Emergency Communications Center (ECC) Service Capability Criteria Rating Scale

TABLE OF CONTENTS

FOREWORD

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EXECUTIVE SUMMARY

Association of Public Safety Communications Officials (APCO) and National Emergency Number Association (NENA) jointly developed this document originally in 2008 to assist Emergency Communications Centers (ECC) Managers and their Governing Authorities to identify their current level of service capability. A self-evaluation assessment tool is provided to facilitate an objective review of the current capabilities of the ECC against models representing the best level of preparedness, survivability and sustainability amidst a wide range of natural and man-made events.

The assessment tool is also intended to provide the basis for discussion with funding bodies (Federal, State, County, Municipal, etc.) concerning the ECC status in regard to their current technological position, and readiness or effectiveness to survive certain risks associated with local vulnerabilities.

Using the assessment tool, ECC Managers and Administrators will have the ability to assess the validity and completeness of the public safety communications portion of agency "Continuity of Operations Plans (COOP)" against objective criteria. This evaluation is necessary to demonstrate a meaningful effort to anticipate and be prepared for sustained emergency communications services amidst disaster.

ECC Managers and Administrators also have the opportunity to identify ECC capabilities that are desired, yet missing, or less than fully developed. This identification effort provides both practitioners and public policy executives with an implementation path that has clear logic. Priorities may be assigned to close the gaps in service capability that are documented during the assessment.

NOTE: If an ECC deems any given item, or portion of any item to not be applicable to their circumstances, they will be expected to document their position, or failure to meet at least the "Standard" criteria should be listed as non-compliance.

This Rating Scale may also be adapted for use as a "self-evaluation" tool, or as a tool that is utilized by a qualified outside organization on behalf of the ECC or the Authority Having Jurisdiction (AHJ), such as an APCO or NENA program to conduct such evaluations for the ECCs in a neutral environment, or any qualified entity chosen by the ECC. This scale is intended to be applicable for Primary, Secondary and back-up ECCs. The rating for each individual ECC should be at the discretion of the AHJ. The AHJ should take into consideration the mission of the ECC in their determination. Each identified ECC should be rated separately.

The initial focus of the ECC Service Capability Rating Scale was in the area of ECC Survivability. When developing the evaluation matrix, a number of items were identified as being essential when considering ECC survivability; other items were identified relating to day-to-day operations and anticipated future items. The original issue of this document [2008] provided the Survivability items. The 1st revision [2010] included Day-to-Day items. This revision [2017] updates some content for relevance based on lessons learned and incorporates applicability to an NG9-1-1 environment.".

The APCO-NENA ECC Service Capability Rating Scale Working Group, as part of its follow up effort in 2017 to create this standard, reviewed the National Preparedness Guidelines (The Guidelines) and Target Capabilities List (TCL) [19] which serve to establish the emergency communications system's all-hazards framework. The TCL supports an approach that builds interchangeable, flexible capabilities needed to address a broad range of incidents to include terrorist attacks, natural disasters, health emergencies, and other major incidents. It currently identifies 37 capabilities which include a definition of the required capability; outcome; preparedness and performance activities, tasks, and measures.

The capabilities assume that local jurisdictions have an operational level of capabilities to address most routine emergencies and disasters. For example, the TCL does not address capabilities for routine firefighting or law enforcement services, or seasonal flooding. Instead, the TCL addresses capabilities-based preparedness to prevent, protect against, respond to, and recover from terrorism, very large-scale disasters, pandemic health

emergencies, or other major incidents. Establishing plans, procedures, systems, interagency relationships, training and exercise programs, and mutual aid agreements required for major events will enhance performance for all hazard response.

The capabilities assume that local jurisdictions have an operational level of capabilities to address most routine emergencies and disasters. For example, the TCL does not address capabilities for routine firefighting or law enforcement services, or seasonal flooding. Instead, the TCL addresses capabilities-based preparedness to prevent, protect against, respond to, and recover from terrorism, very large-scale disasters, pandemic health emergencies, or other major incidents. Establishing plans, procedures, systems, interagency relationships, training and exercise programs, and mutual aid agreements required for major events will enhance performance for all hazard response.

Other resources reviewed for this document include the ANSI/APCO Public Safety Grade Site Hardening Requirements, which is intended to assist public safety communications network builders with the guidelines necessary to build hardened public safety grade networks by creating standards for wireless system electronics and wireless passive components.

APCO Broadband Implications for the PSAP, A Project 43™ Initiative (2017) was referenced for its work to assist the public safety community better leverage existing technology capabilities and prepare for the evolving broadband communications technologies that will impact ECC operations and improve support to field responders. While capabilities of ECCs are changing rapidly due to new technologies, ECC Directors and managers should familiarize themselves with this document for future considerations.

The term Public Safety Answering Point (PSAP) has been changed to Emergency Communications Center (ECC), and “Dispatcher” has been updated to “Public Safety Telecommunicator (PST)”.

The terms E9-1-1 and NG9-1-1 are reduced to the generic 9-1-1 except where a specific use of “E” versus “NG” is necessary for clarity.

Chapter One

INTRODUCTION

1.1 Purpose and Scope of Document

APCO and NENA jointly developed this document originally in 2008 to assist ECC Managers and their governing authorities to identify their current level of service capability. An assessment tool is provided to facilitate an objective review of the current capabilities of the ECC against models representing the best level of preparedness, survivability and sustainability amidst a wide range of natural and man-made events. The self-evaluation assessment tool is also intended to provide the basis for discussion with funding bodies (Federal, State, County, Municipal, etc.) concerning the ECC status in regard to their current technological position, and readiness or effectiveness to survive certain risks associated with local vulnerabilities.

The scope covers E9-1-1 and NG9-1-1 environments. Some items are common to either environment, and some are specific to “E” or “NG” 9-1-1 technology.

1.2 Reason to Implement

ECC Managers and Administrators will have the ability to assess the validity and completeness of the public safety communications portion of agency “COOP” Plan against objective criteria. This evaluation is necessary to demonstrate a meaningful effort to anticipate and be prepared for sustained emergency communications services amidst disaster.

ECC Managers and Administrators also have the opportunity to identify ECC capabilities that are desired, yet missing, or less than fully developed. This provides both practitioners and public policy executives with an implementation path that has clear logic. Priorities may be assigned to close the gaps in service capability that are documented during the assessment.

This tool may also be adapted for use as a “self-evaluation” tool, or as a tool that is utilized by a qualified outside organization on behalf of the ECC or the AHJ, such as an APCO or NENA program to conduct such evaluations for the ECCs in a neutral environment, or any qualified entity chosen by the ECC.

1.3 Document Terminology

The terms "shall” is used throughout this document to indicate required parameters and to differentiate from those parameters that are recommendations. The term “should” is used throughout this document to identify recommendations.

1.4 Reason to Reissue

APCO reserves the right to modify this document in accordance with the APCO ANS process. Upon revision, the reason(s) will be provided in the table below:

Version	Approval Date	Reason for Changes
Original	11/03/2008	Initial American National Standard
2	07/28/2010	Reissued to allow for the addition of "Day to Day" operations service capability criteria items and to provide updates to existing "Survivability" items, based upon lessons learned in the field since the original publication.
3	TBD	Reissued to update content for relevance, and to incorporate applicability to an NG9-1-1 environment.

1.5 Cost Factors

Conducting a capabilities assessment inherently includes costs associated with the personnel who spend time collecting and analyzing the performance data. The expenses will vary based upon the individual needs of the ECC. Any changes that an ECC or AHJ may choose to make to improve their level of performance will of course carry applicable costs. The cost benefit analysis shall be made by each ECC/AHJ. Conducting a capabilities assessment may mitigate the cost of recovery associated with a critical event.

Chapter Two

ECC Service Capability Criteria Rating Scale for E9-1-1 and NG9-1-1 Environments

2.1 Overview

The initial focus of the ECC Service Capability Rating Scale is ECC Survivability. When developing the evaluation matrix, a number of items were identified as being essential when considering ECC survivability (categorized as "S"), with other items relating to day-to-day operations ("D") items. The original document provided the Survivability items. This revision includes Day-to-Day items and makes changes to some of the original survivability items.

For each item, an example of a specific level of service is defined, either as "Standard", which reflects the minimum criteria for ECCs in the category; "Advanced", which represents a higher level of service; or "Superior", which represents the best example of service within the item.

Each graduated rating assumes compliance with the prior level.

