



Core Competencies and Minimum Training Requirements for Public Safety Communications Technician

APCO ANS 3.107.2-2022

TABLE OF CONTENTS

FOREWORD	4
EXECUTIVE SUMMARY	6
INTRODUCTION	7
AGENCY RESPONSIBILITIES	8
2.1 AGENCY RESPONSIBILITIES.....	8
PROFESSIONAL COMPETENCE.....	11
3.1 PROFESSIONAL COMPETENCE OF TECHNICIAN	11
ORGANIZATIONAL INTEGRITY.....	13
4.1 TECHNICIAN OBJECTIVES.....	13
GENERAL DUTIES, KNOWLEDGE AND SKILLS	15
5.1 STANDARDS AND REGULATIONS	15
5.2 GENERAL DUTIES, KNOWLEDGE AND SKILLS OF THE TECHNICIAN.....	15
TOOLS, EQUIPMENT AND TECHNOLOGY.....	23
6.1 TOOLS, EQUIPMENT AND TECHNOLOGY	23
PUBLIC SAFETY RADIO TECHNICIAN TRAINING REQUIREMENTS	24
7.1 ADMINISTER COMMUNICATIONS SYSTEM.....	24
7.2 MANAGE SYSTEM INFRASTRUCTURE	24
7.3 ENHANCE PROFESSIONAL DEVELOPMENT	25
7.4 ESTABLISH WORK PRIORITIES.....	26
7.5 MAINTAIN SECURITY MEASURES	26
7.6 ADHERE TO GOVERNMENT REGULATIONS	26
7.7 PARTICIPATE IN COLLABORATIVE EFFORTS	27
PUBLIC SAFETY CAD TECHNICIAN TRAINING REQUIREMENTS.....	28
8.1 CAD FUNCTIONALITY.....	28
8.2 RESOLVING TECHNICAL ISSUES	28
8.3 MAINTAINING SYSTEM SECURITY.....	29
8.4 ADMINISTRATIVE FUNCTIONS	29
8.5 ENHANCE PROFESSIONAL COMPETENCE.....	30
PUBLIC SAFETY GIS TECHNICIAN TRAINING REQUIREMENTS	31
9.1 MANAGE GIS DATA.....	31
9.2 VISUALLY REPRESENT CARTOGRAPHIC DATA.....	32
9.3 ADMINISTER GEOGRAPHIC SYSTEMS	32
9.4 SUPPORT DECISION MAKING PROCESSES	32

9.5	PARTICIPATE IN COLLABORATIVE EFFORTS	33
9.6	ENHANCE PROFESSIONAL DEVELOPMENT	33
9.7	AUTOMATE DATA MAINTENANCE PROCESSES	33
ACRONYMS AND ABBREVIATIONS.....		34
DEFINITIONS.....		37
ACKNOWLEDGMENTS.....		41
NOTES		42

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ISBN: 978-1-943877-43-0

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EXECUTIVE SUMMARY

The use of technology in the 9-1-1 center has increased exponentially over the past decade. The introduction of integrated computer aided dispatch (CAD) and geographic information systems (GIS), internet protocol (IP) based communications and call delivery systems, advanced geospatial query and mobile location capabilities has perpetuated the expansion of the 9-1-1 center staff to include Public Safety Technicians.

The SDC Core Competencies & Minimum Training Standards for Public Safety Communications (PSC) Technician Working Group was convened to provide guidance to Emergency Communications Center (ECC) leadership on job description and performance metrics for these technicians. This standard is being updated to include GIS technicians and provides the professionals in Radio, CAD and GIS guidance as they sharpen their skills, seek employment opportunities and strive for growth in the 9-1-1 field.

The working group assembled professionals from Radio Communications, CAD, and GIS backgrounds to update the APCO ANS 3.107.1-2015 standard to reflect the current technical requirements of the ECC. To create this standard, the working group discussed the individual needs for each profession—Radio, CAD, and GIS—as well as the commonalities between the three. The results from decades of experience in the 9-1-1 industry and the eagerness to serve others are reflected in the pages that follow.

Chapter One

INTRODUCTION

SCOPE

This standard identifies the core competencies and minimum training requirements for Public Safety Communications Technicians, herein referred to as Technician. This position is typically tasked with planning, monitoring, maintaining, managing, and/or installing technology systems, including Radio Systems, CAD Systems, GIS, and all their associated equipment and integration, to ensure continuity of mission critical operations.

1.1 Purpose

To define the core competencies and minimum training requirements of the individual who is generally tasked with maintaining and managing public safety Radio Systems, CAD Systems, and GIS. The purpose of this standard is to provide a consistent foundation for the knowledge, skills, and abilities needed to fulfill these critical functions. This document recognizes the need to supplement the training and core competencies identified within these standards with Agency-specific requirements and information.

Chapter Two

Agency Responsibilities

SCOPE

While the majority of this standard addresses the training of the Technician, this chapter outlines the Agency's responsibilities for providing training to both new and veteran Technicians in accordance with this standard.

2.1 Agency Responsibilities

2.1.1 General Agency Responsibilities

- 2.1.1.1 The Agency shall establish no less than these minimum training requirements while complying with all local, state, federal, and tribal laws.¹
- 2.1.1.2 The Agency shall define the baseline qualifications in addition to requisite cognitive, affective, and psychomotor skills needed to achieve compliance with this standard.
- 2.1.1.3 The Agency shall provide the Technician with information, in both verbal and written formats, during an initial orientation to include, but not limited to:
 - 2.1.1.3.1 Disciplinary processes
 - 2.1.1.3.2 Grievance processes
 - 2.1.1.3.3 Location of first-aid supplies including Automated External Defibrillator (AED) if available
 - 2.1.1.3.4 Location of facilities
 - 2.1.1.3.5 Timekeeping procedures
 - 2.1.1.3.6 Work hours
- 2.1.1.4 The Agency shall define and then provide the Technician with information regarding specialized response units, including location of public safety service areas and buildings, apparatus and equipment, and emergency response planning documents with which they may work in their assigned position.
- 2.1.1.5 The Agency shall provide training and performance expectations to the Technician detailing responses to catastrophic, technological, or structural failure within the work area (including the communications center), emergency evacuation plans, and recovery processes to ensure the continuity of operations.
- 2.1.1.6 The Agency shall provide the Technician with expectations regarding customer service, personal conduct and behavior, courtroom demeanor, and ethical rules. If they exist, the Agency shall provide the Technician with a written copy of the Agency's adopted principles (for example, mission statement, core values, vision statement, etc.).

¹ To include, but not limited to: the ADA, Fair Labor Standards Act, and Equal Employment Opportunity laws.

- 2.1.1.7 The Agency shall provide the Technician with information regarding access to and participation in programs such as:
 - 2.1.1.7.1 Critical Incident Stress Management (CISM)
 - 2.1.1.7.2 Employee Assistance Program (EAP)
 - 2.1.1.7.3 Health and Wellness Programs
 - 2.1.1.7.4 Safety/Risk Management Programs
 - 2.1.1.7.5 Stress management techniques

- 2.1.1.8 The Agency shall provide the Technician with access to appropriate state and federal regulations and labor practices, including, but not limited to:
 - 2.1.1.8.1 Americans with Disabilities Act (ADA)
 - 2.1.1.8.2 Fair Labor Standards Act (FLSA)
 - 2.1.1.8.3 Family Medical and Leave Act (FMLA)
 - 2.1.1.8.4 Health Insurance Portability and Accountability Act (HIPAA)
 - 2.1.1.8.5 Occupational Safety and Health Administration (OSHA)
 - 2.1.1.8.6 Any applicable labor agreements

- 2.1.2 The Agency shall define the job descriptions and performance expectations of the Technician.
 - 2.1.2.1 The Agency shall clearly articulate the roles and responsibilities of the position within a defined job description.

