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Core Competencies and Minimum Training Requirements for Public Safety Communications Technician

APCO Candidate ANS 3.107.2-20XX

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FOREWORD

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EXECUTIVE SUMMARY

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

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

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

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INTRODUCTION

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SCOPE

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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.

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1.1 Purpose

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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.

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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.

- 215 2.1.1.7 The Agency shall provide the Technician with information regarding access to and
216 participation in programs such as:
217 2.1.1.7.1 Critical Incident Stress Management (CISM)
218 2.1.1.7.2 Employee Assistance Program (EAP)
219 2.1.1.7.3 Health and Wellness Programs
220 2.1.1.7.4 Safety/Risk Management Programs
221 2.1.1.7.5 Stress management techniques
222
- 223 2.1.1.8 The Agency shall provide the Technician with access to appropriate state and federal
224 regulations and labor practices, including, but not limited to:
225 2.1.1.8.1 Americans with Disabilities Act (ADA)
226 2.1.1.8.2 Fair Labor Standards Act (FLSA)
227 2.1.1.8.3 Family Medical and Leave Act (FMLA)
228 2.1.1.8.4 Health Insurance Portability and Accountability Act (HIPAA)
229 2.1.1.8.5 Occupational Safety and Health Administration (OSHA)
230 2.1.1.8.6 Any applicable labor agreements
231
- 232 2.1.2 The Agency shall provide the job descriptions and performance expectations of the Technician.
233
- 234 2.1.2.1 The Agency shall clearly articulate the roles and responsibilities of the position within a
235 defined job description.
236
- 237 2.1.2.2 The Agency shall provide for and support the position-specific training and ongoing
238 professional development of the Technician, including an explanation of performance
239 benchmarks and a timeline of expectations, to meet Agency performance standards and
240 any necessary certifications or licenses.
241
- 242 2.1.2.3 The Agency shall establish detailed and defined performance expectations, providing
243 and ensuring a clear understanding of those expectations.
244 2.1.2.3.1 The Agency shall provide the Technician with an overview of its Quality
245 Assurance/Quality Improvement (QA/QI) processes.
246 2.1.2.3.2 The Agency shall have an established mechanism by which the job
247 performance of the Technician is regularly reviewed and evaluated based
248 upon accepted QA practices or standards.
249 2.1.2.3.3 The Agency shall ensure performance objectives are met by the Technician.
250 2.1.2.3.4 The Agency shall provide regular opportunities for the Technician to provide
251 and receive feedback during a review of the individual's job performance.
252 2.1.2.3.5 The Agency shall provide a mechanism during the performance review
253 wherein the Technician can identify goals and objectives to be accomplished
254 in the course of employment.
255
- 256 2.1.2.4 The Agency shall inform the Technician of types of actions that could be considered
257 cause for disciplinary action.
258 2.1.2.4.1 The Agency shall document and address unacceptable performance with the
259 Technician in a timely manner.
260 2.1.2.4.2 The Agency shall ensure a fair and consistent application of the disciplinary
261 processes associated with performance.
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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.).

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Chapter Three

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Professional Competence

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SCOPE

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

3.1 Professional Competence of Technician

312

3.1.1 The Technician shall complete and maintain mandated training and certifications.

313

3.1.2 The Technician shall take responsibility for their own professional career development by
314 actively seeking opportunities to enhance their job knowledge and skills.

315

316

3.1.2.1 The Technician shall identify professional goals that can be supported by the Agency.

317

318

3.1.2.2 The Technician shall take advantage of career development opportunities.

319

320

3.1.2.3 The Technician shall take advantage of opportunities to network both within the public
321 safety community and within the community in which they serve.

322

323

3.1.2.4 The Technician should review professional publications and resources to enhance
324 professional competence and remain current on trends within the profession.

325

326

3.1.3 The Technician shall comply with department, local, state, federal, and tribal regulations.

327

328

3.1.4 The Technician shall demonstrate the ability to meet and/or exceed performance standards set
329 by the Agency.

330

331

3.1.4.1 The Technician shall demonstrate competency in the applicable skills detailed in Chapter
332 5, General Duties, Knowledge and Skills.

333

334

3.1.4.2 The Technician shall actively seek and be receptive to feedback and review of their
335 performance, including during the Agency's established QA/QI processes.

336

337

3.1.5 The Technician shall demonstrate effective team concepts, including being an effective team
338 member, as well as developing and managing effective teams, as required by the Agency.

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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.

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Chapter Four

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Organizational Integrity

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363 SCOPE

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

367 4.1 Technician Objectives

368 4.1.1 The Technician shall demonstrate an understanding of the Agency's mission, values, and vision.

369 4.1.2 The Technician shall comply with the Agency's expectation of professional conduct.

370 4.1.3 The Technician shall demonstrate a comprehensive knowledge of the duties and essential
371 functions of the position.

372 4.1.4 The Technician shall act within their scope of authority as defined by the Agency.

373 4.1.5 The Technician shall demonstrate proper application of the Agency's written directives.

374 4.1.6 The Technician shall demonstrate an ability to work within the Agency's Chain of Command.

375 4.1.7 The Technician shall adhere to applicable local, state, federal, tribal regulations and codes as
376 appropriate.

377 4.1.8 The Technician shall comply with mandatory professional requirements as identified by the
378 Agency.²

379 4.1.9 The Technician shall demonstrate comprehension and application of the Agency's policies
380 regarding ethical behavior.