The APCO-NENA ECC Service Capability Rating Scale Working Group, as part of its follow up effort in 2009 to create this standard, reviewed the National Preparedness Guidelines (The Guidelines) and Target Capabilities List (TCL) [19] which serve to establish the emergency communications system's all-hazards framework. The TCL supports an approach that builds interchangeable, flexible capabilities needed to address a broad range of incidents to include: terrorist attacks, natural disasters, health emergencies, and other major incidents. It currently identifies capabilities which include a definition of the required capability; outcome; preparedness and performance activities, tasks, and measures.[1]

The capabilities assume that local jurisdictions have an operational level of capabilities to address most routine emergencies and disasters. For example, the TCL does not address capabilities for routine firefighting or law enforcement services, or seasonal flooding. Instead, the TCL addresses capabilities-based preparedness to prevent, protect against, respond to, and recover from terrorism, very large-scale disasters, pandemic health emergencies, or other major incidents. Establishing plans, procedures, systems, interagency relationships, training and exercise programs, and mutual aid agreements required for major events will enhance performance for all hazard response.

[1] www.fema.gov/media-library/assets/documents/29225

The following table is provided to demonstrate a high-level comparison of E9-1-1 to NG9-1-1:

E9-1-1	vs G9-1-1
Complex analog trunking and data network	Engineered, managed IP networks (ESInet)
Class 5 switch for Selective Router	IP software selective routing function
Translation based control	GIS and database controls
Limited to voice calls	Voice, text, video
Data bandwidth 20 char (digits)	Bandwidth unlimited
Complex Emergency Gateway Network for VoIP	Direct handling of Internet sourced calls
Custom interfaces for each service type	Standard IP interface for all service types

2.2 Survivability Category Items

IMPORTANT: The following items have been identified as necessary for ECC Survivability, and therefore fall into the "S" category. See the "S" Items Matrix for a shorthand view of each item. The Matrix may be used as a checklist/scorecard while conducting the review, but the details are shown in this section.

2.2.1 Receipt of E9-1-1 calls using static ALI functionality, or Receipt of NG9-1-1 calls with ALI equivalent functionality. [S1]

2.2.1.1 Standard Criteria in E9-1-1

The ECC has Call Handling Functional Equipment to enable the receipt of "Enhanced 9-1-1" calls with associated data [call back number (CBN) & caller location information] from callers in the ECC's jurisdiction. This includes traditional wireline, static Voice over Internet Protocol (VoIP), and wireless Phase I types of calls. The ECC is also Phase I wireless capable for at least one Wireless Service Provider (WSP) in the jurisdiction or has made a valid formal request for Phase I wireless service with the WSPs doing business in their jurisdiction.

2.2.1.2 Advanced Criteria in E9-1-1

ANI (Automatic Number Identification) and ALI (Automatic Location Information) data is interfaced to CAD (Computer-Aided Dispatch) and electronic mapping. ANI is 10-digits from the Selective Router (SR); full Number Plan Area (NPA) code is used - not a Number Plan Digit (NPD).

2.2.1.3 Superior Criteria in E9-1-1

The ECC is using a Geographic Information System (GIS) mapping tool for the graphical display of location information to the PST.

2.2.1.4 Standard Criteria in NG9-1-1

The ECC has Call Handling equipment or functionality to enable the receipt of "NG9-1-1" calls with associated data [call back number (CBN) & caller location information] from callers in the ECC's jurisdiction. This includes traditional wireline, static Voice over Internet Protocol (VoIP), and wireless Phase I types of calls. The ECC is also Phase I wireless capable for at least one Wireless Service Provider (WSP) in the jurisdiction or has made a valid formal request for Phase I wireless service with the WSPs doing business in their jurisdiction.

2.2.1.5 Advanced Criteria in NG9-1-1

ANI (Automatic Number Identification) and ALI (Automatic Location Information) 'equivalent' data is interfaced to CAD (Computer-Aided Dispatch) and electronic mapping.

2.2.1.6 Superior Criteria in NG9-1-1

The ECC is using a Geographic Information System (GIS) mapping tool for the graphical display of location information to the PST.

2.2.2 Receipt of E9-1-1 calls using dynamic ALI functionality, or Receipt of NG9-1-1 calls with dynamic ALI equivalent functionality. [S2]

References: [04] Federal Communications Commission (FCC) (1996). Fourth Report and Order Wireless E911 Location Accuracy Requirements PS Docket Number 07-114, FCC 15-9, Adopted January 29, 2015, Released February 3, 2015

Related CSRIC Best Practices: 9-9-3218

2.2.2.1 Standard Criteria in E9-1-1

The ECC has CPE to enable the receipt of "Enhanced 9-1-1" calls with associated data via dynamic ALI 1updates (CBN & caller location information). This includes nomadic

VoIP[2] of calls and wireless Phase 2 types. The ECC is also Phase 2 wireless capable[3], for at least one WSP in the jurisdiction, or has made a valid formal request for Phase 2 wireless service with the WSPs doing business in their jurisdiction.

2.2.2.2 Advanced Criteria in E9-1-1

Capable of receiving the 10-digit CBN via the SR, or within the call-path, and graphically displays the caller's estimated location via GIS (as opposed to a cell sector location).

2.2.2.3 Superior Criteria in E9-1-1

Providing wireless Phase 2 service for all carriers serving the jurisdiction.

2.2.2.4 Standard Criteria in NG9-1-1

The ECC has Call Handling equipment or functionality to enable the receipt of "NG9-1-1" calls with associated data that is equivalent to dynamically updated data in an E9-1-1 environment (CBN & caller location information). This includes nomadic VoIP and wireless Phase 2 types of calls. The NG9-1-1 ECC is also Phase 2 wireless capable for at least one Wireless Service Provider (WSP) in the jurisdiction or has made a valid formal request for Phase 2 wireless service with the WSPs doing business in their jurisdiction.

2.2.2.5 Advanced Criteria in NG9-1-1

Capable of receiving the 10-digit CBN within the NG9-1-1 callpath, and graphically displays the caller's estimated location via GIS (as opposed to a cell sector location).

2.2.2.6 Superior Criteria in NG9-1-1

Providing wireless Phase 2 service for all carriers serving the jurisdiction.

2.2.3 Computer Aided Dispatch (CAD) in E9-1-1 or NG9-1-1. [S3]

2.2.3.1 Standard Criteria

The ECC provides their PSTs with software to assist in initiating calls for service, dispatching, and maintaining the status of responding resources in the field.

2.2.3.2 Advanced Criteria

[2]A nomadic VoIP call is one that is generated by a VoIP user other than their originally provisioned fixed location using the terminal equipment from that location [i.e., VoIP handset, laptop, VoIP terminal, Personal Computer (PC)].

[3]Wireless capability can be achieved by either being Phase 1 or 2 capable, or by having written agreements with some other ECC to receive such calls and has written documentation supporting this arrangement. This could be the case where an ECC does not receive enough wireless calls to justify the costs associated with being Phase 1 or 2 capable, so they have another ECC answering calls for them.

ECC provides additional software which provides capability to process information associated with incoming calls, including the maps display of the caller's reported location. ECC has the ability to access historical information from management system.

2.2.3.3 Superior Criteria

ECC has capability to transmit call information directly to responders, alternate ECCs, etc. ECC has the ability to provide data and interoperability electronically with other agencies and communications centers.

2.2.4 GIS Mapping Tool in E9-1-1 or NG9-1-1. [S4]

2.2.4.1 Standard Criteria

The ECC has the ability to automatically accept, display and plot caller location data on an electronic map display. Any application that allows the ECC to automatically accept, display and plot caller location data on an electronic map display is acceptable. Address points and street layers are updated at least quarterly.

2.2.4.2 Advanced Criteria

Electronic map displays the location of current 9-1-1 calls and other resources. Address points and street layers are updated at least monthly, and software upgrades are provided on a regular basis.

2.2.4.3 Superior Criteria

The ECC has a fully integrated GIS management system that supports 9-1-1 call routing [Master Street Address Guide (MSAG) management], CAD, as well as call handling. GIS system used by the ECC is fully supported by the AHJ and provides multiple layers for call taker reference. Address points, street layers, and any other layers that may have changed are updated at least weekly.

The ECC has the ability to provide data and interoperability electronically with other agencies and communications centers, i.e.: video, pictures, mapping tools, etc.

2.2.5 Access to the Public Switched Telephone Network (PSTN) in E9-1-1 or NG9-1-1. [S5]

NOTE: The public switched telephone network (PSTN) is the aggregate of the world's circuit-switched telephone networks that are operated by national, regional, or local telephone operators, providing infrastructure and services for public telecommunication.

2.2.5.1 Standard Criteria

The ECC has access to PSTN through typical local service provisioning.