 - 2.1.2.2 The Agency shall provide for and support the position-specific training and ongoing professional development of the Technician, including an explanation of performance benchmarks and a timeline of expectations, to meet Agency performance standards and any necessary certifications or licenses.

 - 2.1.2.3 The Agency shall establish detailed and defined performance expectations, providing and ensuring a clear understanding of those expectations.
 - 2.1.2.3.1 The Agency shall provide the Technician with an overview of its Quality Assurance/Quality Improvement (QA/QI) processes.
 - 2.1.2.3.2 The Agency shall have an established mechanism by which the job performance of the Technician is regularly reviewed and evaluated based upon accepted QA practices or standards.
 - 2.1.2.3.3 The Agency shall ensure performance objectives are met by the Technician.
 - 2.1.2.3.4 The Agency shall provide regular opportunities for the Technician to provide and receive feedback during a review of the individual's job performance.
 - 2.1.2.3.5 The Agency shall provide a mechanism during the performance review wherein the Technician can identify goals and objectives to be accomplished in the course of employment.

 - 2.1.2.4 The Agency shall inform the Technician of types of actions that could be considered cause for disciplinary action including loss of certification, license, or employment.
 - 2.1.2.4.1 The Agency shall document and address unacceptable performance with the Technician in a timely manner.
 - 2.1.2.4.2 The Agency shall ensure a fair and consistent application of the disciplinary processes associated with performance.

- 2.1.2.5 The Agency shall provide applicable training and continuing education opportunities for the Technician in areas identified within the job description, performance expectations, and in the knowledge and skills areas identified in Chapter 5, General Duties, Knowledge and Skills.
- 2.1.2.6 The Agency shall provide the Technician with the information on how and to whom they may address training issues and concerns.
- 2.1.2.7 The Agency shall maintain a complete training record for the Technician according to applicable record retention guidelines.
- 2.1.3 The Agency shall keep all written directives up to date and shall provide the most current written directives to the Technician.
- 2.1.4 The Agency shall encourage and support professional development of the Technician through the identification and provision of networking opportunities within the public safety community, as well as the community within which services are provided.
- 2.1.5 The Agency should, when possible, subscribe to professional publications and make those publications available to its employees.
- 2.1.6 The Agency shall make readily available documents that identify regulations, recommendations, or mandates within the public safety communications industry (i.e., APCO Standards, National Response Framework, OSHA, etc.).

Chapter Three

Professional Competence

SCOPE

This chapter identifies those components within Public Safety Communications that are critical for enhancing the professional competence of all Technicians (both new and veteran workers). These components have been identified, during the occupational analysis process, as being necessary for developing, maintaining, and enhancing the knowledge and skills of the Technician. While the Agency has some responsibility for supporting and facilitating the development of the Technician's professional competence, this chapter places primary accountability on the individual Technician.

3.1 Professional Competence of Technician

- 3.1.1 The Technician shall complete and maintain mandated training and certifications.
- 3.1.2 The Technician shall take responsibility for their own professional career development by actively seeking opportunities to enhance their job knowledge and skills.
 - 3.1.2.1 The Technician shall identify professional goals that can be supported by the Agency.
 - 3.1.2.2 The Technician shall take advantage of career development opportunities.
 - 3.1.2.3 The Technician shall take advantage of opportunities to network both within the public safety community and within the community in which they serve.
 - 3.1.2.4 The Technician should review professional publications and resources to enhance professional competence and remain current on trends within the profession.
- 3.1.3 The Technician shall comply with department, local, state, federal, and tribal regulations.
- 3.1.4 The Technician shall demonstrate the ability to meet and/or exceed performance standards set by the Agency.
 - 3.1.4.1 The Technician shall demonstrate competency in the applicable skills detailed in Chapter 5, General Duties, Knowledge and Skills.
 - 3.1.4.2 The Technician shall actively seek and be receptive to feedback and review of their performance, including during the Agency's established QA/QI processes.
- 3.1.5 The Technician shall demonstrate effective team concepts, including being an effective team member, as well as developing and managing effective teams, as required by the Agency.

- 3.1.6 The Technician shall demonstrate the ability to communicate with superiors, peers, and subordinates in a positive and constructive manner.
- 3.1.7 The Technician shall demonstrate the ability to operate within all applicable written directives and plans regarding operations established by and for the Agency.
 - 3.1.7.1 The Technician shall remain current and informed of all of the Agency's written directives including relevant public safety and homeland security initiatives.
 - 3.1.7.2 The Technician shall demonstrate the appropriate application of the Agency's written directives.
 - 3.1.7.3 The Technician shall recommend updates to the Agency's written directives as appropriate.

Chapter Four

Organizational Integrity

SCOPE

This chapter discusses the issues related to organizational integrity. Topics include the mission and values of the profession in general and the Agency specifically, as well as the scope of the Technician's authority, confidentiality, and liability.

4.1 Technician Objectives

- 4.1.1 The Technician shall demonstrate an understanding of the Agency's mission, values, and vision.
- 4.1.2 The Technician shall comply with the Agency's expectation of professional conduct.
- 4.1.3 The Technician shall demonstrate a comprehensive knowledge of the duties and essential functions of the position.
- 4.1.4 The Technician shall act within their scope of authority as defined by the Agency.
- 4.1.5 The Technician shall demonstrate proper application of the Agency's written directives.
- 4.1.6 The Technician shall demonstrate an ability to work within the Agency's Chain of Command.
- 4.1.7 The Technician shall adhere to applicable local, state, federal, tribal regulations and codes as appropriate.
- 4.1.8 The Technician shall comply with mandatory professional requirements as identified by the Agency.²
- 4.1.9 The Technician shall demonstrate comprehension and application of the Agency's policies regarding ethical behavior.
- 4.1.10 The Technician shall demonstrate comprehension and application of the Agency's confidentiality policies and rules regarding the discussion or release of information acquired in the workplace to the public, the media, or others. Such information should include, but is not limited to:
 - 4.1.10.1 Data systems accessible through local, state, or federal networks
 - 4.1.10.2 Information contained in calls for service
 - 4.1.10.3 Information gained through the Basic 9-1-1, Enhanced 9-1-1 (E9-1-1), or Next Generation 9-1-1 (NG9-1-1) systems
 - 4.1.10.4 Records Management Systems (RMS)

² Applies to information regarding states' certifications, standards, etc.