381 4.1.10 The Technician shall demonstrate comprehension and application of the Agency's confidentiality
382 policies and rules regarding the discussion or release of information acquired in the workplace
383 to the public, the media, or others. Such information should include, but is not limited to:

384 4.1.10.1 Data systems accessible through local, state, or federal networks

385 4.1.10.2 Information contained in calls for service

386 4.1.10.3 Information gained through the Basic 9-1-1, Enhanced 9-1-1 (E9-1-1), or Next
387 Generation 9-1-1 (NG9-1-1) systems

388 4.1.10.4 Records Management Systems (RMS)

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

- 389 4.1.10.5 System security.³
- 390 4.1.11 The Technician shall demonstrate comprehension of the liabilities specific to system issues that
391 are related to overall Agency operations. This should include, but is not limited to:
- 392 4.1.11.1 Negligence
- 393 4.1.11.2 Negligent assignment
- 394 4.1.11.3 Negligent entrustment
- 395 4.1.11.4 Negligent retention
- 396 4.1.11.5 Negligent supervision
- 397 4.1.11.6 Negligent training
- 398 4.1.11.7 Vicarious liability
- 399 4.1.12 The Technician shall ensure the accurate reporting and documentation of records for which they
400 are responsible.
- 401 4.1.13 The Technician shall foster and create effective working relationships with all personnel within
402 the organization and with individuals and organizations external to the Agency.
- 403 4.1.14 The Technician shall encourage and support the highest quality of workplace team interaction
404 and behavior.
- 405 4.1.15 The Technician shall demonstrate fiscal responsibility, and work within the specified parameters
406 as directed by the Agency.
- 407 4.1.16 The Technician shall demonstrate comprehension and application of diversity awareness
408 principles and an active commitment to ensure equality, in accordance with Agency written
409 directives.
- 410 4.1.17 In general, the Technician working within the public safety environment should exhibit overall
411 characteristics of:

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

- 412 • Accountability 419 • Empathy 426 • Patient
- 413 • Collaborative 420 • Ethical 427 • Positive Attitude
- 414 • Commonsense 421 • Flexible 428 • Professional
- 415 • Dedicated 422 • Integrity 429 • Responsible
- 416 • Dependable/Reliable 423 • Leadership 430 • Safety-Minded
- 417 • Detail-Oriented 424 • Objective
- 418 • Eager to Learn 425 • Organized

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

- 460 5.2.1.1.1 For Radio – refer to section 5.2.2.1 and Chapter 7
- 461 5.2.1.1.2 For CAD – refer to section 5.2.3.1 and Chapter 8
- 462 5.2.1.1.3 For GIS – refer to section 5.2.4.1 and Chapter 9
- 463
- 464 5.2.1.2 Knowledge
- 465
- 466 5.2.1.2.1 Agency operations and mission
- 467 5.2.1.2.2 Agency Radio, CAD, or GIS components (to include those assets in the ECC,
- 468 such as servers, client workstations, radios and repeaters, and in the field,
- 469 such as Mobile Data Terminals/Computers (MDT/C), tower and microwave
- 470 sites)
- 471 5.2.1.2.3 Agency written directives
- 472 5.2.1.2.4 Applicable standards including Project 25 (P25) or CAD-to-CAD and industry
- 473 best practices
- 474 5.2.1.2.5 Applicable local, state, federal, and/or tribal regulations, standards and
- 475 statutes
- 476 5.2.1.2.6 Communications networking (including Internet Protocol networking and
- 477 interoperable solutions)
- 478 5.2.1.2.7 Communications Radio, CAD, or GIS system terminology
- 479 5.2.1.2.8 End-user business practices
- 480 5.2.1.2.9 Public safety communications technology needs
- 481 5.2.1.2.10 Radio, CAD, or GIS system design principles
- 482 5.2.1.2.11 Relevant computer applications
- 483 5.2.1.2.12 Equipment installation standards
- 484 5.2.1.2.13 Budget preparation, as specified by their Agency
- 485 5.2.1.2.14 Generator operation and maintenance
- 486 5.2.1.2.15 Grounding principles and requirements
- 487 5.2.1.2.16 Infrastructure security (logical and physical)
- 488 5.2.1.2.17 Industry certification requirements
- 489 5.2.1.2.18 Inventory control
- 490 5.2.1.2.19 Jurisdiction and geography
- 491 5.2.1.2.20 ECC culture and concepts
- 492 5.2.1.2.21 Record retention procedures
- 493 5.2.1.2.22 Relevant public safety and homeland security initiatives⁴
- 494 5.2.1.2.23 Supervision and leadership concepts and principles
- 495 5.2.1.2.24 Information technology (IT) systems (current systems used within the
- 496 Agency, emerging technologies and new trends)
- 497 5.2.1.2.25 Interpret technical specifications
- 498 5.2.1.2.26 Testing equipment operation
- 499 5.2.1.2.27 Transfer switching and Uninterruptible Power Sources
- 500 5.2.1.2.28 Global Positioning System (GPS), Global Navigating Satellite System (GNSS),
- 501 and United States National Grid (USNG)

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

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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
- 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

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

- 548
- 549 5.2.2.1.1 *Administer Communications Systems* (Adhere to established policies,
550 triage/prioritize system needs, manage system coverage, manage network
551 connectivity, manage subscriber equipment, and manage encrypted
552 communications)
- 553 5.2.2.1.2 *Manage System Infrastructure* (Monitor system integrity, monitor network
554 connectivity, maintain subscriber equipment, verify system coverage, repair
555 ancillary equipment, service system infrastructure, repair subscriber
556 equipment, and install subscriber equipment)
- 557 5.2.2.1.3 *Enhance Professional Development* (Attain system education, complete
558 required certifications, continue personal development, participate in
559 professional organizations, maintain required certifications, and seek
560 networking opportunities)
- 561 5.2.2.1.4 *Establish Work Priorities* (Assess critical systems, communicate situational
562 awareness, maintain situational awareness, establish action plans, complete
563 after-action plans, and preplan tactical response)
- 564 5.2.2.1.5 *Maintains Security Measures* (Review security plans, update network
565 security, review physical security, and perform security assessments)
- 566 5.2.2.1.6 *Adhere to Government Regulations* (Maintain Agency licenses, ensure
567 regulatory compliance, and maintain tower compliance)
- 568 5.2.2.1.7 *Participate in Collaborative Efforts* (Support customer needs, support
569 interoperable communications, build customer relationships, share system
570 information, conduct user training, attend designated meetings, participate
571 in system planning, and help other entities)

