or keys, typically offering identified access lines with direct line appearance or termination on a given telephone set.	
"Local Notification" - A system capability whereby a call to 9-1-1 from a MLTS extension is directed through the 9-1-1 Network to a Public Safety Answering Point and simultaneously notifies an attendant or designated personnel to identify the location of the telephone that has dialed 9-1-1.	
"Multi-Line Telephone System (MLTS)"- A system comprised of common control unit(s), telephone sets, control hardware and software and adjunct systems used to support the capabilities outlined herein. This includes network and premises based systems. e.g., Centrex, VoIP, as well as PBX, Hybrid, and Key Telephone Systems (as classified by the FCC under Part 68 Requirements) and includes systems owned or leased by governmental agencies and non-profit entities, as well as for profit businesses.	

"Multi-Line Telephone System (MLTS) Operator"- The entity responsible for ensuring that a 9-1-1 call placed from an MLTS is transmitted and received in accordance with this model legislation regardless of the MLTS technology used to generate the call. The MLTS Operator may be the MLTS Manager or a third-party acting on behalf of the MLTS Manager.	
"Multi-Line Telephone System (MLTS) Manager" - The entity authorized to implement an MLTS, either through purchase or lease of an MLTS or the purchasing of MLTS services, as the means by which to make 9-1-1 calls.	
"Master Street Address Guide (MSAG)" -, A database of street names and house number ranges within the associated communities defining Emergency Services Zones (ESZs) and their associated Emergency Services Numbers (ESNs) to enable proper routing of 9-1-1 calls.	
"Private 9-1-1 Emergency Answering Point" - An authorized answering point operated by non-public safety entities with functional alternative and adequate means of signaling and directing response to emergencies. Includes training to individuals intercepting calls for assistance that is in accordance with applicable local emergency telecommunications requirements. Private 9-1-1 Emergency Answering Points are an adjunct to public safety response and as such must provide incident reporting to the public safety emergency response centers in accordance with state or local requirements.	Examples of acceptable training for individuals "intercepting calls for assistance that is in accordance with applicable local emergency telecommunications requirements" would include basic telecommunicator training programs provided by recognized public safety organizations and recognized training companies.
"Public Safety Answering Point" – Public Safety Answering Point (PSAP): A set of call takers authorized by a governing body and operating under common management which receives 9-1-1 calls and asynchronous event notifications for a defined geographic area and processes those calls and events according to a specified operational policy.	A PSAP is a locally operated, publicly funded facility where 9-1-1 emergency telephone calls are received and then routed to the proper emergency services, such as police, the fire department or EMS.
"Shared Residential MLTS Service" - The use of a	

MLTS to provide service to residential facilities even if the service is not delineated for purposes of billing. For purposes of this definition, residential facilities shall be liberally construed to mean single family and multi-family facilities.	
"Temporary Residence" – The use of MLTS to provide temporary occupancy in a facility such as dormitories, hotel/motel, health care and nursing homes, or other similar facilities.	
"Shared Telecommunications Services" - Includes the provision of telecommunications and information management services and equipment within a user group located in discrete private premises in building complexes, campuses, or high-rise buildings, by a commercial shared services provider or by a user association, through privately owned customer premises equipment and associated data processing and information management services, and includes the provision of connections to the facilities of a local exchange and to interexchange telecommunications companies.	
"Workspace" - The physical building area where work is normally performed. This is a net square footage measurement which includes hallways, conference rooms, restroom, break rooms but does not include wall thickness, shafts, heating/ventilating/air conditioning equipment spaces, mechanical/electrical spaces or similar areas where employees do not normally have access.	**Rationale:** For situations that are close to the area limits, it needs to be clear for MLTS Operators what constitutes a workspace area. **Implications:** Avoids requests for clarification later.
"9-1-1 Service Provider" - An entity providing one or more of the following 9-1-1 elements: network, CPE, or database service.	
Section 2. Shared Residential MLTS Service	
Operators of Shared Residential MLTS serving residential customers are required to assure that the telecommunications system is connected to the public switched network such that calls to 9-1-1 result in one distinctive Automatic Number Identification (ANI) and Automatic Location Identification (ALI) for each living unit.	