- 4.1.10.5 System security.³
- 4.1.11 The Technician shall demonstrate comprehension of the liabilities specific to system issues that are related to overall Agency operations. This should include, but is not limited to:
- 4.1.11.1 Negligence
 - 4.1.11.2 Negligent assignment
 - 4.1.11.3 Negligent entrustment
 - 4.1.11.4 Negligent retention
 - 4.1.11.5 Negligent supervision
 - 4.1.11.6 Negligent training
 - 4.1.11.7 Vicarious liability
- 4.1.12 The Technician shall ensure the accurate reporting and documentation of records for which they are responsible.
- 4.1.13 The Technician shall foster and create effective working relationships with all personnel within the organization and with individuals and organizations external to the Agency.
- 4.1.14 The Technician shall encourage and support the highest quality of workplace team interaction and behavior.
- 4.1.15 The Technician shall demonstrate fiscal responsibility, and work within the specified parameters as directed by the Agency.
- 4.1.16 The Technician shall demonstrate comprehension and application of diversity awareness principles and an active commitment to ensure equality, in accordance with Agency written directives.
- 4.1.17 In general, the Technician working within the public safety environment should exhibit overall characteristics of:
- Accountability
 - Collaborative
 - Commonsense
 - Dedicated
 - Dependable/Reliable
 - Detail-Oriented
 - Eager to Learn
 - Empathy
 - Ethical
 - Flexible
 - Integrity
 - Leadership
 - Objective
 - Organized
 - Patient
 - Positive Attitude
 - Professional
 - Responsible
 - Safety-Minded

³ May include network keys, encryption keys, source codes, etc.

Chapter Five

General Duties, Knowledge and Skills

SCOPE

This chapter provides an overview of the general duties, knowledge and skills that are common among high-performing incumbent Technicians.

5.1 Standards and Regulations

- 5.1.1 The Technician should be cognizant of all relevant standards and regulations governing public safety systems including those of:
 - 5.1.1.1 APCO
 - 5.1.1.2 National Emergency Number Association (NENA)
 - 5.1.1.3 Federal Aviation Administration (FAA)
 - 5.1.1.4 Federal Communications Commission (FCC)
 - 5.1.1.5 National Fire Protection Association (NFPA)
 - 5.1.1.6 OSHA
 - 5.1.1.7 Commission on Accreditation for Law Enforcement Agencies (CALEA)
 - 5.1.1.8 Criminal Justice Information Services (CJIS)
 - 5.1.1.9 National Crime Information Center (NCIC)

5.2 General Duties, Knowledge and Skills of the Technician

The following general areas of duties, knowledge and skills have been identified for the Technician. Duties, Knowledge and Skills are listed in the rank order that they appear in the Occupational Analysis that assisted in guiding this standard and are not intended to be listed in any other order, such as priority, as each Agency will define their own priorities. The Technician at a minimum shall demonstrate proficiency in the following areas:

5.2.1 Duties, Knowledge and Skills Common for Radio, CAD, and GIS Technicians

5.2.1.1 Duties

- 5.2.1.1.1 For Radio – refer to section 5.2.2.1 and Chapter 7
- 5.2.1.1.2 For CAD – refer to section 5.2.3.1 and Chapter 8
- 5.2.1.1.3 For GIS – refer to section 5.2.4.1 and Chapter 9

5.2.1.2 Knowledge

- 5.2.1.2.1 Agency operations and mission
- 5.2.1.2.2 Agency Radio, CAD, or GIS components (to include those assets in the ECC, such as servers, client workstations, radios and repeaters, and in the field, such as Mobile Data Terminals/Computers (MDT/C), tower and microwave sites)

- 5.2.1.2.3 Agency written directives
- 5.2.1.2.4 Applicable APCO standards including P25 or CAD-to-CAD standards and industry best practices
- 5.2.1.2.5 Applicable local, state, federal, and/or tribal regulations, standards and statutes
- 5.2.1.2.6 Communications networking (including Internet Protocol networking and interoperable solutions)
- 5.2.1.2.7 Communications Radio, CAD, or GIS system terminology
- 5.2.1.2.8 End-user business practices
- 5.2.1.2.9 Public safety communications technology needs
- 5.2.1.2.10 Radio, CAD, or GIS system design principles
- 5.2.1.2.11 Relevant computer applications
- 5.2.1.2.12 Equipment installation standards
- 5.2.1.2.13 Budget preparation, as specified by their Agency
- 5.2.1.2.14 Generator operation and maintenance
- 5.2.1.2.15 Grounding principles and requirements (for example, R56, OSHA, Telecom, etc.)
- 5.2.1.2.16 Infrastructure security (logical and physical)
- 5.2.1.2.17 Industry certification requirements
- 5.2.1.2.18 Inventory control
- 5.2.1.2.19 Jurisdiction and geography
- 5.2.1.2.20 ECC culture and concepts
- 5.2.1.2.21 Record retention procedures
- 5.2.1.2.22 Relevant public safety and homeland security initiatives⁴
- 5.2.1.2.23 Supervision and leadership concepts and principles
- 5.2.1.2.24 Information technology (IT) systems (current systems used within the Agency, emerging technologies and new trends)
- 5.2.1.2.25 Interpret technical specifications
- 5.2.1.2.26 Testing equipment operation
- 5.2.1.2.27 Transfer switching and Uninterruptible Power Sources
- 5.2.1.2.28 Global Positioning System (GPS), Global Navigating Satellite System (GNSS), and United States National Grid (USNG)

5.2.1.3 Skills

High-performing incumbent Technicians have been identified as demonstrating the following skills and abilities:

- 5.2.1.3.1 Accuracy
- 5.2.1.3.2 Active listening
- 5.2.1.3.3 Analysis
- 5.2.1.3.4 Coaching and Mentoring
- 5.2.1.3.5 Computer operations

⁴ For example, Local, state, national; ex National Incident Management System (NIMS), Incident Command System (ICS), Tactical Interoperations Communications Plan (TICP), National Response Framework.

- 5.2.1.3.6 Critical thinking
- 5.3.1.3.7 Customer service
- 5.2.1.3.8 Conflict resolution
- 5.2.1.3.9 Decision-making
- 5.2.1.3.10 Self-Evaluation
- 5.2.1.3.11 Goals/Expectations setting
- 5.2.1.3.12 Interpersonal communications
- 5.2.1.3.13 Installation of Hardware and Software
- 5.2.1.3.14 Leadership
- 5.2.1.3.15 Meet critical deadlines
- 5.2.1.3.16 Multi-tasking
- 5.2.1.3.17 Negotiation
- 5.2.1.3.18 Observational
- 5.2.1.3.19 Organizational
- 5.2.1.3.20 Planning
- 5.2.1.3.21 Prioritization
- 5.2.1.3.22 Programming
- 5.2.1.3.23 Project scope and management
- 5.2.1.3.24 Problem-solving
- 5.2.1.3.25 Record keeping
- 5.2.1.3.26 Resource management
- 5.2.1.3.27 Research
- 5.2.1.3.28 Schematic interpretation
- 5.2.1.3.29 Supervision
- 5.2.1.3.30 Standards development
- 5.2.1.3.31 Stress management
- 5.2.1.3.32 Technical troubleshooting
- 5.2.1.3.33 Time management
- 5.2.1.3.34 Written and verbal communications, including ability to communicate clearly with non-technical operational staff

5.2.2 Duties, Knowledge and Skills Specific to the Radio Technician

5.2.2.1 Duties

The Radio Technician performs a variety of duties in the installation, maintenance, and operation of the Agencies radio communications system. Radio Technician duties include but may not be limited to:

- 5.2.2.1.1 Administer Communications Systems (Adhere to established policies, triage/prioritize system needs, manage system coverage, manage network connectivity, manage subscriber equipment, and manage encrypted communications)
- 5.2.2.1.2 Manage System Infrastructure (Monitor system integrity, monitor network connectivity, maintain subscriber equipment, verify system coverage, repair

ancillary equipment, service system infrastructure, repair subscriber equipment, and install subscriber equipment)

- 5.2.2.1.3 Enhance Professional Development (Attain system education, complete required certifications, continue personal development, participate in professional organizations, maintain required certifications, and seek networking opportunities)
- 5.2.2.1.4 Establish Work Priorities (Assess critical systems, communicate situational awareness, maintain situational awareness, establish action plans, complete after-action plans, and preplan tactical response)
- 5.2.2.1.5 Maintains Security Measures (Review security plans, update network security, review physical security, and perform security assessments)
- 5.2.2.1.6 Adhere to Government Regulations (Maintain Agency licenses, ensure regulatory compliance, and maintain tower compliance)
- 5.2.2.1.7 Participate in Collaborative Efforts (Support customer needs, support interoperable communications, build customer relationships, share system information, conduct user training, attend designated meetings, participate in system planning, and help other entities)

5.2.2.2 Knowledge

The Radio Technician shall possess the following industry-specific knowledge bases in order to perform the duties listed in 5.2.2.1:

- 5.2.2.2.1 Radio Frequency (RF) Theory including frequency and spectrum fundamentals
- 5.2.2.2.2 Networking Theory
- 5.2.2.2.3 Test Equipment
- 5.2.2.2.4 Digital/Analog/Conventional and Trunked Communications Systems
- 5.2.2.2.5 Server Administration
- 5.2.2.2.6 Simulcast Trends
- 5.2.2.2.7 Antenna Theory
- 5.2.2.2.8 Circuit Theory
- 5.2.2.2.9 Microwave Comms
- 5.2.2.2.10 Distributed Antenna System/Bi-Directional Amplifier (DAS/BDA)
- 5.2.2.2.11 Troubleshooting
- 5.2.2.2.12 Tower Lighting Regulations (FAA)
- 5.2.2.2.13 Infrastructure Security
- 5.2.2.2.14 Computer Operating Systems (e.g., Windows, Linux, etc.)
- 5.2.2.2.15 APCO Project 25
- 5.2.2.2.16 Basic Alternating Current (AC) and Direct Current (DC) Power Systems including relevant sections of National Electric Code (NEC)
- 5.2.2.2.17 Basic Heating, Ventilation, and Air Conditioning (HVAC) Operation
- 5.2.2.2.18 Basic Budgeting
- 5.2.2.2.19 Mathematics for RF Applications
- 5.2.2.2.20 Basic radio system components common among public safety users

- 5.2.2.2.21 Basic Tower and Antenna Systems maintenance and operation
- 5.2.2.2.22 Installation, provisioning and maintenance of microwave, radio, fiber optics, and wireline backhaul transport and associated equipment

5.2.2.3 Skills

The Radio Technician shall possess the following industry-specific skills in order to perform the duties listed in 5.2.2.1:

- 5.2.2.3.1 Diagnose equipment/systems
- 5.2.2.3.2 Terminate cables
- 5.2.2.3.3 Hand tool use
- 5.2.2.3.4 Radio spectrum interference detection and mitigation
- 5.2.2.3.5 Soldering skills
- 5.2.2.3.6 Testing equipment/systems using diagnostic test equipment

5.2.3 Duties, Knowledge and Skills Specific to the CAD Technician

5.2.3.1 Duties

The CAD Technician performs a variety of duties in the provisioning, maintenance and operation of the Agency's CAD system. CAD Technicians duties include but may not be limited to:

- 5.2.3.1.1 CAD System Provisioning (CAD systems, when purchased new or significantly upgraded will require initial entry of information or significant change in information that meets the needs of the ECC and their service agencies. Knowledge of and the ability to work with vendors and the various platforms of CAD is necessary)
- 5.2.3.1.2 CAD Systems Maintenance (CAD functionality, configuration, software updates, support, interface management, database management, system back-up, and coordination of all hardware maintenance)
- 5.2.3.1.3 Resolving Technical Issues (Analyzing technical issues, researching solutions, validating the resolutions, conducting systems testing, implementing recommended solutions, and reviewing all logs and files)
- 5.2.3.1.4 Maintaining System Security (Managing Security Compliance, user access, verifying regulatory compliance, auditing user activities and maintaining awareness of emerging threats)
- 5.2.3.1.5 Administrative Functions (Manage CAD technical projects, coordinate internal and external support, manage support and maintenance agreements, participate in change management, develop disaster recovery plans for CAD, support user education, disseminate pertinent notifications, evaluate industry technology, compile systems report, analyze future needs and complete relevant documentation for those needs, and participate in the budget process for CAD system needs)
- 5.2.3.1.6 Enhance Professional Competence (Obtain required training, maintain certifications, participate in networking opportunities and user group

contacts, maintain awareness and possible use of emerging technologies, review professional publications, white papers and articles)

5.2.3.2 Knowledge

The CAD Technician shall possess the following industry-specific knowledge bases in order to perform the duties listed in 5.2.3.1:

- 5.2.3.2.1 CAD application knowledge
- 5.2.3.2.2 CAD systems knowledge (servers, CAD, workstations, data management, networking)
- 5.2.3.2.3 End-user business practices
- 5.2.3.2.4 Operational practices and processes
- 5.2.3.2.5 Data communication principles
- 5.2.3.2.6 Historical Agency and service-Agency knowledge
- 5.2.3.2.7 Local computer infrastructure
- 5.2.3.2.8 Programming, scripting, and provisioning

5.2.3.3 Skills

The CAD Technician shall possess the following industry-specific skills in order to perform the duties listed in 5.2.3.1:

- 5.2.3.3.1 Ability to train others on CAD systems
- 5.2.3.3.2 Ability to work with minimal supervision
- 5.2.3.3.3 Communicate technical issues clearly
- 5.2.3.3.4 Data management and reporting
- 5.2.3.3.5 Delegation of duties when applicable
- 5.2.3.3.6 Effective time management
- 5.2.3.3.7 Effective resource management

5.2.4 Duties, Knowledge and Skills Specific to the GIS Technician

5.2.4.1 Duties

The GIS Technician performs a variety of duties in the managing and administration of GIS for inclusion in the Agency's CAD system. GIS Technician duties include but may not be limited to:

- 5.2.4.1.1 Manage GIS Data (Verify data accuracy, assign addresses, digitize and edit geographic features and attributes, manipulate databases, manage data exchange, and identify authoritative resources)
- 5.2.4.1.2 Visually Represent Cartographic Data (Build public safety maps such as the CAD and MDT/C map, modify feature representations, create print and digital maps, and develop web applications)
- 5.2.4.1.3 Administer Geographic Systems (Monitor and test system functionality, provide application support, troubleshoot, install software and manage

licenses, document procedures, negotiate software contracts, and maintain databases)