572

573 5.2.2.2 Knowledge

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

- 576
- 577 5.2.2.2.1 Radio Frequency (RF) Theory including frequency and spectrum
578 fundamentals
- 579 5.2.2.2.2 Networking Theory
- 580 5.2.2.2.3 Test Equipment
- 581 5.2.2.2.4 Digital/Analog/Conventional and Trunked Communications Systems
- 582 5.2.2.2.5 Server Administration
- 583 5.2.2.2.6 Simulcast Trends
- 584 5.2.2.2.7 Antenna Theory
- 585 5.2.2.2.8 Circuit Theory
- 586 5.2.2.2.9 Microwave Comms
- 587 5.2.2.2.10 Distributed Antenna System/Bi-Directional Amplifier (DAS/BDA)
- 588 5.2.2.2.11 Troubleshooting

- 589 5.2.2.2.12 Tower Lighting Regulations (FAA)
- 590 5.2.2.2.13 Infrastructure Security
- 591 5.2.2.2.14 Computer Operating Systems (e.g. Windows, Linux, etc.)
- 592 5.2.2.2.15 P25
- 593 5.2.2.2.16 Basic Alternating Current (AC) and Direct Current (DC) Power Systems
- 594 including relevant sections of National Electric Code (NEC)
- 595 5.2.2.2.17 Basic Heating, Ventilation, and Air Conditioning (HVAC) Operation
- 596 5.2.2.2.18 Basic Budgeting
- 597 5.2.2.2.19 Mathematics for RF Applications
- 598 5.2.2.2.20 Basic radio system components common among public safety users
- 599 5.2.2.2.21 Basic Tower and Antenna Systems maintenance and operation
- 600 5.2.2.2.22 Installation, provisioning and maintenance of microwave, radio, fiber optics,
- 601 and wireline backhaul transport and associated equipment
- 602

603 5.2.2.3 Skills

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

- 606
- 607 5.2.2.3.1 Diagnose equipment/systems
- 608 5.2.2.3.2 Terminate cables
- 609 5.2.2.3.3 Hand tool use
- 610 5.2.2.3.4 Radio spectrum interference detection and mitigation
- 611 5.2.2.3.5 Soldering skills
- 612 5.2.2.3.6 Testing equipment/systems using diagnostic test equipment

613 **5.2.3 Duties, Knowledge and Skills Specific to the CAD Technician**

614 5.2.3.1 Duties

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

- 618
- 619 5.2.3.1.1 *CAD System Provisioning* (CAD systems, when purchased new or significantly
- 620 upgraded will require initial entry of information or significant change in
- 621 information that meets the needs of the ECC and their service agencies.
- 622 Knowledge of and the ability to work with vendors and the various platforms
- 623 of CAD is necessary)
- 624 5.2.3.1.2 *CAD Systems Maintenance* (CAD functionality, configuration, software
- 625 updates, support, interface management, database management, system
- 626 back-up, and coordination of all hardware maintenance)
- 627 5.2.3.1.3 *Resolving Technical Issues* (Analyzing technical issues, researching solutions,
- 628 validating the resolutions, conducting systems testing, implementing
- 629 recommended solutions, and reviewing all logs and files)

- 630 5.2.3.1.4 *Maintaining System Security* (Managing Security Compliance, user access,
631 verifying regulatory compliance, auditing user activities and maintaining
632 awareness of emerging threats)
- 633 5.2.3.1.5 *Administrative Functions* (Manage CAD technical projects, coordinate
634 internal and external support, manage support and maintenance
635 agreements, participate in change management, develop disaster recovery
636 plans for CAD, support user education, disseminate pertinent notifications,
637 evaluate industry technology, compile systems reports, analyze future needs
638 and complete relevant documentation for those needs, and participate in the
639 budget process for CAD system needs)
- 640 5.2.3.1.6 *Enhance Professional Competence* (Obtain required training, maintain
641 certifications, participate in networking opportunities and user group
642 contacts, maintain awareness and possible use of emerging technologies,
643 review professional publications, white papers and articles)
644
- 645 5.2.3.2 Knowledge
646 The CAD Technician shall possess the following industry-specific knowledge bases in
647 order to perform the duties listed in 5.2.3.1:
648
- 649 5.2.3.2.1 CAD application knowledge
650 5.2.3.2.2 CAD systems knowledge (servers, CAD, workstations, data management,
651 networking)
652 5.2.3.2.3 End-user business practices
653 5.2.3.2.4 Operational practices and processes
654 5.2.3.2.5 Data communication principles
655 5.2.3.2.6 Historical Agency and service-Agency knowledge
656 5.2.3.2.7 Local computer infrastructure
657 5.2.3.2.8 Programming, scripting, and provisioning
658
- 659 5.2.3.3 Skills
660 The CAD Technician shall possess the following industry-specific skills in order to
661 perform the duties listed in 5.2.3.1:
662
- 663 5.2.3.3.1 Ability to train others on CAD systems
664 5.2.3.3.2 Ability to work with minimal supervision
665 5.2.3.3.3 Communicate technical issues clearly
666 5.2.3.3.4 Data management and reporting
667 5.2.3.3.5 Delegation of duties when applicable
668 5.2.3.3.6 Effective time management
669 5.2.3.3.7 Effective resource management
670