Section 3. Business MLTS	
For a MLTS serving business locations, the MLTS Operator shall deliver the 9-1-1 call with an Emergency Location Identification Number (ELIN) which will result in one of the following: (a) an ERL which provides a minimum of the building and floor location of the caller, or (b) an ability to direct response through an alternative and adequate means of signaling by the establishment of a private answering point. The MLTS Manager must make reasonable efforts to assure that 9-1-1 callers are aware of the proper procedures for calling for emergency assistance. **Exceptions to the above requirements are as follows:** (a) Workspaces with less than 7,000 sq. ft. on a single level, located on a single contiguous property, are not required to provide more than one (1) ERL. (b) Key Telephone Systems are not required to provide more than one (1) ERL.	In evaluating the acceptability of a proposed alternative method of notification, consideration should be given to whether and how the building is occupied outside normal working hours. **Rationale:** The minimum recommended number of ERLs was developed in the interest from being cost efficient and as not to place an undue financial burden on the MLTS Operator or MLTS Manager. Conversely, there is no reason that would preclude an MLTS Operator or MLTS Manager of assigning additional ERLs as deemed sufficient to adequately cover the workspace, regardless of square footage involved. . Examples of logical starting points for ERL boundaries could include fire alarm boundaries, smoke boundaries or sprinkler zones. The creation of ERL boundaries should not exceed fire alarm zones. **Exceptions:** (a) This limits the burden on small business most of which will be less than 7,000 sq. ft. In addition, emergency response teams can generally search areas less than 7,000 square feet quickly. Key Telephone Systems (as opposed to Hybrid and PBX) use direct line selection and it is not practical to segment lines in a way that differentiates building floors. Since Key Telephone Systems generally serve only small workspace areas, there will not be many situations where the desired level of

	ERL information is not provided. Other MLTS, such as PBX's and Hybrids (Systems that incorporate the functionality of both Key Telephone Systems and PBX), are not subject to this exemption even though they may utilize some direct line appearances that appear on more than one station set. The MLTS Operators should inform individual system users of the appropriate 9-1-1 dialing procedures for their telephone sets.
Section 4. Shared Telecommunications Services.	
Providers of Shared Telecommunications Services shall assure that the MLTS is connected to the public switched network such that calls to 9-1-1 from any telephone result in ALI for each respective ERL, as defined in this section, of each entity sharing the telecommunication services.	
Section 5. Temporary Residence	
Businesses providing Temporary Residence MLTS service shall permit the dialing of 9-1-1 and the MLTS Operator shall ensure that the MLTS is connected to the public switched telephone network. Where PS-ALI records are not provided for each individual station, the MLTS operator of the Temporary Residence shall provide specific location information of the caller to the PSAP.	
Section 6. ALI Database Maintenance	
Where applicable, MLTS Operators must arrange to update the ALI database with appropriate MSAG valid address and callback information for each MLTS telephone, such that the location information specifies the ERL of the caller. These updates must be downloaded or made available to the ALI database provider as soon as practicable for new MLTS installation, or within one business day of record completion of the actual changes for previously installed systems. The information is	**Rationale:** Database updates are encouraged on a regular basis; however, due to some administrative limitations MLTS Operators may require additional time. Regardless, changes should be completed in accordance with database update standards. NENA Database management standard recommends that all service providers transmit MSAG valid 9-1-1 updates daily to database