- 5.2.4.1.4 Support Decision Making Processes (Create and run data analysis, generate requested products such as reports and maps, review site plans for accordance with addressing standards, make technological recommendations, participate in the budget and grant process, and support policy development)
- 5.2.4.1.5 Participate in Collaborative Efforts (Fulfill customer requests, provide subject matter expertise, attend meetings, participate in emergency management exercises and disaster recovery planning, create training guidelines, and provide end user training)
- 5.2.4.1.6 Enhance Professional Development (Follow industry best practices, attend educational classes and conferences, build a professional network, maintain professional memberships, and obtain certifications)
- 5.2.4.1.7 Automate GIS Processes (Utilize appropriate programming languages and scripting for data automation)

5.2.4.2 Knowledge

The GIS Technician shall possess the following industry-specific knowledge bases in order to perform the duties listed in 5.2.4.1:

- 5.2.4.2.1 Cartography and graphic design principles
- 5.2.4.2.2 GIS principles
- 5.2.4.2.3 GIS software
- 5.2.4.2.4 GIS techniques
- 5.2.4.2.5 CAD and MDT/C system applications
- 5.2.4.2.6 Database administration
- 5.2.4.2.7 Addressing standards and the Master Street Address Guide (MSAG)
- 5.2.4.2.8 Spatial reference systems/coordinate reference systems
- 5.2.4.2.9 Special addresses, such as commonplace names and aliases
- 5.2.4.2.10 Emergency Service Zones (ESZs) and Emergency Service Number (ESN) and the role they play in providing accurate response
- 5.2.4.2.11 Networking vehicular routing tools

5.2.4.3 Skills

The GIS Technician shall possess the following industry-specific skills in order to perform the duties listed in 5.2.4.1:

- 5.2.4.3.1 Topology editing and managing
- 5.2.4.3.2 Scripting and programming
- 5.2.4.3.3 Geocoding
- 5.2.4.3.4 Map making
- 5.2.4.3.5 Data processing and collection
- 5.2.4.3.6 Database design and management
- 5.2.4.3.7 Boolean statements and logic

- 5.2.4.3.8 Digitalization
- 5.2.4.3.9 Mathematics
- 5.2.4.3.10 Schema design
- 5.2.4.3.11 Web application development

Chapter Six

Tools, Equipment and Technology

6.1 Tools, Equipment and Technology

- 6.1.1 Tools, Equipment and Technology for any of the three separate disciplines addressed in this standard are located within the specific chapter for these disciplines: Radio (Chapter 7), CAD (Chapter 8) and GIS (Chapter 9).

Chapter Seven

Public Safety Radio Technician Training Requirements

SCOPE

This chapter addresses the training necessary to perform the duties defined for Public Safety Radio Technician. Training shall ensure the Radio Technician can execute all primary and ancillary duties at a proficient level, as established by the Agency.

7.1 Administer Communications System

The Radio Technician shall be knowledgeable in the Administration of Communication Systems for Public Safety to include, but not limited to:

- 7.1.1 Adherence to established policies
 - 7.1.1.1 Implement relevant elements of the Agency's Continuity of Operations Plan (COOP)
- 7.1.2 Triage/prioritize system needs
- 7.1.3 Manage system coverage
 - 7.1.3.1 Verify and coordinate the analysis of radio system coverage needs
- 7.1.4 Manage network connectivity
- 7.1.5 Manage subscriber equipment
 - 7.1.5.1 Maintain radio fleet mapping
 - 7.1.5.2 Programming equipment
- 7.1.6 Manage encrypted equipment and plans
- 7.1.7 Manage service tickets
- 7.1.8 Implement appropriate technologies
- 7.1.9 Implement Tactical Interoperable Communications Plan (TICP)

7.2 Manage System Infrastructure

The Radio Technician shall be knowledgeable in the management of system infrastructure to include, but not limited to:

- 7.2.1 Monitor system integrity
 - 7.2.1.1 Manage alarms
 - 7.2.1.2 Run system diagnostics
 - 7.2.1.3 Generate and analyze system reports
- 7.2.2 Monitor network connectivity

- 7.2.2.1 Monitoring network integrity
- 7.2.2.2 Resolve connectivity issues
- 7.2.2.3 Maintain network equipment
- 7.2.3 Maintain subscriber equipment
 - 7.2.3.1 Perform updates and upgrades
 - 7.2.3.2 Maintain preventative maintenance program and schedules
- 7.2.4 Verify system coverage
- 7.2.5 Repair ancillary equipment
- 7.2.6 Maintain, service, and install system infrastructure
 - 7.2.6.1 Perform updates and upgrades
 - 7.2.6.2 Schedule and conduct preventative maintenance as required
 - 7.2.6.3 Maintain and test power equipment (generators, Uninterruptible Power Supply (UPS), back-up batteries, etc.)
 - 7.2.6.4 Investigate and coordinate the resolution of interference issues
 - 7.2.6.5 Maintain alias database, if applicable
 - 7.2.6.6 Manage site logs
 - 7.2.6.7 Document maintenance activities
 - 7.2.6.8 Maintain preventative maintenance program and schedules
 - 7.2.6.9 Perform and coordinate unscheduled repairs as necessary
- 7.2.7 Repair subscriber equipment
- 7.2.8 Install subscriber equipment
- 7.2.9 Track subscriber and network assets, to include but not limited to:
 - 7.2.9.1 Subscribers
 - 7.2.9.2 Microwave radio
 - 7.2.9.3 Telephone company
 - 7.2.9.4 Dedicated data circuits
 - 7.2.9.5 Cabling (copper, fiber, etc.)
 - 7.2.9.6 Circuit Identification
 - 7.2.9.7 Satellite
 - 7.2.9.8 Version level
 - 7.2.9.9 Spare hardware inventory

7.3 Enhance Professional Development

The Radio Technician shall keep up-to-date on new technologies within their profession by engaging in professional development through the following means:

- 7.3.1 Attain system education
- 7.3.2 Complete and maintain required certifications
- 7.3.3 Continue personal development

- 7.3.4 Participate in professional organizations
- 7.3.5 Seek networking opportunities

7.4 Establish Work Priorities

The Radio Technician shall establish work priorities including, but not limited to:

- 7.4.1 Assess critical systems
- 7.4.2 Communicate situational awareness
- 7.4.3 Maintain situational awareness
- 7.4.4 Establish and execute action plans
- 7.4.5 Complete after-action plans
- 7.4.6 Pre-plan tactical response

7.5 Maintain Security Measures

The Radio Technician shall maintain security measures to include:

- 7.5.1 Reviewing security plans
- 7.5.2 Updating network security
- 7.5.3 Reviewing physical security
- 7.5.4 Performing security assessments

7.6 Adhere to Government Regulations

The Radio Technician shall be trained to adhere to government regulations to include:

- 7.6.1 Maintaining Agency licenses that, at a minimum, cover the following areas:
 - 7.6.1.1 Ensure that FCC renewals are completed in a timely manner
 - 7.6.1.2 Ensure Universal Licensing System (ULS) and FCC Registration Number (FRN) is up-to-date
 - 7.6.1.3 Ensure ULS and FRN Agency sign-on credentials are current
 - 7.6.1.4 Be familiar with subscription-based third-party vendor process to manage FCC licensing, as applicable
- 7.6.2 Ensuring regulatory compliance
 - 7.6.2.1 Investigate and coordinate the resolution of interference issues
 - 7.6.2.2 Respond to government notices
 - 7.6.2.3 Respond to notices of complaints
 - 7.6.2.4 FAA, OSHA, Department of Homeland Security (DHS), FCC, National Telecommunications and Information Administration (NTIA), NFPA, NEC, Insurance Services Office (ISO)
 - 7.6.2.4.1 Radio frequency safety and exposure
 - 7.6.2.4.2 Job hazard assessment, Hazardous Materials (HAZMATs), Safety Data Sheets (SDS), confined-space assessment
 - 7.6.2.5 Rebanding, frequency planning, narrowbanding