671 **5.2.4 Duties, Knowledge and Skills Specific to the GIS Technician**

672 5.2.4.1 Duties

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

- 676
- 677 5.2.4.1.1 *Manage GIS Data* (Verify data accuracy, assign addresses, digitize and edit
678 geographic features and attributes, manipulate databases, manage data
679 exchange, and identify authoritative resources)
- 680 5.2.4.1.2 *Visually Represent Cartographic Data* (Build public safety maps such as the
681 CAD and MDT/C map, modify feature representations, create print and
682 digital maps, and develop web applications)
- 683 5.2.4.1.3 *Administer Geographic Systems* (Monitor and test system functionality,
684 provide application support, troubleshoot, install software and manage
685 licenses, document procedures, negotiate software contracts, and maintain
686 databases)
- 687 5.2.4.1.4 *Support Decision Making Processes* (Create and run data analysis, generate
688 requested products such as reports and maps, review site plans for
689 accordance with addressing standards, make technological
690 recommendations, participate in the budget and grant process, and support
691 policy development)
- 692 5.2.4.1.5 *Participate in Collaborative Efforts* (Fulfill customer requests, provide subject
693 matter expertise, attend meetings, participate in emergency management
694 exercises and disaster recovery planning, create training guidelines, and
695 provide end user training)
- 696 5.2.4.1.6 *Enhance Professional Development* (Follow industry best practices, attend
697 educational classes and conferences, build a professional network, maintain
698 professional memberships, and obtain certifications)
- 699 5.2.4.1.7 *Automate GIS Processes* (Utilize appropriate programming languages and
700 scripting for data automation)

701 5.2.4.2 Knowledge

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

- 704
- 705 5.2.4.2.1 Cartography and graphic design principles
- 706 5.2.4.2.2 GIS principles
- 707 5.2.4.2.3 GIS software
- 708 5.2.4.2.4 GIS techniques
- 709 5.2.4.2.5 CAD and MDT/C system applications
- 710 5.2.4.2.6 Database administration
- 711 5.2.4.2.7 Addressing standards and the Master Street Address Guide (MSAG)
- 712 5.2.4.2.8 Spatial reference systems/coordinate reference systems
- 713 5.2.4.2.9 Special addresses, such as commonplace names and aliases
- 714 5.2.4.2.10 Emergency Service Zones (ESZs) and Emergency Service Number (ESN) and
715 the role they play in providing accurate response
- 716 5.2.4.2.11 Networking vehicular routing tools

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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

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Tools, Equipment and Technology

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6.1 Tools, Equipment and Technology

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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).

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Public Safety Radio Technician Training Requirements

750 SCOPE

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

754 7.1 Administer Communications System

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

757 7.1.1 Adherence to established policies

758 7.1.1.1 Implement relevant elements of the Agency's Continuity of Operations Plan (COOP)

759 7.1.2 Triage/prioritize system needs

760 7.1.3 Manage system coverage

761 7.1.3.1 Verify and coordinate the analysis of radio system coverage needs

762 7.1.4 Manage network connectivity

763 7.1.5 Manage subscriber equipment

764 7.1.5.1 Maintain radio fleet mapping

765 7.1.5.2 Program equipment

766 7.1.6 Manage encrypted equipment and plans

767 7.1.7 Manage service tickets

768 7.1.8 Implement appropriate technologies

769 7.1.9 Implement Tactical Interoperable Communications Plan (TICP)

770 7.2 Manage System Infrastructure

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

773 7.2.1 Monitor system integrity

774 7.2.1.1 Manage alarms

775 7.2.1.2 Run system diagnostics

776 7.2.1.3 Generate and analyze system reports

- 777 7.2.2 Monitor network connectivity
- 778 7.2.2.1 Monitor network integrity
- 779 7.2.2.2 Resolve connectivity issues
- 780 7.2.2.3 Maintain network equipment
- 781 7.2.3 Maintain subscriber equipment
- 782 7.2.3.1 Perform updates and upgrades
- 783 7.2.3.2 Maintain preventative maintenance program and schedules
- 784 7.2.4 Verify system coverage
- 785 7.2.5 Repair ancillary equipment
- 786 7.2.6 Maintain, service, and install system infrastructure
- 787 7.2.6.1 Perform updates and upgrades
- 788 7.2.6.2 Schedule and conduct preventative maintenance as required
- 789 7.2.6.3 Maintain and test power equipment (generators, Uninterruptible Power Supply (UPS),
- 790 back-up batteries, etc.)
- 791 7.2.6.4 Investigate and coordinate the resolution of interference issues
- 792 7.2.6.5 Maintain alias database, if applicable
- 793 7.2.6.6 Manage site logs
- 794 7.2.6.7 Document maintenance activities
- 795 7.2.6.8 Maintain preventative maintenance program and schedules
- 796 7.2.6.9 Perform and coordinate unscheduled repairs as necessary
- 797 7.2.7 Repair subscriber equipment
- 798 7.2.8 Install subscriber equipment
- 799 7.2.9 Track subscriber and network assets, to include but not limited to:
- 800 7.2.9.1 Subscribers
- 801 7.2.9.2 Microwave radio
- 802 7.2.9.3 Telephone company
- 803 7.2.9.4 Dedicated data circuits
- 804 7.2.9.5 Cabling (copper, fiber, etc.)
- 805 7.2.9.6 Circuit Identification
- 806 7.2.9.7 Satellite
- 807 7.2.9.8 Version level
- 808 7.2.9.9 Spare hardware inventory

809 **7.3 Enhance Professional Development**

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

- 812 7.3.1 Attain system education
- 813 7.3.2 Complete and maintain required certifications

- 814 7.3.3 Continue personal development
- 815 7.3.4 Participate in professional organizations
- 816 7.3.5 Seek networking opportunities

817 **7.4 Establish Work Priorities**

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

- 819 7.4.1 Assess critical systems
- 820 7.4.2 Communicate situational awareness
- 821 7.4.3 Maintain situational awareness
- 822 7.4.4 Establish and execute action plans
- 823 7.4.5 Complete after-action plans
- 824 7.4.6 Pre-plan tactical response