subject to all federal and state privacy and confidentiality laws. The MLTS Operator should audit accuracy of information contained in the ALI database at least once annually.	management and/or selective routing system provider.
Section 7. Industry Standards	
MLTS Operators shall be considered to be in compliance when the MLTS complies with E9-1-1 generally accepted industry standards as adopted by the Federal Government (specifically the Federal Communications Commission) or as adopted by the State (agency to be defined by each State) until such time as there is a nationwide standard. The telecommunication local exchange carriers and ISPs are responsible for providing interconnectivity through the use of generally accepted industry standards.	**Rationale:** Rules need to be technology neutral and forward looking to accommodate the introduction of new technologies. Wireless, VoIP telephony, and small MLTS are known areas needing standards work. Tomorrow there will be others. Industry standards greatly assist users in purchase decisions and manufacturers regarding product implementation decisions. Regulators should ensure that interconnection to the 9-1-1 system is made available by 9-1-1 Service Providers in accordance with generally accepted industry standards. Competition for database access and 9-1-1 system interface capability should be encouraged. Specific standards should not be encoded in the rules. Standards change over time and the administrative burden for regulators to keep up with such changes would be excessive. Industry standards are developed by recognized Industry Bodies such as TIA, ATIS, IETF and IEEE and by non-accredited industry such as APCO and NENA. **Implications:** States need to determine the status of the applicable standards which would permit

	direct compliance with legislation. To improve the uniformity of E9-1-1 service, regulators will need to be proactive in encouraging industry to develop needed standards. The FCC should be encouraged to take the lead in this effort.
Section 8. Dialing Instructions	
Many MLTS require a caller to dial a prefix, usually the digit 9, before dialing any outgoing call. The MLTS Manager should be required to take all reasonable efforts to assure that potential 9-1-1 callers are aware of the proper procedures for calling for emergency assistance. Dialing instruction requirements shall apply to all MLTS Operators whether any other exemptions apply.	This is often accomplished by placing stickers or cards containing the appropriate 9-1-1 dialing instructions on or near each MLTS telephone. If feasible MLTS Operators should allow both 9-1-1 and trunk access code + 9-1-1dialing from all MLTS telephones.
Section 9. MLTS Signaling	
MLTS shall support 9-1-1 calling by using any generally accepted industry standard signaling protocol, designed to produce an automatic display of caller information on the video terminal of the PSAP call-taker, unless the MLTS Operator is exempt or a waiver has been granted in accordance with State rules and regulations.	**Rationale:** ATIS committees that develop digital signaling protocols will make it easier and cheaper for most MLTS installations to support 9-1-1 calling. These committees generally seek American National Standards Institute (ANSI) accreditation of new protocols. The local telephone company and ISP should be responsible for assuring that when the accredited protocols are used by a MLTS, they are supported by the local exchanges and ISP (as applicable) so that ELIN information is properly communicated to the PSAP.
Section 10. MLTS Operator Education	
Public agencies providing 9-1-1 educational programs are encouraged to develop a program to educate MLTS Operators related to accessing 9-1-1 emergency telephone systems and coordinate adequate testing of the MLTS interface to the 9-1-1 system.	**Rationale:** This issue could or should be addressed by public agencies as they see fit. This helps ensure proper education on the use of 9-1-1. This will also assist in educating MLTS Operators and users on laws, rules and

	requirements on providing access to 9-1-1. Governmental 9-1-1 programs are the logical entity to ensure that MLTS Operators are in compliance with state laws/rules affecting these systems. **Implications:** Improper education and lack of knowledge can affect the proper deployment of supporting 9-1-1 calling by the MLTS Operator.
Section 11. Limitation of Liability	
No manufacturer or provider of MLTS, MLTS Manager, MLTS Operator or 9-1-1 Service Provider shall be liable for any civil damages or penalties as a result of any act or omission, except willful or wanton misconduct, in connection with developing, adopting, operating or implementing any plan or system required by this act.	
Section 12. Exemptions	
In facilities that are authorized by law, that offer alternative and adequate means of intercepting the emergency calls, those facilities shall provide training to individuals intercepting the call in accordance with applicable local emergency telecommunications requirements. **MLTS in Areas Without Enhanced 9-1-1 Service:** MLTS Operators in areas without Enhanced 9-1-1 service are exempt from the signaling and database maintenance regulations. Existing MLTS shall comply within five (5) years after E9-1-1 service becomes available or immediately upon installation of a new MLTS after E9-1-1 service becomes available. If E9-1-1 service becomes available more than 5 years after the effective date of this Act, MLTS operators shall comply with the signaling and database maintenance regulations within 12 months.	The local or state 9-1-1 governing body should define minimum training requirements for call takers.
Non-Dispersed MLTS: MLTS with a single ERL are exempt from the	**Rationale:** The location information from a single ERL