2.2.5.2 Advanced Criteria

The ECC has PSTN connectivity from physically diverse redundant network facilities (these may or may not be provided by the same network provider).

2.2.5.3 Superior Criteria

ECC also has PSTN connectivity incorporated into their Mobile Command Units or Alternate ECC locations.

2.2.6 Americans with Disabilities Act (ADA) Compliance in E9-1-1 or NG9-1-1. [S6]

References: [01], [29]

2.2.6.1 Standard Criteria

Telecommunications Devise for the Deaf (TDD)/Teletypewriter (TTY) and special needs community access available at each ECC position; semiannual training provided, and equipment is tested as required by the ADA and Department of Justice (DOJ) requirements.

2.2.6.2 Advanced Criteria

TDD/TTY is integrated into the Computer Telephone Integration (CTI), and a documented public outreach program is in place to promote awareness.

2.2.6.3 Superior Criteria

The ECC conducts regular routine testing with the aid of actual end-user callers, or by using the TTY- PASS (Performance Assessment and Scoring System) program or equivalent, which places TTY calls to ECCs on a regular routine basis, scheduled to reach as many PSTs as practical.

2.2.7 Emergency Communications Plans are in Place for Risks Associated with Local Vulnerabilities in E9-1-1 or NG9-1-1. [S7]

Reference: [11]

2.2.7.1 Standard Criteria

These plans should provide at least basic levels of service (as defined by the AHJ) for up to three days until more permanent changes or repairs can be made. ECCs should determine, or have knowledge of, all hazards identified during a threat assessment, with special attention given to “at risk” events. For example, an ECC in a hurricane-prone area should have comprehensive emergency communications plans that assure survivability and sustainability of at least basic levels of service in the event of a hurricane. All ECCs risk disruption of service caused by natural and man-made events.

This criterion could be met by establishing mutual aid agreements with neighboring ECCs to receive and handle calls during this time.

This item also supports agency COOPs. (See also Homeland Security Presidential Directive[4] [02] & NFPA 54) [09]

(Related Best Practice: CSRIC BP 9-9-3211)

Emergency Communications Plans as used herein broadly includes both the specific ECC operational responses to defined events which threaten the mission critical functionality of the ECC as well as the overall survivability of public safety communications services amidst disaster. Such plans should provide clarification and support for staff action through appropriate Standard Operating Procedures.

(SOPs). These plans are usually focused on a particular type of service interruption or potential long-term disruption.

2.2.7.2 Advanced Criteria

Has the ability to survive risks associated with local vulnerabilities and provide routine levels of service for moderately longer periods of time, such as four to seven days, before needing to hand-off all call receipt and handling responsibilities to some other ECC.

2.2.7.3 Superior Criteria

Has the ability to survive risks associated with local vulnerabilities and sustain routine and surge capacity levels of service for extended periods of time, such as could be needed to effect repairs to the ECC and supporting infrastructure.

2.2.8 Coordination of Emergency Communication Plans and Collaboration with All Necessary Partners in E9-1-1 or NG9-1-1. [S8]

Related CSRIC Best Practices: 9-9-0577, 9-9-0579, 9-9-0599, 9-9-1011, and 9-9-1037 (other CSRIC Best Practices apply too [16])

2.2.8.1 Standard Criteria

Such plans should be developed in collaboration with all partners [i.e. ECC Operations, Enhanced 9-1-1 (E9-1-1) System Service Provider, AHJ (a.k.a. 9-1-1 Governing Authority), associated Public Utilities, and other applicable entities]. All entities should have a copy of their applicable section(s).

[4] Section 23 of the Homeland Security Presidential Directive provides that the Secretary, in conjunction with other Federal Departments and agencies, State and local governments, and non-governmental organizations, shall develop a comprehensive plan to provide accurate and timely information to public citizens, first responders, units of government, the private sector, and other interested parties and mechanisms for coordination at all levels of government.

2.2.8.2 Advanced Criteria

Have regular scheduled meetings to ensure that all partners share current expectations and make necessary revisions.

2.2.8.3 Superior Criteria

Tests the plans through exercises at predetermined intervals with all partners to ensure they will result in the desired outcomes.

2.2.9 Schedule and Conduct Drills to Exercise Emergency Communication Plans in E9-1-1 or NG9-1-1. [S9]

Related CSRIC Best Practices: 9-9-0579

2.2.9.1 Standard Criteria

A drill and exercise program are in place to evaluate contingency/continuity of operations plans. Each plan or planning item should be exercised at least annually. An after action and correction process is in place to evaluate and improve the planning process. All three of these specific goals (1. Plan in place, 2. Plan exercised, 3. After action report and correction process) shall be met in order to meet this Standard level of performance for item S9.

2.2.9.2 Advanced Criteria

Drills and exercises are scheduled to assure all appropriate staff and support agencies/personnel have the opportunity to practice contingency/continuity of operations plans at least twice a year (e.g. an ECC with four shifts will perform all annual drills/exercises at least two times.)

2.2.9.3 Superior Criteria

Drills and exercises are held quarterly including after hours to evaluate contingency/continuity of operations plans in worst case scenarios. (The intention of the quarterly drills and exercises is to give ECC staff an opportunity to deal with various types of simulated ECC incidents and demonstrate knowledge of and capability to activate the appropriate response plans. It is expected that all such drills will be immediately preceded with a notice making it clear that it is a drill, such as: "This is a drill" and again at the conclusion of the drill.)

2.2.10 Trunking/Transport Path Management in E9-1-1 or NG9-1-1. [S10a – S10d]

2.2.10.1 Diversity [S10a]

Related CSRIC Best Practices: 11-9-9569, 11-9-0579, 11-9-0566, 11-9-0570, 9-11-0580, and 11-7-3210.

2.2.10.1.1 Standard Criteria: Diversity in E9-1-1

Trunking diversity and redundancy shall be included in ECC's operational/design documents. Minimum level of diversity for the E9-1-1 transport path is from the SR to the Local Serving Office (LSO) (including trunks/lines, supporting hardware and electronics). These items shall be audited on an annual basis.

Clarification note: The E9-1-1 System Service Provider is responsible for doing the annual audits. In order to meet the Standard level criteria for this item, the ECC/AHJ is only responsible for ensuring those audits are conducted.

2.2.10.1.2 Advanced Criteria: Diversity in E9-1-1

Has local loop diversity from the LSO to the ECC where economically feasible. The total number of trunks or lines shall be diverse including those entering and within the ECC.

Example: if the ECC requires ten trunks or lines to attain a P.01 Grade of Service (GoS), local loop diversity would be achieved by having five in one transport path and five in another. (Audited on an annual basis.)

Clarification note: The audit of the local loop between the LSO and the ECC location can only be performed by the provider of the local loop (the copper/fiber paths). The ECC/AHJ is only responsible for ensuring those audits are conducted. However, the ECC/AHJ is responsible for ensuring those audits are completed on the portion of the paths that are under its control, such as after they enter the building.

2.2.10.1.3 Superior Criteria: Diversity in E9-1-1

Has full redundancy as well as at least one level of diversity.

Example: if the ECC requires ten trunks or lines to attain a P.01 GoS, fully redundant local loop diversity would be achieved by having ten in each diverse transport path. (Audited on an annual basis.)

Clarification note: The audit of the local loop between the LSO and the ECC location can only be performed by the provider of the local loop (the copper/fiber paths). The ECC/AHJ is only responsible for ensuring those audits are conducted. However, the ECC/AHJ is responsible for ensuring those audits are completed on the portion of the paths that are under its control, such as after they enter the building.

2.2.10.1.4 Standard Criteria: Diversity in NG9-1-1

Trunking diversity and redundancy of the broadband paths shall be included in ECC's operational/design documents. Minimum level of diversity for the NG9-1-1 transport path is from the ESInet (cloud) to the Local Serving Office (LSO) that serves the ECC location. This includes the transport pipes, supporting hardware and associated electronics. This does not include the local loop between the LSO and the ECC location. These items shall be audited on an annual basis to ensure compliance.

Clarification note: The ESInet Provider is responsible for doing the annual audits. In order to meet the Standard level criteria for this item, the ECC/AHJ is only responsible for ensuring those audits are conducted.

2.2.10.1.5 Advanced Criteria: Diversity in NG9-1-1

The broadband pipes have local loop diversity from the LSO to the ECC where economically feasible. The total number of pipes shall be diverse including those entering and within the ECC. Example: if the ECC requires broadband pipes to attain the equivalent of a P.01 Grade of Service (GoS), local loop diversity would be achieved by having five pipes in one transport path and five in another. This is to be audited on an annual basis.