825 **7.5 Maintain Security Measures**

826 The Radio Technician shall maintain security measures to include:

- 827 7.5.1 Review security plans
- 828 7.5.2 Update network security
- 829 7.5.3 Review physical security
- 830 7.5.4 Perform security assessments

831 **7.6 Adhere to Government Regulations**

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

- 833 7.6.1 Maintain Agency licenses that, at a minimum, cover the following areas:
 - 834 7.6.1.1 Ensure that FCC renewals are completed in a timely manner
 - 835 7.6.1.2 Ensure Universal Licensing System (ULS) and FCC Registration Number (FRN) is up-to-
 - 836 date
 - 837 7.6.1.3 Ensure ULS and FRN Agency sign-on credentials are current
 - 838 7.6.1.4 Be familiar with subscription-based third-party vendor process to manage FCC licensing,
 - 839 as applicable
- 840 7.6.2 Ensure regulatory compliance
 - 841 7.6.2.1 Investigate and coordinate the resolution of interference issues
 - 842 7.6.2.2 Respond to government notices
 - 843 7.6.2.3 Respond to notices of complaints
 - 844 7.6.2.4 FAA, OSHA, Department of Homeland Security (DHS), FCC, National Telecommunications
 - 845 and Information Administration (NTIA), NFPA, NEC, Insurance Services Office (ISO)
 - 846 7.6.2.4.1 Radio frequency safety and exposure

- 847 7.6.2.4.2 Job hazard assessment, Hazardous Materials (HAZMATs), Safety Data Sheets
- 848 (SDS), confined-space assessment
- 849 7.6.2.5 Rebanding, frequency planning, narrow banding
- 850 7.6.3 Maintain tower regulatory compliance
- 851 7.6.3.1 FCC antenna site registry, if applicable
- 852 7.6.3.2 Tower and antenna siting determination and notifications
- 853 7.6.3.3 Ensure tower loading level is not exceeded
- 854 7.6.3.4 Maintain proper lighting and painting if required
- 855 7.6.3.5 Report tower light outages and associated fines

856 **7.7 Participate in Collaborative Efforts**

857 The Radio Technician shall collaboratively participate within the Agency where radio expertise is
858 required to:

- 859 7.7.1 Support customer needs
 - 860 7.7.1.1 Provide technical assistance to allied agencies when requested
- 861 7.7.2 Support interoperable communications:
 - 862 7.7.2.1 Administer memoranda of understanding
 - 863 7.7.2.2 Support the public safety response to disasters
 - 864 7.7.2.3 Develop frequency (channel) plans within local region
 - 865 7.7.2.4 Ensure compliance with county, state and federal Interoperability guidelines
- 866 7.7.3 Build customer relationships
- 867 7.7.4 Share system information
- 868 7.7.5 Conduct user training
- 869 7.7.6 Attend designated meetings
- 870 7.7.7 Participate in system planning
- 871 7.7.8 Help other entities
- 872 7.7.9 Participate in the budget process
 - 873 7.7.9.1 Spare parts
 - 874 7.7.9.2 Spare accessories
 - 875 7.7.9.3 Equipment replacement schedule for subscriber and infrastructure equipment
 - 876 7.7.9.4 Site maintenance cost, repairs and upgrades

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Chapter 8

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Public Safety CAD Technician Training Requirements

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884 SCOPE

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

888 8.1 CAD Functionality

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

892 8.1.1 Configuration and provisioning training for the Agency CAD system

893 8.1.2 Software training and implementation of patches, updates, and released versions

894 8.1.3 Policy training on Agency expected support levels

895 8.1.4 Vendor and manufacturer training for Agency interface management with CAD systems

896 8.1.5 Vendor and other training on required databases for CAD management

897 8.1.6 Policy and required maintenance and system back-up schedules

898 8.1.7 Training on all hardware associated with the Agency CAD system and scheduled maintenance
899 schedules

900 8.2 Resolving Technical Issues

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

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

907 8.2.1 Analyze technical issues

908 8.2.2 Research solutions

909 8.2.3 Validate the resolutions

910 8.2.4 Conduct systems testing

911 8.2.5 Implement recommended solutions

912 8.2.6 Review all logs and files

913 **8.3 Maintaining System Security**

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

919 8.3.1 Manage security compliance

920 8.3.2 User access

921 8.3.3 Verify regulatory compliance

922 8.3.4 Audit user activities

923 8.3.5 Maintain awareness of emerging threats

924 **8.4 Administrative Functions**

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

929 8.4.1 Manage CAD technical projects

930 8.4.2 Coordinate internal and external support

931 8.4.3 Manage support and maintenance agreements

932 8.4.4 Participate in change management

933 8.4.5 Develop disaster recovery plans for CAD

934 8.4.6 Support user education

935 8.4.7 Disseminate pertinent notifications

936 8.4.8 Evaluate industry technology

937 8.4.9 Compile systems reports

938 8.4.10 Analyze future needs

939 8.4.11 Complete relevant documentation

940 8.4.12 Participate in the budget process for CAD system needs

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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

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Chapter 9

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Public Safety GIS Technician Training Requirements

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959 SCOPE

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This chapter addresses the training necessary to perform the duties defined for Public Safety GIS Technician.

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Training shall ensure that the GIS Technician can execute all primary and ancillary duties at a proficient level, as established by the Agency.