signaling and database maintenance regulations. Requirements for MLTS Managers to provide dialing instructions shall still apply.	that normally appears on the call-takers video terminal is (by definition) sufficient to locate a caller quickly at any MLTS telephone.
Section 13. Waiver Provisions	
A designated authority in accordance with State rules and regulations may grant waivers. The local exchange carrier and ISP are not authorized to grant waivers or enforce compliance with this act. Nothing in this section is intended to relieve employers of their obligations under federal and state workplace occupational safety and health statutes and rules.	Rationale: The legislation should identify an agency or entity, such as the, Fire Marshal or other designated agency, for determining whether a waiver is granted.. These same agencies should also have the responsibility of ensuring that MLTS Operators are in compliance with local regulations.
Section 14. Effective Date	
The provisions of this act shall take affect 6 months after enactment where E9-1-1 MLTS support service is available. MLTS installed twelve (12) months or more after the effective date of this Act shall comply upon installation. Existing systems, or those installed within 12 months of the effective date of this act shall comply within five (5) years after the effective date of this Act. E9-1-1 MLTS support service is deemed to be available if: (a) the PSAP can accept ELIN information from the MLTS using generally accepted industry standard interfaces; (b) facilities are in place to accept and store the ERL information provided by the MLTS Operators; and (c) the PSAP is equipped to utilize the ERL information.	**Rationale:** Uniformity is a key issue in E9-1-1 policy formulation. How uniform do we want the service to be throughout the state? How quickly do we want to reach the desired level of uniformity? Who should bear the cost of mandated uniformity -- E9-1-1 system operators or private system operators? Five (5) years represents a reasonable consensus between the needs of MLTS Operators to amortize their systems and generally accepted replacement cycles. MLTS Operators should not be required to equip their systems for E9-1-1 support if the E9-1-1 system is not in place and operational. Regulations need to be forward looking and technology neutral, and not enshrine old technologies, such as analog CAMA trunks, where newer more cost-effective technologies are available.

	Major population/business centers will adopt new technologies much sooner than rural areas since they tend to have competitive pressures and are better equipped to take advantage of the economies and benefits new technologies offer. MLTS Operators have an economic incentive to comply with E9-1-1 requirements as part of their risk management considerations. Standard interfaces such as ISDN, where available, are a much more cost-effective solution for the MLTS Operator than CAMA. All central offices are not equipped for ISDN PRI. A generally accepted industry standard interface will encourage the modernization of MLTS access to the E9-1-1 system. Reporting MLTS not connected to the E9-1-1 system because the chosen E9-1-1 interface standard is not available will provide important market information to (a) regulators as to the state of E9-1-1 uniformity, and (b) LECs and ISPs concerning the demand for new E9-1-1 interfaces. The 9-1-1 jurisdiction may be a state or local official responsible for emergency services and public safety. **Implications:** MLTS Operators will implement E9-1-1 support more willingly where they have a choice of technology and the newer more cost-effective technologies are available. This will be especially true for smaller systems.

	Unless state regulators mandate 9-1-1 system upgrades, uniform 9-1-1 support, especially in non-urban areas, could take a long time.

4 References

NENA 06-502, Industry Common Mechanisms for E9-1-1 Caller Location Discovery and Reporting Technical Information Document (TID): A companion technical requirements document to the MLTS Model Legislation was created to aid in educating policy officials, government agencies and users of MLTS systems on E9-1-1 obligations. The accompanying technical document and diagrams discuss many of the issues related to the location of individuals during emergencies in the MLTS environment. It further outlines the current suggested methods of dealing with the challenge as recommended by the National Emergency Number Association (NENA) MLTS Policy Work Group.

Other references that may be useful are:

- NENA 02-010, NENA Standards Data Formats for ALI Data Exchange & GIS Mapping
- NENA 06-003, NENA Standards for Private Switch (PS) E9-1-1 Database
- NENA 03-502, NENA Technical Information Document Trunking for Private Switch 9-1-1 Service

All may be found at www.nena.org under "Standards and Other Documents."