Clarification note: The audit of the local loop between the LSO and the ECC location can only be performed by the provider of the local loop (the copper/fiber paths). The ECC/AHJ is only responsible for ensuring those audits are conducted. However, the ECC/AHJ is responsible for performing those audits on the portion of the paths that are under its control, such as after they enter the building.

2.2.10.1.6 Superior Criteria: Diversity in NG9-1-1

The broadband pipes have full redundancy as well as at least one level of diversity.

Example: if the ECC requires ten broadband pipes to attain the equivalent of a P.01 GoS, fully redundant local loop diversity would be achieved by having ten in each diverse transport path. This is to be audited on an annual basis.

Clarification note: The audit of the local loop between the LSO and the ECC location can only be performed by the provider of the local loop (the copper/fiber paths). The ECC/AHJ is only responsible for ensuring those audits are conducted. However, the ECC/AHJ is responsible for

performing those audits on the portion of the paths that are under its control, such as after they enter the building.

2.2.10.2 Status Monitoring of the Network Elements. [S10b]

Related CSRIC Best Practices: 9-9-0574.

2.2.10.2.1 Standard Criteria for Monitoring Network Elements in E9-1-1

Network paths are monitored and alarmed 24x7 by the network element providers.

To clarify: the 9-1-1 System Service Provider(s) is responsible for doing the 24x7 monitoring and alarming of the transport paths, but the ECC is responsible to ensure the 9-1-1 System Service Provider(s) is aware of that requirement, and should have some type of documentation showing they have discussed it with their provider (acknowledgement letter from the provider(s), Public Service Commission (PSC) ruling, tariff or contract language covering monitoring and alarming). To further clarify, the Advanced & Superior criteria for S11b may be dependent upon the 9-1-1 System Service Provider's capabilities, and beyond the reach of the ECC/AHJ.

2.2.10.2.2 Advanced Criteria for Monitoring Network Elements in E9-1-1

Monitoring capabilities include some level of remote diagnostics via the network element providers.

2.2.10.2.3 Superior Criteria for Monitoring Network Elements in E9-1-1

Monitoring capabilities include some level of remote repair functions via the network element providers. ECC has real-time access to the monitoring being done by the network element providers.

2.2.10.2.4 Standard Criteria for Monitoring Network Elements in NG9-1-1

Network paths are monitored and alarmed 24x7 by the network element providers.

To clarify: the NG9-1-1 System Service Provider(s) is responsible for doing the 24x7 monitoring and alarming of the transport paths, but the ECC is responsible to ensure the NG9-1-1 System Service Provider(s) is aware of that requirement, and should have some type of documentation showing they have discussed it with their provider(s) (acknowledgement letter from the provider(s), Public Service Commission (PSC) ruling, tariff or contract language covering monitoring and alarming). To further clarify, the Advanced & Superior criteria for this item may be dependent upon the

NG9-1-1 System Service Provider's capabilities, and beyond the reach of the ECC/AHJ.

2.2.10.2.5 Advanced Criteria for Monitoring Network Elements in NG9-1-1

Monitoring capabilities include some level of remote diagnostics via the network element providers.

2.2.10.2.6 Superior Criteria for Monitoring Network Elements in NG9-1-1

Monitoring capabilities include some level of remote repair functions via the network element providers. ECC has real-time access to the monitoring being done by the network element providers.

2.2.10.3 Status Monitoring of ECC CPE. [S10c]

Related SCRIC Best Practices: 11-9-0568.

2.2.10.3.1 Standard Criteria for Monitoring ECC CPE in E9-1-1

ECC CPE is alarmed 24x7 for automatic trouble reporting/alerting.

This includes the elements that are part of the transport path for voice or data, i.e., ANI/ALI controller, Private Branch Exchange (PBX) used for voice calls, modems used to support such equipment, and other mission critical equipment and associated software. It is acceptable for the ECC to contract this monitoring out. The intent of S10c is for these alarms to be presented at the ECC, even if they are remotely monitored too.

2.2.10.3.2 Advanced Criteria for Monitoring ECC CPE in E9-1-1

Monitoring capabilities include some level of remote diagnostics via the ECC CPE provider.

2.2.10.3.3 Superior Criteria for Monitoring ECC CPE in E9-1-1

Monitoring capabilities include some level of remote repair functions via the ECC CPE provider.

2.2.10.3.4 Standard Criteria for Monitoring ECC CPE in NG9-1-1

NOTE: The concept of ECC “CPE” changes in NG9-1-1. While there will still be certain physical pieces of equipment on the ECC premises in NG9-1-1, there will likely be considerably fewer. In NG9-1-1 the “CPE” functions are performed by the “Call Handling” Functional Element (CHFE). The CHFE may not be located on the ECC premises, and it may be spread across multiple “boxes”.

The ECC's CHFE is alarmed 24x7 for automatic trouble reporting/alerting. This includes the elements that are part of the transport path for voice or data, i.e., answering position equipment, Private Branch Exchange (PBX) used for voice calls, modems and routers used to support such equipment, and other mission critical equipment and associated software. It is acceptable for the ECC to contract this monitoring out. The intent of this item is for these alarms to be presented at the ECC, even if they are remotely monitored too. In other words, the ECC should have a local means of knowing that there is a problem with their CHFE.

2.2.10.3.5 Advanced Criteria for Monitoring ECC CPE in NG9-1-1

Monitoring capabilities include some level of remote diagnostics via the ECC CPE provider.

2.2.10.3.6 Superior Criteria for Monitoring ECC CPE in NG9-1-1

Monitoring capabilities include some level of remote repair functions via the ECC CPE provider.

2.2.10.4 Standard Operating Procedures (SOPs) in E9-1-1 or NG9-1-1. [S10d]

Related CSRIC Best Practices: 11-9-0568.

2.2.10.4.1 Standard Criteria

SOPs explain what to do when an alarm is activated and assign responsibility.

2.2.10.4.2 Advanced Criteria

SOPs explain how and when to manually invoke alternate trunking/transport paths.

2.2.10.4.3 Superior Criteria

SOPs detail how and when alternate trunking/transport paths will be automatically invoked.

2.2.11 Selective Router Redundancy for E9-1-1, and Next Generation Core Services (NGCS) Redundancy in NG9-1-1. [S11]

Related CSRIC Best Practices: 11-9-0571, and 9-9-3223.

2.2.11.1 Standard Criteria for E9-1-1

Not required for Standard rating.

2.2.11.2 Advanced Criteria for E9-1-1

Redundant SRs are used to assure that more than approximately 50%, but less than 100% of the normal call volume (load) would remain in service in the event one of the SRs were to be unavailable for use.

(Commonly called load sharing redundancy).

2.2.11.3 Superior Criteria for E9-1-1

Redundant SRs are used to assure that 100% of the normal call volume (load) would remain in service in the event one of the SRs were to be unavailable for use.

(Commonly called fully redundant).

NOTE There is not a direct NG9-1-1 equivalent for item S11 “AS IT IS STATED”, because there’s no SR in NG9-1-1. The following are functionally equivalent specific criteria targeting the redundancy of a NENA compliant ESInet with a focus on the NGCS Functional Elements. Those are the closest equivalency to the legacy E9-1-1 environment for redundancy of the routing engine of the system. In addition to the expected redundancy of the NGCS FEs, it is important to take into consideration the ability of the service providers to maintain connectivity to the ECC. The criteria listed below include both aspects; NGCS FEs and the transport paths, but Section 3.2.10 covers Trunking/Transport Path Management in greater detail.

2.2.11.4 Standard Criteria for NG9-1-1

The ECC’s NGCS are provided by a single entity. The NGCS exists on two geographically diverse sites, each with two servers. Each site is connected to a network with at least two links. The ECC has two links to the same network. The same transport network technology can be used from the same access provider for all these links (MPLS for example).

2.2.11.5 Advanced Criteria for NG9-1-1

The ECC is served by two NGCS instances in each of three geographically diverse sites, each with two servers. Each site is connected to a network with at least two links. The ECC has two links to the same network. The same access provider can be used for all these links, but the transport network uses two types of technology (MPLS and Fixed wireless for example).

2.2.11.6 Superior Criteria for NG9-1-1

ECC is served by two NGCS instances in each of four geographically diverse sites, each with two servers. Each site is connected to a network with at least two links. The ECC has two links to the same network. There are at least two access providers used for these links, and the transport network uses three types of technology (MPLS and Fixed wireless and Cable for example). In addition to having three (or more) transport

network technologies in place, another distinction in this Superior level of capability is the presence of multiple Service Providers.