962

963 9.1 Manage GIS Data

964

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

965

966

9.1.1 Verify data accuracy with QA and quality control (QC) checks

967

9.1.1.1 Conduct field work as needed to verify data

968

9.1.2 Assign or assist in assigning physical and 9-1-1 addresses

969

9.1.2.1 Understand best practices for addressing, such as the 5.28 feet rule

970

9.1.3 Digitize, edit and update geographic features and attributes

971

9.1.4 Utilize topological rules and correct topological errors

972

9.1.5 Create and maintain metadata

973

9.1.6 Design databases for GIS data

974

9.1.6.1 File geodatabases

975

9.1.6.2 Enterprise geodatabases

976

9.1.7 Manipulate database information in systems such as Oracle, structured query language (SQL), or other database management systems

977

978

9.1.8 Manage data exchange

979

9.1.8.1 Acquire data

980

9.1.8.2 Geocode data

981

9.1.8.3 Communicate and/or coordinate data exchange

982

9.1.8.4 Extract, transform, and load (ETL)

983

9.1.9 Identify appropriate data sources

984

9.1.10 Know and understand the different projections and coordinate systems

985

9.1.11 Maintain or assist in maintaining the Automatic Location Identification (ALI) and MSAG database

986

9.1.12 Remain current on national, state and local GIS standards pertaining to:

- 987 9.1.12.1 Mandatory, conditional and optional GIS data for NG9-1-1
- 988 9.1.12.2 NG9-1-1 GIS data model
- 989 9.1.12.3 Data formats for E9-1-1 data exchange
- 990 9.1.12.4 Additional GIS data to support NG9-1-1 operations

991 **9.2 Visually Represent Cartographic Data**

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

- 993 9.2.1 Build public safety system maps, to include but not limited to the CAD map, the 9-1-1 map, and
- 994 the MDT/C map
- 995 9.2.1.1 Compile digital public safety maps
- 996 9.2.1.2 Create print maps and map books for emergency operations
- 997 9.2.2 Modify feature representations used for location verification and emergency response, such as
- 998 street centerlines, addresses, jurisdictional boundaries, and emergency response zones
- 999 9.2.3 Develop web apps and web maps
- 1000 9.2.3.1 Develop graphical user interfaces (GUIs)
- 1001 9.2.4 Publish GIS data updates to CAD, 9-1-1 and MDT/C maps
- 1002 9.2.4.1 Ensure critical deadlines are met

1003 **9.3 Administer Geographic Systems**

1004 The GIS Technician shall be knowledgeable in how to administer GIS to ensure continual and consistent

1005 operations for public safety. This knowledge shall consist of, but not be limited to:

- 1006 9.3.1 Monitor and test system functionality
- 1007 9.3.1.1 Ensure GIS data translates correctly in CAD and MDT/C systems through testing
- 1008 9.3.2 Provide application support including troubleshooting techniques
- 1009 9.3.3 Document system procedures
- 1010 9.3.3.1 Create and maintain workflows
- 1011 9.3.3.2 Establish data collection standards
- 1012 9.3.3.3 Establish mapping standards
- 1013 9.3.4 Manage and install software licenses
- 1014 9.3.5 Negotiate software contracts
- 1015 9.3.6 Perform database maintenance

1016 **9.4 Support Decision Making Processes**

1017 The GIS Technician shall assist the Agency with decision making processes regarding general public

1018 safety as well as use of GIS through, at a minimum, these tasks:

- 1019 9.4.1 Create and run data analysis
- 1020 9.4.2 Generate requested reports, maps and data
- 1021 9.4.3 Review site plans to assist with addressing and street naming standards

- 1022 9.4.4 Make technological recommendations
- 1023 9.4.5 Participate in the budget and grant processes
- 1024 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:

- 1028 9.5.1 Fulfill customer requests
- 1029 9.5.2 Provide subject matter expertise
- 1030 9.5.3 Attend designated meetings
- 1031 9.5.4 Participate in emergency management exercises and disaster recovery planning
- 1032 9.5.5 Provide end user training
- 1033 9.5.6 Create training guidelines
- 1034 9.5.7 Engage other government agencies (i.e. 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:

- 1039 9.6.1 Follow industry best practices
- 1040 9.6.2 Attend educational opportunities such as classes, conferences and webinars
- 1041 9.6.3 Extend professional network
- 1042 9.6.4 Maintain professional organizational memberships
- 1043 9.6.5 Obtain and maintain professional certifications through continuing education
- 1044 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:

- 1049 9.7.1 Utilize appropriate programming languages and scripting for data automation
- 1050 9.7.2 Knowledge of current or new programming and scripting languages

1051

ACRONYMS AND ABBREVIATIONS

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1054 **AC** Alternating Current