- 7.6.3 Maintaining tower regulatory compliance
 - 7.6.3.1 FCC antenna site registry, if applicable
 - 7.6.3.2 Tower and antenna siting determination and notifications
 - 7.6.3.3 Ensure tower loading level is not exceeded
 - 7.6.3.4 Maintain proper lighting and painting if required
 - 7.6.3.5 Reporting of tower light outages and associated fines

7.7 Participate in Collaborative Efforts

The Radio Technician shall collaboratively participate within the Agency where radio expertise is required by:

- 7.7.1 Supporting customer needs
 - 7.7.1.1 Provide technical assistance to allied agencies when requested
- 7.7.2 Supporting interoperable communications by assisting with:
 - 7.7.2.1 Administration of memoranda of understanding
 - 7.7.2.2 Supporting the public safety response to disasters
 - 7.7.2.3 Developing frequency (channel) plans within local region
 - 7.7.2.4 Ensuring compliance with county, state and federal Interoperability guidelines
- 7.7.3 Building customer relationships
- 7.7.4 Sharing system information
- 7.7.5 Conducting user training
- 7.7.6 Attending designated meetings
- 7.7.7 Participating in system planning
- 7.7.8 Helping other entities
- 7.7.9 Participate in the budget process
 - 7.7.9.1 Spare parts
 - 7.7.9.2 Spare accessories
 - 7.7.9.3 Equipment replacement schedule for subscriber and infrastructure equipment
 - 7.7.9.4 Site maintenance cost, repairs and upgrades

Chapter 8

Public Safety CAD Technician Training Requirements

SCOPE

This chapter addresses the training necessary to perform the duties defined for Public Safety CAD Technician. Training shall ensure that the CAD Technician can execute all primary and ancillary duties at a proficient level, as established by the Agency.

8.1 CAD Functionality

The CAD Technician shall participate in vendor, user-group, technical and professional training opportunities in order to understand and perform the following to ensure proper functionality of the Agency's CAD System:

- 8.1.1 Configuration and provisioning training for the Agency CAD system
- 8.1.2 Software training and implementation of patches, updates, and released versions
- 8.1.3 Policy training on Agency expected support levels
- 8.1.4 Vendor and manufacturer training for Agency interface management with CAD systems
- 8.1.5 Vendor and other training on required databases for CAD management
- 8.1.6 Policy and required maintenance and system back-up schedules
- 8.1.7 Training on all hardware associated with the Agency CAD system and scheduled maintenance schedules

8.2 Resolving Technical Issues

The ECC is responsible for 24/7 operations, of which a large part is conducted through and results in the use of CAD operations. The CAD is often the hub of information and system interfaces that allow expedient and efficient location, information, dispatching and in general responding to the public calls for service. Resolving technical issues is the priority function of the CAD Technician.

The CAD Technician shall participate in any and all afforded opportunities to increase skills, knowledge and performance through formal, informal and incidental training in the following areas:

- 8.2.1 Analyzing technical issues
- 8.2.2 Researching solutions
- 8.2.3 Validating the resolutions
- 8.2.4 Conducting systems testing

8.2.5 Implementing recommended solutions

8.2.6 Reviewing all logs and files

8.3 Maintaining System Security

The Agency's CAD stores data of all varieties. Most of this data is protected through one regulatory Agency or another and must be maintained for the purpose of privacy, judicial responsibility and compliance audits. These rules and regulations are updated on a continual basis and therefore, the CAD Technician shall stay abreast of these changes and ensure CAD security is in place. Training, at a minimum, shall be on the following:

8.3.1 Managing security compliance

8.3.2 User access

8.3.3 Verifying regulatory compliance

8.3.4 Auditing user activities

8.3.5 Maintaining awareness of emerging threats

8.4 Administrative Functions

The CAD Technician is responsible for understanding all administrative functions of the position and will require training on internal and external procedures and operational expectations. Agency, city, county, state and federal training on these various processes, reports, agreements, procurement, budget oversight, and evaluations shall be completed as necessary, as follows:

8.4.1 Manage CAD technical projects

8.4.2 Coordinate internal and external support

8.4.3 Manage support and maintenance agreements

8.4.4 Participate in change management

8.4.5 Develop disaster recovery plans for CAD

8.4.6 Support user education

8.4.7 Disseminate pertinent notifications

8.4.8 Evaluate industry technology

8.4.9 Compile systems reports

8.4.10 Analyze future needs

8.4.11 Complete relevant documentation

8.4.12 Participate in the budget process for CAD system needs

8.5 Enhance Professional Competence

Professional competence embodies everything there is about training and increasing skills, both technical and soft skills. Section 4.1.17 of this document outlines those traits most desirable in any PSC Technician, including CAD and enhancing one's professional competence through participation in the following is an expectation of the Agency.

- 8.5.1 Obtain all required training
- 8.5.2 Participate in networking opportunities
- 8.5.3 User group participation and contacts
- 8.5.4 Maintain awareness and possible use of emerging technologies
- 8.5.5 Review professional publications, white papers and articles for emerging CAD system information

Chapter 9

Public Safety GIS Technician Training Requirements

SCOPE

This chapter addresses the training necessary to perform the duties defined for Public Safety GIS Technician. Training shall ensure the GIS Technician can execute all primary and ancillary duties at a proficient level, as established by the Agency.

9.1 Manage GIS Data

The GIS Technician shall be knowledgeable in all aspects of managing GIS data for public safety to include, but not limited to:

- 9.1.1 Verify data accuracy with QA and quality control (QC) checks
 - 9.1.1.1 Conduct field work as needed to verify data
- 9.1.2 Assign or assist in assigning physical and 9-1-1 addresses
 - 9.1.2.1 Understanding of best practices for addressing, such as the 5.28 feet rule
- 9.1.3 Digitize, edit and update geographic features and attributes
- 9.1.4 Utilize topological rules and correct topological errors
- 9.1.5 Create and maintain metadata
- 9.1.6 Design databases for GIS data
 - 9.1.6.1 File geodatabases
 - 9.1.6.2 Enterprise geodatabases
- 9.1.7 Manipulate database information in systems such as Oracle, structured query language (SQL), or other database management systems
- 9.1.8 Manage data exchange by:
 - 9.1.8.1 Acquiring data
 - 9.1.8.2 Geocoding data
 - 9.1.8.3 Communicating and/or coordinating data exchange
 - 9.1.8.4 Extract, transform, and load (ETL)
- 9.1.9 Identify appropriate data sources
- 9.1.10 Know and understand the different projections and coordinate systems
- 9.1.11 Maintain or assist in maintaining the Automatic Location Identification (ALI) and MSAG database
- 9.1.12 Remain current on national, state and local GIS standards pertaining to:

- 9.1.12.1 Mandatory, conditional and optional GIS data for NG9-1-1
- 9.1.12.2 NG9-1-1 GIS data model
- 9.1.12.3 Data formats for E9-1-1 data exchange
- 9.1.12.4 Additional GIS data to support NG9-1-1 operations

9.2 Visually Represent Cartographic Data

The GIS Technician shall be able to create cartographic products from GIS data.