2.2.12 Standard Operating Procedures (SOPs) in E9-1-1 or NG9-1-1. [S12a and S12b]

2.2.12.1 Continuity of Operations Planning (COOP) Supported by SOPs. [S12a]

The AHJ should have a COOP. The COOP effort has been developed in close coordination with ECC Management to provide for sustained emergency communication services for extended periods of time or for those events which substantially disrupt normal activity or cause the evacuation of the ECC facility.

These plans should seek to establish the authority and responsibility for individual action in support of continuing service even under the most difficult of situations. The COOP also includes definitions and identifies responsibilities for the essential support services necessary to maintain staff, mission critical functionality and as necessary re-location or remote assignment of the required functions.

The ECC staff should have access to the COOP Plan and adequate SOPs should be in place to support staff initiation of the Plan as authorized.

2.2.12.1.1 Standard Criteria

There are readily available, documented SOPs for daily operations, and ECC personnel are aware of them.

2.2.12.1.2 Advanced Criteria

SOPs for emergency communication planning to support the need to invoke restoration plans.

There is a scheduled documented process in place for (at a minimum) annual review of all documented SOPs.

2.2.12.1.3 Superior Criteria

SOPs are available online for all center personnel and are updated in a timely fashion, by a designated administrator.

COOP and supporting documents are readily available for retrieval and transport or remote access.

2.2.12.2 SOPs Support Staff by Providing Procedural Guidance. [S12b]

2.2.12.2.1 Standard Criteria

Public Safety communications procedural guidance is available via published documents, such as: SOPs, Standard Operating Guidelines (SOGs) and protocols. At a minimum, these documents SHALL cover such

categories as: Personnel, Operations, Technical Support, Physical & Information Security, Routine Maintenance, Procurement, and COOP.

2.2.12.2.2 Advanced Criteria

Not applicable. If an ECC meets the Standard criteria, they are rated "Advanced" for this item.

2.2.12.2.3 Superior Criteria

SOPs align with CALEA or equivalent standard setting organizations' requirements and are certifiable.

There are timely drills/exercises/other evaluative processes to ensure the relevance and viability of the SOPs.

References: [22], [27]

2.2.13 Redundancy of Mission Critical Systems or Subsystems in E9-1-1 or NG9-1-1. [S13]

Related CSRIC Best Practices: CSRIC BP 11-9-0575

2.2.13.1 Standard Criteria

For ALL mission critical systems or subsystems written Memorandums of Understanding (MoUs) and/or service level contractual agreements exist to sustain COOP in the event of a mission critical system or subsystem failure.

Appropriate SOPs exist to support Staff in accomplishing the above criteria.

These systems and subsystems include, but are not limited to telephones, radio systems, ANI/ALI controllers (or NG9-1-1 equivalents), recording equipment, and power sources. This item includes ALL mission critical systems or subsystems, as identified in the local COOP or other contingency planning documents. Appropriate SOPs exist to support this criterion.[5]

(See CSRIC BP 11-9-0575)

2.2.13.2 Advanced Criteria

Mission critical systems, subsystems are redundant to the extent that they provide reduced yet acceptable levels of service, but without requiring any outside/external MoU support.

Appropriate SOPs exist to support the above criteria.

[5] Mission critical equipment should meet or exceed NENA or equivalent standards where applicable (NFPA, APCO P-25, etc.).

2.2.13.3 Superior Criteria

Mission critical systems, subsystems are redundant to the extent that they provide full service, but without requiring any outside/external support.

Appropriate SOPs exist to support the above criteria.

2.2.14 Level of Service Provided from an Alternate Facility in E9-1-1 or NG9-1-1 (aka: Back-up ECC) During a Significant Event that Precludes Use of the Primary Facility. [S14]

Related CSRIC BP 11-9-0568

2.2.14.1 Standard Criteria

The ECC can receive and handle 9-1-1 calls as voice calls from their alternate (back-up) facility.

CLARIFICATION: This is not meant to apply to short term rerouting of calls for temporary disruptions of service, or for temporary high call volume situations.

See item Remote access to rerouting E9-1-1 trunks and lines [S26] for that situation.

2.2.14.2 Advanced Criteria

The alternate ECC facility provides the same level of 9-1-1 service as the primary site but may do so at a diminished capacity.

Alternate facility captures call and CAD data, and it is available to the primary site when it is back in service.

2.2.14.3 Superior Criteria

The alternate ECC facility provides a comparable standard of service as the primary site, without diminished capacity.

2.2.15 Staffing Applied to Critical Incident Situations in E9-1-1 or NG9-1-1. [S15][6]

2.2.15.1 Standard Criteria

Adequate staffing to maintain service levels, at or above AHJ minimum during normal 9-1-1 call volume. In the absence of any other defining criteria[7], adequate staffing in

[6]Adequate staffing levels are a local management prerogative; however, tools for calculating the best estimate of actual staffing needs are available. APCO & NENA both support the use of the best and most current professional advice on staffing needs, levels and retention efforts. More information is available at www.apcoretains.org

[7] NFPA 1221, Section 7.4.1 may be one source of "other defining criteria" that an AHJ may choose to meet this specific objective. In summary, NFPA 1221, 7.4 requires that 95% of alarms to be answered in 15 seconds and 99% of alarms to be answered in 40 seconds. The authors of this document suggest the AHJ consult with their local legal counsel if they are unsure which standard or standards apply.

this context means that 90% of the incoming E9-1-1 calls are answered in ten seconds or less[8]. Methods to achieve these levels during critical incident situations could include mutual aid agreements with neighboring ECCs to receive and handle calls; or diverting non-emergency calls and non-active event radio traffic during crisis event level operations. SOP exists authorizing such adjustments.

2.2.15.2 Advanced Criteria

With up to a 10% increase in normal call volume, the ECC has adequate staff and maintains service levels to meet a 90/10 benchmark and to have adequate Supervisory support on hand.

SOPs to support such action exist and documented training in same are available.

2.2.15.3 Superior Criteria

With an increase greater than ten percent in normal call volume, the ECC has adequate staff and maintain service levels to meet a 90/10 benchmark and adequate Supervisory support, including training and technical services staff positions are readily accessible to PSTs.

SOP to support such action exists and documented training in same is available.

Adequate regard for rest, refreshment and family support is documented via SOP, internal memorandum, etc.

2.2.16 Access to Technical Support for All Mission Critical Systems in E9-1-1 or NG9-1-1. [S16a – S16c]

The fundamental requirement here, is that qualified technical support is available 24x7. This can be accomplished in-house or through the use of contractors, as long as it is documented.

2.2.16.1 Remote Diagnostics. [S16A]

Related CSRIC Best Practices: CSRIC BP 11-9-0513

2.2.16.1.1 Standard Criteria

Technical support via remote diagnostic capability is available 24x7 and should begin resolution of the problem within the time specified in any applicable contract.

(See CSRIC BP 11-9-0513)

[8]Per NENA 56-005 Section 3.1 Standard for Answering 9-1-1 Calls - Ninety percent (90%) of all 9-1-1 calls arriving at the Public Safety Answering Point (ECC) shall be answered within ten (10) seconds during the busy hour (the hour each day with the greatest call volume, as defined in the NENA Master Glossary 00-001). Ninety-five (95%) of all 9-1-1 calls should be answered within fifteen (15) seconds.

2.2.16.1.2 Advanced Criteria

Technical Support should begin remote diagnostic resolution of the problem within two hours.

2.2.16.1.3 Superior Criteria

Technical Support should begin remote diagnostic resolution of the problem within one hour.

2.2.16.2 Onsite Response. [S16b]

Related CSRIC Best Practices: CSRIC BP 11-9-0513

2.2.16.2.1 Standard Criteria

On-site technical support is available 24x7, and, when required, technical support should be on-site to begin resolution of the problem within the time specified in any applicable contract.

2.2.16.2.2 Advanced Criteria

When required, technical support should be on-site to begin resolution of the problem within four hours.

2.2.16.2.3 Superior Criteria

When required, technical Support should be on-site to begin resolution of the problem within two hours.

2.2.16.3 Availability of a Spare Parts Kit. [S16c]

The term "spare parts kit" is meant to describe a collection of spare hardware typically expected to be necessary to support mission critical systems.

2.2.16.3.1 Standard Criteria

The spare parts kit can to be on-site within two hours.

2.2.16.3.2 Advanced Criteria

The spare parts kit can be on-site within one hour.

2.2.16.3.3 Superior Criteria

The spare parts kit is available on-site 24x7.

2.2.17 Availability of an Evacuation Kit in E9-1-1 or NG9-1-1. [S17]

(See footnote 11 for a description of an evacuation kit for purposes of this item. Also see Item [D12] for details of how an evacuation kit is to be maintained on a day-to-day basis.)