1055 **ADA** Americans with Disabilities Act

1056 **AED** Automated External Defibrillator

1057 **AHJ** Authority Having Jurisdiction

1058 **ALI** Automatic Location Identification

1059 **ANS** American National Standards

1060 **ANSI** American National Standards Institute

1061 **APCO** Association of Public-Safety Communications Officials

1062 **BDA** Bi-Directional Amplifier

1063 **CAD** Computer Aided Dispatch

1064 **CALEA** Commission on Accreditation for Law Enforcement Agencies

1065 **CISM** Critical Incident Stress Management

1066 **CJIS** Criminal Justice Information Services

1067 **COOP** Continuity of Operations Plan

1068 **DAS** Distributed Antenna System

1069 **DC** Direct Current

1070 **DHS** Department of Homeland Security

1071 **E9-1-1** Enhanced 9-1-1

1072 **EAP** Employee Assistance Program

1073 **ECC** Emergency Communications Center

1074 **ESN** Emergency Service Number

1075 **ETL** Extract, Transform, and Load

1076 **ESZ** Emergency Service Zone

1077 **FAA** Federal Aviation Administration

1078 **FCC** Federal Communications Commission

1079 **FLSA** Fair Labor Standards Act

1080	FMLA	Family Medical and Leave Act
1081	FRN	FCC Registration Number
1082	GIS	Geographic Information System
1083	GUI	Graphical User Interface
1084	GPS	Global Positioning System
1085	GNSS	Global Navigating Satellite System
1086	HAZMAT	Hazardous Materials
1087	HIPAA	Health Insurance Portability and Accountability Act
1088	HVAC	Basic Heating, Ventilation, and Air Conditioning
1089	ICS	Incident Command System
1090	ISO	Insurance Services Office
1091	MDT/C	Mobile Data Terminal/Computer
1092	MSAG	Master Street Address Guide
1093	NCIC	National Crime Information Center
1094	NEC	National Electric Code
1095	NENA	National Emergency Number Association
1096	NFPA	National Fire Protection Association
1097	NG9-1-1	Next Generation 9-1-1
1098	NIMS	National Incident Management System
1099	NTIA	National Telecommunications and Information Administration
1100	OSHA	Occupational Safety and Health Administration
1101	P25	Project 25
1102	PSAP	Public Safety Answering Point
1103	QA/QI	Quality Assurance/Quality Improvement
1104	QC	Quality Control
1105	RF	Radio Frequency
1106	RMS	Records Management Systems
1107	SDC	Standards Development Committee
1108	SDS	Safety Data Sheets

1109	SQL	Structured Query Language
1110	TICP	Tactical Interoperable Communications Plan
1111	TTY/TDD	Teletypewriters/Telecommunications Device for the Deaf
1112	ULS	Universal Licensing System
1113	UPS	Uninterruptible Power Supply
1114	USNG	United States National Grid

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DEFINITIONS

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1117 This chapter contains definitions of terms and their common acronyms used throughout this document.

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1119 **Agency:** The hiring authority or also referred to as the Authority Having Jurisdiction (AHJ). The Agency or body
1120 that defines the roles, responsibilities, written directives, and performance standards which direct the activity of
1121 the Public Safety Communications Technician. In multi-discipline centers, the Agency governs all operations
1122 providing call taking/dispatch and related services to customer agencies; in single discipline centers, a single
1123 Agency may direct these services for one or more departments within a service area. Both have the duty of
1124 defining the training appropriateness, content, format, and continuing education requirements for the
1125 technicians addressed in this standard.

1126 **Americans with Disabilities Act (ADA):** A Federal law that requires all to provide direct and equal access to
1127 emergency telephone services to individuals with disabilities who use Telecommunications Devices for Deaf
1128 (TTY/TDDs) and other communication services.

1129 **Bi-directional amplifier (BDA):** A single amplifier that repeats from outside sources inside a room or building to
1130 provide coverage reduced by the buildings attenuation factors.

1131 **Calls for Service or Request for Service:** A call that results in the provision of a public safety service or response.

1132 **Computer Aided Dispatch (CAD) System:** A computer-based system that assists PSTs with activities such as call
1133 input, dispatching, call status maintenance, event notes, field unit status and tracking, and call resolution and
1134 disposition.

1135 **Core Competency:** The unique traits, requisite knowledge, comprehension and application of skills, and
1136 situational analysis leading to the appropriate response to the caller, co-worker, other public safety
1137 stakeholders⁵, or event(s) consistent with general practices and locally defined parameters.

1138 **Demographics:** Characteristics and cultural composition of the service area.

1139 **Distributed Antenna System (DAS):** A system of antennas and amplifiers designed to provide coverage to
1140 wireless devices in a building where normal coverage from external sites is weak or non-existent.

1141 **Enhanced 9-1-1 (E9-1-1):** A system that enables the delivery of a caller's phone number and location information
1142 to the PSAP receiving the call.

1143 **Emergency Communications Center (ECC):** A facility with capabilities that include intelligence collection and
1144 monitoring, 9-1-1 multimedia traffic processing, full scale dispatch, and incident command capabilities.

1145 **Fair Labor Standards Act (FLSA):** A Federal law, sometimes called the overtime law, that ensures that wages are
1146 paid for all hours worked and that all overtime hours, overtime pay and collected unpaid overtime due is paid to
1147 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

1148 **FCC Registration Number (FRN):** A user ID number assigned by the FCC to apply for and maintain licenses.
1149 Mandatory for users to have an FRN to apply for and maintain FCC licenses.

1150 **Geographic Information System (GIS):** A system designed to capture, store, manipulate, analyze, manage and
1151 display all kinds of spatial or geographical data.⁷

1152 **Incident Command System (ICS):** A standardized on-scene incident management concept designed specifically
1153 to allow responders to adopt an integrated organizational structure equal to the complexity and demands of any
1154 single incident or multiple incidents without being hindered by jurisdictional boundaries.

1155 **Knowledge:** Fundamental understanding one must have in order to perform a specific task.

1156 **Liability:** The condition of being actually or potentially subject to an obligation; condition of being responsible
1157 for a possible, or actual loss, penalty, evil expense or burden; condition which creates a duty to perform an act
1158 immediately or in the future⁸. Types of liability may include:

1159 **Negligence:** “Failure to use such care as a reasonably prudent and careful person would use under
1160 similar circumstances; it is the doing of some act which a person of ordinary prudence *would not have*
1161 *done* or the failure to do something a person of ordinary prudence *would have* done under similar
1162 circumstances.”⁹

1163 **Negligent Assignment:** Assigning someone to a task or job for which they are not skilled or trained. For
1164 example, assigning someone to the position of Radio Technician who has not been properly trained or
1165 allowing an employee to perform a function for which they are not qualified.

1166 **Negligent Entrustment:** Failure to control dangerous equipment or devices entrusted to an employee or
1167 allowing an employee to use a piece of equipment for which they have not been trained.

1168 **Negligent Retention:** Failure to terminate an employee who is clearly unsuitable for the job.

1169 **Negligent Supervision:** Failure to coordinate, control, or direct trainee conduct that may cause injury.
1170 This can include failure to use reasonable care in addressing and documenting misconduct.