- 9.2.1 Build public safety system maps, to include but not limited to the CAD map, the 9-1-1 map, and the MDT/C map
 - 9.2.1.1 Compile digital public safety maps
 - 9.2.1.2 Create print maps and map books for emergency operations
- 9.2.2 Modify feature representations used for location verification and emergency response, such as street centerlines, addresses, jurisdictional boundaries, and emergency response zones
- 9.2.3 Develop web apps and web maps
 - 9.2.3.1 Develop graphical user interfaces (GUIs)
- 9.2.4 Publish GIS data updates to CAD, 9-1-1 and MDT/C maps
 - 9.2.4.1 Ensure critical deadlines are met

9.3 Administer Geographic Systems

The GIS Technician shall be knowledgeable in how to administer GIS to ensure continual and consistent operations for public safety. This knowledge shall consist of, but not be limited to:

- 9.3.1 Monitor and test system functionality
 - 9.3.1.1 Ensure GIS data translates correctly in CAD and MDT/C systems through testing
- 9.3.2 Provide application support including troubleshooting techniques
- 9.3.3 Document system procedures
 - 9.3.3.1 Create and maintain workflows
 - 9.3.3.2 Establish data collection standards
 - 9.3.3.3 Establish mapping standards
- 9.3.4 Manage and install software licenses
- 9.3.5 Negotiate software contracts
- 9.3.6 Perform database maintenance

9.4 Support Decision Making Processes

The GIS Technician shall assist the Agency with decision making processes regarding general public safety as well as use of GIS by:

- 9.4.1 Creating and running data analysis
- 9.4.2 Generating requested reports, maps and data
- 9.4.3 Reviewing site plans to assist with addressing and street naming standards

- 9.4.4 Making technological recommendations
- 9.4.5 Participate in the budget and grant processes
- 9.4.6 Support policy development

9.5 Participate in Collaborative Efforts

The GIS Technician shall collaboratively participate within the Agency where GIS expertise is required by being engaged in the following:

- 9.5.1 Fulfilling customer requests
- 9.5.2 Providing subject matter expertise
- 9.5.3 Attending designated meetings
- 9.5.4 Participating in emergency management exercises and disaster recovery planning
- 9.5.5 Providing end user training
- 9.5.6 Creating training guidelines
- 9.5.7 Engaging other government agencies (e.g., ports, airports, universities) to collect and merge GIS datasets for dispatch and mapping

9.6 Enhance Professional Development

The GIS Technician shall keep up-to-date on new technologies within their profession by engaging in professional development through the following means:

- 9.6.1 Follow industry best practices
- 9.6.2 Attend educational opportunities such as classes, conferences and webinars
- 9.6.3 Extend professional network
- 9.6.4 Maintain professional organizational memberships
- 9.6.5 Obtain and maintain professional certifications through continuing education
- 9.6.6 Participate in standards development workgroups and/or committees

9.7 Automate Data Maintenance Processes

Automation of data maintenance processes creates efficiency in keeping data for 9-1-1 systems up-to-date. The GIS Technician shall be knowledgeable in techniques used for data automation to include, but not limited to:

- 9.7.1 Utilize appropriate programming languages and scripting for data automation
- 9.7.2 Knowledge of current or new programming and scripting languages

ACRONYMS AND ABBREVIATIONS

AC	Alternating Current
ADA	Americans with Disabilities Act
AED	Automated External Defibrillator
AHJ	Authority Having Jurisdiction
ALI	Automatic Location Identification
ANS	American National Standards
ANSI	American National Standards Institute
APCO	Association of Public-Safety Communications Officials
BDA	Bi-Directional Amplifier
CAD	Computer Aided Dispatch
CALEA	Commission on Accreditation for Law Enforcement Agencies
CISM	Critical Incident Stress Management
CJIS	Criminal Justice Information Services
COOP	Continuity of Operations Plan
DAS	Distributed Antenna System
DC	Direct Current
DHS	Department of Homeland Security
E9-1-1	Enhanced 9-1-1
EAP	Employee Assistance Program
ECC	Emergency Communications Center
ESN	Emergency Service Number
ETL	Extract, Transform, and Load
ESZ	Emergency Service Zone
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FLSA	Fair Labor Standards Act

FMLA	Family Medical and Leave Act
FRN	FCC Registration Number
GIS	Geographic Information System
GUI	Graphical User Interface
GPS	Global Positioning System
GNSS	Global Navigating Satellite System
HAZMAT	Hazardous Materials
HIPAA	Health Insurance Portability and Accountability Act
HVAC	Basic Heating, Ventilation, and Air Conditioning
ICS	Incident Command System
ISO	Insurance Services Office
MDT/C	Mobile Data Terminal/Computer
MSAG	Master Street Address Guide
NCIC	National Crime Information Center
NEC	National Electric Code
NENA	National Emergency Number Association
NFPA	National Fire Protection Association
NG9-1-1	Next Generation 9-1-1
NIMS	National Incident Management System
NTIA	National Telecommunications and Information Administration
OSHA	Occupational Safety and Health Administration
PSAP	Public Safety Answering Point
QA/QI	Quality Assurance/Quality Improvement
QC	Quality Control
RF	Radio Frequency
RMS	Records Management Systems
SDC	Standards Development Committee
SDS	Safety Data Sheets
SQL	Structured Query Language

TICP	Tactical Interoperable Communications Plan
TTY/TDD	Teletypewriters/Telecommunications Device for the Deaf
ULS	Universal Licensing System
UPS	Uninterruptible Power Supply
USNG	United States National Grid

DEFINITIONS

This chapter contains definitions of terms and their common acronyms used throughout this document.

Agency: The hiring authority or also referred to as the Authority Having Jurisdiction (AHJ). The Agency or body that defines the roles, responsibilities, written directives, and performance standards which direct the activity of the Public Safety Communications Technician. In multi-discipline centers, the Agency governs all operations providing call taking/dispatch and related services to customer agencies; in single discipline centers, a single Agency may direct these services for one or more departments within a service area. Both have the duty of defining the training appropriateness, content, format, and continuing education requirements for the technicians addressed in this standard.

Americans with Disabilities Act (ADA): A Federal law that requires all to provide direct and equal access to emergency telephone services to individuals with disabilities who use Telecommunications Devices for Deaf (TTY/TDDs) and other communication services.

Bi-directional amplifier (BDA): A single amplifier that repeats from outside sources inside a room or building to provide coverage reduced by the building's attenuation factors.

Calls for Service or Request for Service: A call that results in the provision of a public safety service or response.

Computer Aided Dispatch (CAD) System: A computer-based system that assists PSTs with activities such as call input, dispatching, call status maintenance, event notes, field unit status and tracking, and call resolution and disposition.

Core Competency: The unique traits, requisite knowledge, comprehension and application of skills, and situational analysis leading to the appropriate response to the caller, co-worker, other public safety stakeholders⁵, or event(s) consistent with general practices and locally defined parameters.

Demographics: Characteristics and cultural composition of the service area.

Distributed Antenna System (DAS): A system of antennas and amplifiers designed to provide coverage to wireless devices in a building where normal coverage from external sites is weak or non-existent.