2.2.17.1 Standard Criteria

The evacuation kit in paper format can be transported to the alternate site immediately upon evacuation.

2.2.17.2 Advanced Criteria

The evacuation kit in some type of electronic format can be transported to the alternate site immediately upon evacuation.

2.2.17.3 Superior Criteria

The evacuation kit in electronic format, is available at the alternate site at all times.

2.2.18 Staff and Family Security Plan in E9-1-1 or NG9-1-1. [S18]

2.2.18.1 Standard Criteria

Staff is placed on standby and may be required to report as needs arise, as specified locally.

2.2.18.2 Advanced Criteria

Authority has properly planned, arranged adequate food, supplies, rest areas and support for staff required to extend shifts during major event.

2.2.18.3 Superior Criteria

Same as 2.2.18.2 and Authority has arranged shelter plans for family of staff, including prompt access and sustained resources.

2.2.19 ECC Location, ECC Site Selection and Construction Considerations (Existing and Future) [9] in E9-1-1 or NG9-1-1. [S19]

Related CSRIC Best Practices: CSRIC BP 11-10-0512

[9] Details on these items can be found in the NENA Communications Center/ECC Disaster and Contingency Plans Model Recommendation, Document 53-001 (June 7, 2005) [10] , and some of them are also included in CSRIC Best Practices for 9-1-1 services. For additional information on ECC site selection criteria in general, see NFPA 1221, and NENA 56-506: ECC Site Selection Criteria OID.

2.2.19.1 Standard Criteria

Secured building locations. Building location and architecture should minimize potential threats from natural and human sources. ECC placement takes meteorological and seismic threats into account.

The ECC location is not located along a known fault line, and is not susceptible to flooding, tornados, hurricane winds, frequent lightning strikes, mudslides, etc. The Communications Center shall be located in its own building or separated from other portions of joint use buildings. The Communications

Centers should be separated by approved fire barriers when located in joint use buildings. (See NFPA 1221 [08] and NENA 56-506, ECC Site Selection Criteria OID) [14]

2.2.19.2 Advanced Criteria

The ECC placement takes human threats into account. ECC location is not under or next to elevated roadways, electrical substations, natural gas or oil pipelines, rail lines or runways; reasonably protected from out-of-control vehicles; reasonably protected from casual vandalism.

2.2.19.3 Superior Criteria

The ECC and related outdoor structures are built to withstand earthquakes according to state or local code. ECC is positioned within a secure perimeter to minimize physical access to the structure.

2.2.20 Data Backup Plan in E9-1-1 or NG9-1-1. [S20]

2.2.20.1 Standard Criteria

The reliance upon CAD databases to facilitate call processing, manage resources and events has created a need for such mission critical data to be immediately available at the designated back-up location. A copy of critical call processing, dispatch and support resources are available at the designated back- up site for use in the event of a delay of availability of electronic resources.

2.2.20.2 Advanced Criteria

Critical data is available to any backup location (not pre-designated) within four hours.

2.2.20.3 Superior Criteria

Critical data is stored in a manner that allows it to be available immediately to any authorized ECC or other entity that would be acting as a backup in an emergency/disaster situation. This is likely a shared network drive or equivalent.

2.2.21 Alternate Power Source with Sustainable Fuel Options/Sources in E9-1-1 or NG9-1-1. [S21]

2.2.21.1 Standard Criteria

Primary facility has the ability to operate via UPS devices (individual or facility-level) during commercial power loss until alternate power activates.

Alternate Power Source (appropriately sized generator placed in a safe and accessible location) is readily available to operate immediately to serve the primary facility, with documented SOP and training for starting procedures.

The AHJ has plans and sources identified to provide sustained refueling as necessary.

Regular testing of Alternate Power Source is conducted per local SOP and Manufacturer Guidelines, with documentation of test results available.

All these points shall be achieved in order to score a Standard rating for this item.

2.2.21.2 Advanced Criteria

Alternate Power Source at primary and remote critical facility sites, such as: distributed radio control locations.

Generator Status Monitor Panel installed inside ECC.

Documented training of understanding of such panel alerts and remedial actions.

Load capacity allows maintenance of routine functionality at the primary and remote facilities. Documented MoU with local power provider for priority restoration.

Automatic Transfer Switch with Manual Starting Options while primary facility is served by Uninterruptable Power Supply (UPS) devices.

Sustained refueling contracts include priority service in disaster situations with audits to ensure the supplier has the capability for delivery even in the event of loss of power to the supplier's facility.

All these points shall be achieved in order to score an advanced rating for this item.

2.2.21.3 Superior Criteria

Primary facility has a secondary alternate power supply if the primary alternate generator fails. Alternate generator is capable of maintaining all mission critical functionality.

This level is as all others, inclusive of lower levels objectives.

A test of backup power under load is performed according to NFPA 1221 [08] Chapter 11-Testing. All these points shall be achieved in order to score a Superior rating for this item.

2.2.22 Telecommunications Service Priority (TSP) for Wireline Restoration and Provisioning in E9-1-1 or NG9-1-1. [S22]

Related CSRIC Best Practices: CSRIC BP 11-10-0488

2.2.22.1 Standard Criteria

The AHJ has been assigned formal TSP status. Assignment records are audited against current service records annually.

2.2.22.2 Advanced Criteria

The AHJ has been assigned formal TSP status and has written procedures in place to utilize these tools when necessary.

2.2.22.3 Superior Criteria

Includes the use of TSP tools in routine practice drills.

2.2.23 Wireless Priority Service (WPS) Access in Emergency Circumstances in E9-1-1 or NG9-1-1. [S23]

2.2.23.1 Standard Criteria

The AHJ has been assigned formal WPS status. WPS test calls made quarterly from all WPS assigned handsets.

2.2.23.2 Advanced Criteria

The AHJ has written procedures in place to utilize WPS when necessary. Handsets assigned WPS access are acquired from two or more carriers.

2.2.23.3 Superior Criteria

Includes the use of WPS in routine practice drills.

2.2.24 Government Emergency Telecommunications Service (GETS) Access in Emergency Circumstances in E9-1-1 or NG9-1-1. [S24]

Related CSRIC Best Practices: CSRIC BP 11-9-1063, CSRIC BP 11-9-5127, CSRIC BP 11-9-5128

2.2.24.1 Standard Criteria

The AHJ has been assigned formal GETS status. GETS test calls made by all card holders on a quarterly basis.

2.2.24.2 Advanced Criteria

The AHJ has written procedures in place to utilize GETS when necessary.

2.2.24.3 Superior Criteria

Includes the use of GETS in routine practice drills.

2.2.25 Ability to Call Forward Administrative Lines in E9-1-1 or NG9-1-1. [S25]

2.2.25.1 Standard Criteria

If and as available from the Local Exchange Carrier (LEC) or telecommunications service provider(s), the ECC has the capability to initiate forwarding on administrative lines. The ECC SOP defines the process for such action. Phone numbers and other contact information referenced in any specific SOP shall be verified minimally annually, or as notice of change takes place. Note that in NG9-1-1 this might be accomplished differently. The criteria are met as long as the intent is achieved.

2.2.25.2 Advanced Criteria

If and as available from the Local Exchange Carrier (LEC) or telecommunications service provider(s), the ECC has the capability to initiate call forwarding on administrative lines without assistance from their LEC or telecommunications service provider. Additionally, the ECC has documented the demonstration of such capability during regularly scheduled staff training, phone numbers and other contact information in protocol are verified semi-annually, or as notice of change takes place.

2.2.25.3 Superior Criteria

If and as available from the Local Exchange Carrier (LEC) or telecommunications service provider(s), the ECC has documented their call forwarding capability during regularly scheduled exercises or actual events, phone numbers and other contact information in protocol are verified quarterly, or as notice of change takes place.

NOTE: If the ability to perform Call Forwarding for ADMIN lines is not available from the Local Exchange Carrier (LEC) or telecommunications service provider(s), the ECC shall exclude this item from their ratings results.

2.2.26 Ability to Re-route 9-1-1 Trunks or Lines[10] in E9-1-1, or the Broadband Access Paths in NG9-1-1. [S26]

Related CSRIC Best Practices: CSRIC BP 11-9-3238

[10] The use of "Lines" in this context is generally applicable to Canadian ECCs connected to legacy (formerly) Nortel DMS Family selective routing machines.

2.2.26.1 Standard Criteria

If and as available from the LEC or telecommunications service provider(s), the ECC has the capability to initiate rerouting of traffic on E9-1-1 trunks or lines. If this capability is not available to the ECC, the ECC shall have a documented and effective process identified to handle calls during periods where those calls cannot be answered at the ECC. Note that in NG9-1-1 this might be accomplished differently. The criteria are met as long as the intent is achieved.