1171 **Negligent Training:** Failure to train “resulting in a deprivation of constitutional rights that was
1172 ‘substantially certain to result.’”¹⁰

1173 **Vicarious Liability:** A legal doctrine referring to the imposition of liability on one person for the
1174 actionable conduct of another based solely on a relationship between the two persons¹¹. For example,
1175 the liability of an employer for the acts of an employee.

1176 **Master Street Address Guide (MSAG):** A database of street names and house number ranges within their
1177 associated communities defining Emergency Service Zones and their associated ESNs to enable proper routing of
1178 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

1179 **Mobile Data Terminal/Computer (MDT/C):** A computerized device used in emergency vehicles, such as police
1180 cars to communicate with a PSAP. They are also used to display mapping and information relevant to the tasks
1181 and actions performed by the vehicle such as CAD drawings, diagrams, and safety information.

1182 **National Incident Management System (NIMS):** A systematic, proactive approach to guide departments and
1183 agencies at all levels of government and the private sector to work together seamlessly and manage incidents
1184 involving all threats and hazards – regardless of cause, size, location, or complexity – in order to reduce loss of
1185 life, property, and harm to the environment.

1186 **Next Generation 9-1-1 (NG9-1-1):** An interoperable, secure, Internet Protocol-based system that:
1187 (A) Employs commonly accepted standards;
1188 (B) Enables the appropriate emergency communications centers to receive, process, and analyze all
1189 types of 9-1-1 requests for emergency assistance;
1190 (C) Acquires and integrates additional information useful to handling 9-1-1 requests for emergency
1191 assistance; and
1192 (D) Supports sharing information related to 9-1-1 requests for emergency response providers.

1193 **Project 25 (P25):** Project 25 is also referred to as the TIA-102 series of standards for land mobile radio
1194 communications. These American National Standards are developed by the Telecommunications Industry
1195 Association (TIA), a member of the American National Standards Institute (ANSI) and an ANSI-Accredited
1196 Standards Developer. The standards are sponsored by the Association of Public-Safety Officials International
1197 (APCO), the National Association of State Telecommunications Directors (NASTD), and agencies of the federal
1198 government.

1199 **Public Safety Answering Point (PSAP):** A facility equipped and staffed to receive emergency and non-emergency
1200 public safety calls for service via telephone and other communications devices. Emergency calls for service are
1201 answered, assessed, classified, and prioritized. PSAP is now a deprecated term and has been superseded by
1202 ECC. See ECC.

1203 **Public Safety Communications Center:** A public safety entity (which may include a PSAP or be referred to as an
1204 ECC or communications center) where emergency calls for service or 9-1-1 phone calls culminate, and/or where
1205 calls for service are dispatched to public safety service providers.

1206 **Public Safety Communications Supervisor:** The individual employed by a Public Safety Communications Center
1207 to provide leadership and guidance to employees in order to achieve the Agency’s mission, values, and vision.

1208 **Public Safety Computer Aided Dispatch Technician:** Personnel responsible for the over-all configuration and
1209 operability of a CAD System. Also titled a CAD Administrator, this individual(s) is/are public safety
1210 professional(s) who manage and maintain the CAD System, its applications, interfaces, and related technologies
1211 through the continuous analysis and coordination of resources to support the mission of an ECC and its partner
1212 agencies.

1213 **Public Safety Geographic Information System Technician:** One who is responsible for developing, managing,
1214 maintaining, and analyzing geographic information systems for emergency services by using mapping software
1215 applications, hardware equipment, knowledge, and skills to best promote the safety and security to the public
1216 and first responders.

1217 **Public Safety Radio Technician:** One who is responsible for planning, monitoring, maintaining, managing, and/or
1218 installing radio systems and associated equipment to ensure continuity of mission critical systems.

1219 **Public Safety Telecommunicator (PST):** The individual employed by a public safety Agency as the first of the first
1220 responders whose primary responsibility is to receive, process, transmit, and/or dispatch emergency and non-
1221 emergency calls for law enforcement, fire, emergency medical, and other public safety services via telephone,
1222 radio, and other communication devices.

1223 **Quality Assurance/Quality Improvement (QA/QI):** Actions taken to ensure that standards and procedures are
1224 adhered to and that delivered products or services meet performance requirements.

1225 **Records Management System (RMS):** A system that provides for the storage, retrieval, retention, manipulation,
1226 archiving, and viewing of information, records, documents, or files.

1227 **Shall:** Within the context of this standard, “shall” indicates a mandatory requirement.

1228 **Should:** Within the context of this standard, “should” indicates a recommendation.

1229 **Trainee:** A public safety communications employee (new or veteran) being trained in any one of the programs
1230 under the direction of the Supervisor.

1231 **Universal Licensing System (ULS):** The FCCs online licensing system for applying for and making modifications to
1232 applications and licenses.

1233 **Written Directives:** A set of Agency specific policies, procedures, rules, regulations, and guidelines.

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1243

Robbie McCormick, BAS, MSE, CPE
Tarrant County 9-1-1 District (TC 9-1-1)
Fort Worth, TX

Brian Butler
Motorola Solutions Inc.
Cleveland, NY

Rhonda Perozzo, GISP
South Sound 9-1-1
Tacoma, WA

Robert Horne, ENP
Mission Critical Partners, Inc.
Port Matilda, PA

Ken Shearen (retired)
South Bay Regional Public Communications Authority
Hawthorne, CA

Jay Thompson
Hendricks County Communications Advisory Board
Danville, IN

Eddie Burchell
Tennessee Emergency Communications Board
Nashville, TN

Travis Trevino
Tarrant County 9-1-1 District (TC 9-1-1)
Fort Worth, TX

Shinar Haynes, MBA, CPE, RPL
Tarrant County 9-1-1 District (TC 9-1-1)
Fort Worth, TX

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APCO International
351 N. Williamson Blvd.
Daytona Beach, FL 32114

www.apcop43.org