Enhanced 9-1-1 (E9-1-1): A system that enables the delivery of a caller's phone number and location information to the PSAP receiving the call.

Emergency Communications Center (ECC): A facility with capabilities that include intelligence collection and monitoring, 9-1-1 multimedia traffic processing, full scale dispatch, and incident command capabilities.

Fair Labor Standards Act (FLSA): A Federal law, sometimes called the overtime law, which ensures that wages are paid for all hours worked and that all overtime hours, overtime pay and collected unpaid overtime due is paid to wage earners.⁶

⁵ May include, but is not limited to: law enforcement officers, fire fighters, emergency medical technicians, paramedics, emergency management personnel.

⁶ U.S. Department of Labor –Elaws – Fair Labor Standards Act

FCC Registration Number (FRN): A user ID number assigned by the FCC to apply for and maintain licenses. Mandatory for users to have an FRN to apply for and maintain FCC licenses.

Geographic Information System (GIS): A system designed to capture, store, manipulate, analyze, manage and display all kinds of spatial or geographical data.⁷

Incident Command System (ICS): A standardized on-scene incident management concept designed specifically to allow responders to adopt an integrated organizational structure equal to the complexity and demands of any single incident or multiple incidents without being hindered by jurisdictional boundaries.

Knowledge: Fundamental understanding one must have in order to perform a specific task.

Liability: The condition of being actually or potentially subject to an obligation; condition of being responsible for a possible, or actual loss, penalty, evil expense or burden; condition which creates a duty to perform an act immediately or in the future⁸. Types of liability may include:

Negligence: “Failure to use such care as a reasonably prudent and careful person would use under similar circumstances; it is the doing of some act which a person of ordinary prudence *would not have done* or the failure to do something a person of ordinary prudence *would have done* under similar circumstances.”⁹

Negligent Assignment: Assigning someone to a task or job for which they are not skilled or trained. For example, assigning someone to the position of Radio Technician who has not been properly trained or allowing an employee to perform a function for which they are not qualified.

Negligent Entrustment: Failure to control dangerous equipment or devices entrusted to an employee or allowing an employee to use a piece of equipment for which they have not been trained.

Negligent Retention: Failure to terminate an employee who is clearly unsuitable for the job.

Negligent Supervision: Failure to coordinate, control, or direct trainee conduct that may cause injury. This can include failure to use reasonable care in addressing and documenting misconduct.

Negligent Training: Failure to train “resulting in a deprivation of constitutional rights that was ‘substantially certain to result.’”¹⁰

Vicarious Liability: A legal doctrine referring to the imposition of liability on one person for the actionable conduct of another based solely on a relationship between the two persons¹¹. For example, the liability of an employer for the acts of an employee.

Master Street Address Guide (MSAG): A database of street names and house number ranges within their associated communities defining Emergency Service Zones and their associated ESNs to enable proper routing of 9-1-1 calls.

⁷ APCO. *Broadband Implications for the PSAP: Analyzing the Future of Emergency Communications*. Daytona Beach, FL, 2017

⁸ Black’s Law Dictionary Sixth Edition

⁹ Black’s Law Dictionary Sixth Edition

¹⁰ As defined in the Supreme Court case *City of Canton V. Harris* 489 US 378 (1989)

¹¹ Black’s Law Dictionary Sixth Edition

Mobile Data Terminal/Computer (MDT/C): A computerized device used in emergency vehicles, such as police cars to communicate with a PSAP. They are also used to display mapping and information relevant to the tasks and actions performed by the vehicle such as CAD drawings, diagrams, and safety information.

National Incident Management System (NIMS): A systematic, proactive approach to guide departments and agencies at all levels of government and the private sector to work together seamlessly and manage incidents involving all threats and hazards – regardless of cause, size, location, or complexity – in order to reduce loss of life, property, and harm to the environment.

Next Generation 9-1-1 (NG9-1-1): An interoperable, secure, Internet Protocol-based system that:

- (A) Employs commonly accepted standards.
- (B) Enables the appropriate emergency communications centers to receive, process, and analyze all types of 9-1-1 requests for emergency assistance.
- (C) Acquires and integrates additional information useful to handling 9-1-1 requests for emergency assistance: and
- (D) Supports sharing information related to 9-1-1 requests for emergency response providers.

Project 25 (P25): Project 25 is also referred to as the TIA-102 series of standards for land mobile radio communications. These American National Standards are developed by the Telecommunications Industry Association (TIA), a member of the American National Standards Institute (ANSI) and an ANSI-Accredited Standards Developer. The standards are sponsored by the Association of Public-Safety Officials International (APCO), the National Association of State Telecommunications Directors (NASTD), and agencies of the federal government.

Public Safety Answering Point (PSAP): A facility equipped and staffed to receive emergency and non-emergency public safety calls for service via telephone and other communications devices. Emergency calls for service are answered, assessed, classified, and prioritized. PSAP is now a deprecated term and has been superseded by ECC. See ECC.

Public Safety Communications Center: A public safety entity (which may include a PSAP or be referred to as an ECC or communications center) where emergency calls for service or 9-1-1 phone calls culminate, and/or where calls for service are dispatched to public safety service providers.

Public Safety Communications Supervisor: The individual employed by a Public Safety Communications Center to provide leadership and guidance to employees in order to achieve the Agency's mission, values, and vision.

Public Safety Computer Aided Dispatch Technician: Personnel responsible for the over-all configuration and operability of a CAD System. Also titled a CAD Administrator, this individual(s) is/are public safety professional(s) who manage and maintain the CAD System, its applications, interfaces, and related technologies through the continuous analysis and coordination of resources to support the mission of an ECC and its partner agencies.

Public Safety Geographic Information System Technician: One who is responsible for developing, managing, maintaining, and analyzing geographic information systems for emergency services by using mapping software applications, hardware equipment, knowledge, and skills to best promote the safety and security to the public and first responders.

Public Safety Radio Technician: One who is responsible for planning, monitoring, maintaining, managing, and/or installing radio systems and associated equipment to ensure continuity of mission critical systems.

Public Safety Telecommunicator (PST): The individual employed by a public safety Agency as the first of the first responders whose primary responsibility is to receive, process, transmit, and/or dispatch emergency and non-emergency calls for law enforcement, fire, emergency medical, and other public safety services via telephone, radio, and other communication devices.

Quality Assurance/Quality Improvement (QA/QI): Actions taken to ensure that standards and procedures are adhered to and that delivered products or services meet performance requirements.

Records Management System (RMS): A system that provides for the storage, retrieval, retention, manipulation, archiving, and viewing of information, records, documents, or files.

Shall: Within the context of this standard, “shall” indicates a mandatory requirement.

Should: Within the context of this standard, “should” indicates a recommendation.

Trainee: A public safety communications employee (new or veteran) being trained in any one of the programs under the direction of the Supervisor.

Universal Licensing System (ULS): The FCCs online licensing system for applying for and making modifications to applications and licenses.

Written Directives: A set of Agency specific policies, procedures, rules, regulations, and guidelines.

ACKNOWLEDGMENTS

Special recognition goes to the Public Safety Communications Technician Training Working Group members that provided their expertise in successfully updating this standard. The Public Safety Communications Technician Training Working Group included the following membership, whose work was overseen by the Standards Development Committee:

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