The ECC SOP defines the process for such action. Phone numbers and other contact information referenced in any specific SOP shall be verified minimally annually, or as notice of change takes place. If there is a third-party service provider, an agreement shall be in place and the process shall be tested.

2.2.26.2 Advanced Criteria

If and as available from the Local Exchange Carrier (LEC) or telecommunications service provider(s), the ECC has the capability to initiate rerouting of traffic on E9-1-1 trunks and or lines without assistance from their LEC or telecommunications service provider. Additionally, the ECC has documented the demonstration of such capability during regularly scheduled staff training. Phone numbers and other contact information in protocol are verified semi-annually, or as notice of change takes place.

2.2.26.3 Superior Criteria

If and as available from the Local Exchange Carrier (LEC) or telecommunications service provider(s), the ECC has documented their capability to initiate rerouting of traffic on E9-1-1 trunks and or lines without assistance from their LEC or telecommunications service provider during regularly scheduled exercises or actual events. Phone numbers and other contact information in protocol are verified quarterly, or as notice of change takes place.

NOTE: If the ability to perform rerouting of traffic on E9-1-1 trunks and or lines is not available from the Local Exchange Carrier (LEC) or telecommunications service provider(s), the ECC shall exclude this item from their ratings results.

2.2.27 Grounding/Lightning Protection in E9-1-1 or NG9-1-1. [S27]

References: [06]

2.2.27.1 Standard Criteria

The ECC shall employ industry recognized lightning and grounding practices, such as those defined in the most recent version of the National Electric Code (NEC) sections 250, 280 and 285 or equivalent, and any applicable local laws or ordinances that exceed NEC requirements, as amended. Special attention should be given to ensuring that the contractor provides a “single ground point” for ECC area to protect staff.

Conformance with such standards provides a reasonable level of protection from lightning induced failures associated with tower strikes, building strikes, incoming facility strikes, etc.

In all cases, any new or modified equipment shall be installed in accordance with these best practices and so certified to the ECC.

2.2.27.2 Advanced Criteria

The ECC meets the requirements of NFPA-780 or equivalent, and the associated re-inspection cycles, performed by a qualified inspector.

Reference: [07]

2.2.27.3 Superior Criteria

The ECC meets the requirements of the most recent version of FAA-STD-019 or equivalent, or IEEE 1100 or equivalent, and the associated re-inspection cycles, performed by a qualified inspector.

References: [03], [05]

END OF "S" ITEMS.

2.3 Day to Day Category Items

IMPORTANT: The following items have been identified as necessary for ECC Day-to-Day Operations, and therefore fall into the "D" category. See the "D" Items Matrix for a shorthand view of each item. The Matrix may be used as a handy checklist/scorecard while conducting the review, but the details are shown in this section.

2.3.1 Retention (Personnel) in E9-1-1 or NG9-1-1. [D1]

Turnover rates are based on employees who have completed their probationary period, excluding retirees and employees who moved on to other roles within the local government or agency

2.3.1.1 Standard Criteria

Turnover of personnel is less than 19%.

2.3.1.2 Advanced Criteria

Turnover of personnel is less than ten percent.

2.3.1.3 Superior Criteria

Turnover of personnel is less than five percent.

2.3.2 Building/Facility Maintenance and Repair Where the Buildings or Applicable Space Used for ECC Purposes are Under the Control of the AHJ in E9-1-1 or NG9-1-1. [D2]

All ECCs should meet the Standard Criteria for this Item. There are no appropriate measurement criteria for Advanced and Superior categories. It is understood that the ECC/9-1-1 Authority Having Jurisdiction (AHJ) may not be the entity that has responsibility for building maintenance & repair, but the ECC/AHJ should ensure that certain levels of performance are achieved. [24]

2.3.2.1 Standard Criteria

Scheduled maintenance occurs based upon the needs of the physical plant and critical equipment necessary to keep it habitable and useful to support an ECC operation.

The ECC shall maintain a documented contact list of parties responsible for doing the building maintenance and repair functions. There shall be signed maintenance agreements with outside vendors as necessary to meet the above schedules.

Maintenance schedules shall meet manufacturer schedules and other such governing local documentation, such as an AHJ created schedule of maintenance for all critical components that are in the building.

2.3.2.2 Advanced Criteria

Not applicable.

2.3.2.3 Superior Criteria

Not applicable.

2.3.3 Funding in E9-1-1 or NG9-1-1. [D3]

Funding stream is adequate to maintain operational integrity of the ECC on a day-to-day basis and includes plans to provide adequate funding in the event of a disaster situation, specifically as it applies to items included in this document.

2.3.3.1 Standard Criteria

The ECC relies on existing telecommunications device/service provider 9-1-1 surcharges and/or supplemental general government funding to provide an adequate revenue base.

2.3.3.2 Advanced Criteria

The ECC has access to State and/or Federal grants, and/or they have contracts in place with other agencies that provide additional streams of revenue that allows them to implement advanced or superior levels of service as described in this document. The

ECC has a legislated revenue stream to provide adequate dedicated funds or has their general funding stream(s) protected against non-ECC use (can't be "raided" by other government entities).

2.3.3.3 Superior Criteria

The ECC has a legislated revenue stream to provide adequate dedicated funds or has their general funding stream(s) protected against non-ECC use (can't be "raided" by other government entities).

2.3.4 Physical Access Controls for Primary and Offsite Locations Where the Buildings or Applicable Space Used for ECC Purposes are Under the Control of the AHJ in E9-1-1 or NG9-1-1. [D4]

This item refers to physical access to rooms, equipment and software applications, etc. Off-site locations may include radio towers and other equipment locations essential for ECC operations. References: [22], [27]

2.3.4.1 Standard Criteria

Physical access to the site is limited to Public Safety Communications personnel, and to others only under escort. ECC is in compliance with NFPA 1221 [08] Section 4.6 (Security). If the ECC is designated as an authorized FBI NCIC Terminal Agency, the ECC shall comply with NCIC and other physical security related local requirements. The official definition of a physically secure location can be found in the applicable State CJIS Security Policy.

2.3.4.2 Advanced Criteria

Physical/electronic access controls are in place. Video monitoring in place and retained for a period of time that is established by the AHJ.

2.3.4.3 Superior Criteria

Access is based upon legitimate need to enter or to perform work on specific equipment or software applications. For example, a person may be authorized to enter a room that contains filing cabinets and the logging equipment, but they may only be authorized to access the cabinets, not the logging equipment.

2.3.5 Training in E9-1-1 or NG9-1-1. [D5a – D5b]

2.3.5.1 Training – Probationary [D5a]

2.3.5.1.1 Standard Criteria

There is a documented training process for new employees that meets local or State minimum requirements, and it is reviewed annually to retain

consistency with operational changes that may be driven by new technologies, applications etc.

Documented training curriculum complies with or is comparable to the APCO Minimum Training Standards for Public Safety PSTs (PSTs). Applicable courses or training materials could include the information found in APCO/NENA ANS 3.105.1-2015 (Minimum Training Standard for TTY/TDD Use in the Public Safety Communications Center, APCO ADA Training Standards, or APCO Institute Public Safety Telecommunicator 1 (PST1) course or equivalent.

To meet this rating the training shall include additional TTY training beyond the APCO Minimum Training Standards for PSTs and shall meet minimum DOJ ongoing requirements for TTY training.

Training should also include use of Emergency Call Protocols (ECPs)[11] if used by the local AHJ. To meet this rating the training shall include successful completion of NIMS IS-100 & IS-700.

2.3.5.1.2 Advanced Criteria

All training, including On-the-Job training (OJT) is delivered by certified trainers. A state or nationally recognized or certified program is utilized for probationary training.

Compliance with NFPA 1221 [08] Section 7.2 (Telecommunicator Qualifications & Training) as it applies. Certification may be obtained through specific APCO Institute and/or NENA Communications Training Officer (CTO) Courses or equivalent.

2.3.5.1.3 Superior Criteria

Training plans align with applicable CALEA or other accreditation program for probationary training processes.

2.3.5.2 Training – Ongoing Professional Development in E9-1-1 or NG9-1-1. [D5b]

2.3.5.2.1 Standard Criteria

There is a documented training process for new employees that meet local or State minimum requirements.

Professional Development training should build upon requirements for Continuing Education Units (CEUs) for various applicable Certifications.

[11] Information on the use of ECP can be found in NENA Emergency Call Processing Protocol Standard 56-006. [30]

Documented training curriculum complies with or is comparable to the APCO Minimum Training Standards for Public Safety Telecommunicators (most recent version).

Applicable courses or training materials could include the information found in APCO/NENA ANS 3.105.1-2015 (Minimum Training Standard for TTY/TDD Use in the Public Safety Communications Center, APCO ADA Training Standards or APCO Institute PST1 course or equivalent.

To meet this rating the training shall include additional TTY training beyond the APCO Minimum Training Standards for PSTs and shall meet minimum DOJ ongoing requirements for TTY training.

Training should also include use of Emergency Call Protocols (ECP) if used by the local AHJ. To meet this rating the training shall include successful completion of NIMS IS-100 & IS-700.

2.3.5.2.2 Advanced Criteria

Professional Development training shall exceed the requirements for CEUs for various applicable Certifications for each job category in the ECC, by guiding the PST along a career path formally defined by the AHJ.

All training, including OJT is delivered by certified trainers.

A state or nationally recognized or certified program is utilized for ongoing Professional Development training.

Compliance with NFPA 1221 [08] “Telecommunicator Qualifications & Training” as it applies.

2.3.5.2.3 Superior Criteria

To achieve this rating the Professional Development training shall go beyond the basic requirements for CEUs by introducing defined means for career development, to include skills such as: a foreign language, operational specialties, pursuit of post high school degrees.

Training plans align with applicable CALEA, or other accreditation program processes and are certifiable.

Training program is reviewed annually to retain consistency with operational changes that may be driven by new technologies, applications etc.

2.3.6 Logging Recordings in E9-1-1 or NG9-1-1. [D6]

2.3.6.1 Standard Criteria

Records all incoming emergency calls and all radio traffic associated with emergency calls.

2.3.6.2 Advanced Criteria

Records all incoming emergency calls and all radio traffic associated with emergency calls, with instant replay capability.

2.3.6.3 Superior Criteria

Records all incoming emergency calls and all radio traffic associated with emergency calls (with instant replay capability) and records associated ALI/CAD and multimedia data.

2.3.7 Quality Assurance (QA) in E9-1-1 or NG9-1-1. [D7]

Reference: NENA 56-006 Section 3.2. [30]

2.3.7.1 Standard Criteria

A procedure is in place to proactively review a random sample of incoming calls for emergency service based on call log recordings or other historical recorded data (i.e. CAD records) to assess the level of performance per established SOPs.

2.3.7.2 Advanced Criteria

A procedure in place to proactively review a proportionate stratified random[12] sample of incoming calls for emergency service based on call log recordings or other historical recorded data (i.e. CAD records) to assess the level of performance per established SOPs.

2.3.7.3 Superior Criteria

A procedure is in place to have assigned staff personnel contact callers for emergency service to gauge their perception of service (either mailing, phone call, personal contact etc.) per SOPs.

2.3.8 Interoperability with PSTN in E9-1-1 or NG9-1-1. [D8]

2.3.8.1 Standard Criteria

Can receive calls from the PSTN using plain old telephone services (POTS) capabilities, typically without any vertical services (i.e. Caller-ID, Calling-Name, etc.).

[12] A proportionate stratified random sample is obtained by randomly assigning calls for review in the same proportion as call types received by the agency. For example, in a combined call center (police, fire and EMS) if 75% of calls received are requests for police service, 20% for EMS and 5% fire, then the same proportion of calls should be selected for QA evaluation. Other strata could be used based upon SOPs, such as years of experience, shifts, call volumes, etc.

2.3.8.2 Advanced Criteria

Centrex/PBX functions, the ability to transfer a call to another PSTN destination.

2.3.8.3 Superior Criteria

Ability to receive a PSTN call and introduce it into an Emergency Service IP network (ESInet) along with automatically or manually collected data, hence passing voice and data to another destination on the ESInet.

2.3.9 Public Education in E9-1-1 or NG9-1-1. [D9]

2.3.9.1 Standard Criteria

Public Safety Agencies should actively engage in public education efforts aimed at informing the public of the capabilities and proper use of 9-1-1. This can be incorporated into crime prevention and fire prevention education programs. (This is an excerpt of CSRIC BP 9-9-0578)

2.3.9.2 Advanced Criteria

The ECC has a designated Public Education office within the agency, or an equivalent structured Public Education program. The materials that are distributed and the extent of the reach achieved by that distribution is documented.

2.3.9.3 Superior Criteria

The results of feedback from the Public Education Program are used to implement changes to the Program and operational SOPs (if needed).

2.3.10 Viewing Local Weather and News Information, and Monitoring Distribution of Information Over Emergency Alert System (EAS) in E9-1-1 or NG9-1-1. [D10]

References: [11], CSRIC Best Practice: 11-7-3210.

2.3.10.1 Standard Criteria

The ECC has an all hazards radio with selective alerting and/or other form of locally informative advance warnings for weather or other Public Safety related events.

2.3.10.2 Advanced Criteria

The ECC subscribes to specific weather, news and traffic related services that provide early warnings; such as, the National Weather Service, National Oceanic and Atmospheric Administration (NOAA), etc. or equivalent.

2.3.10.3 Superior Criteria

The ECC CAD or equivalent technology interfaces with the local early warning systems such as the Intelligent Transportation System (ITS) or other applicable systems.

For example, if associated agency data is presented to the ECC, data from such systems are integrated into the CAD, providing the ability to utilize automatic insertion of calls into the waiting queue or automatically-selected video feeds which can be viewed by the PST, and/or forwarded to responding units with data video capability.

2.3.11 Care of a Spare Parts Kit that Contains Enough Spares to Maintain Critical Functionality as Determined by the AHJ in E9-1-1 or NG9-1-1. [D11]

2.3.11.1 Standard Criteria

The spare parts kit is able to be on-site within two hours. The ECC has documented arrangements to allow spare parts kit spares to be replaced within 72 hours of being used. Spare parts kit contents are upgraded consistent with current equipment configurations.

2.3.11.2 Advanced Criteria

The spare parts kit is able to be on-site within one hour. The ECC has documented arrangements to allow spare parts kit spares to be replaced within 48 hours of being used.

2.3.11.3 Superior Criteria

The spare parts kit is on-site. The ECC has documented arrangements to allow spare parts kit spares to be replaced within 24 hours of being used.

2.3.12 Care of an Evacuation Kit in E9-1-1 or NG9-1-1. [D12][13]

(See Item [S17] for details regarding the "Availability of an Evacuation Kit" from a survivability perspective.)

2.3.12.1 Standard Criteria

Documentation is available in printed format, and kept up-to-date manually on a prescribed schedule, and is reviewed at least semi-annually for accuracy. The prescribed schedule for each item contained in the evacuation kit should be based upon the normal frequency of changes to the underlying data in each agency's records.

[13] The contents of an evacuation kit include, but are not limited to: a Map book, a resource directory, maintenance support contacts lists, turn-up procedures for the alternate facility, SOPs, remote call forwarding instructions, general office supplies, purchasing capability (i.e., an agency credit card) personnel needs, etc.

2.3.12.2 Advanced Criteria

Documentation is available in electronic format, which is kept up to date manually on a prescribed schedule and is reviewed at least quarterly for accuracy. The prescribed schedule for each item contained in the evacuation kit should be based upon the normal frequency of changes to the underlying data in each agency's records.

2.3.12.3 Superior Criteria

Documentation is available in electronic format (i.e., LAN/WAN) that is continually updated automatically, and always available from the alternate/back-up location.

2.3.13 Amber Alerts in E9-1-1 or NG9-1-1. [D13]

2.3.13.1 Standard Criteria

The ECC has a documented and readily accessible Amber Alert procedure in place, and a minimum of one person per shift is trained in its use. The ECC shall provide the info necessary to issue an Amber Alert to the Issuing Authority within 30 minutes. The ECC tests themselves every six months to ensure they can meet their goals when called upon.

These tests will consist of conducting a simulated scenario across all shifts, providing "John/Jane Doe" missing person data to the test subject (PST), who shall follow the established procedure to the point of readiness to submit the Alert information to the Issuing Authority. The process shall be timed to ensure the benchmark is achieved, but the simulated data shall not be submitted to the Issuing Authority.

2.3.13.2 Advanced Criteria

The ECC has a documented and readily accessible Amber Alert procedure in place, and all supervisory personnel are trained in its use. The ECC shall provide the info necessary to issue an Amber Alert to the Issuing authority within 20 minutes. The ECC tests themselves every three months to ensure they can meet their goals when called upon.

The ECC has a documented and readily accessible Amber Alert procedure in place, and all personnel are trained in its use. The ECC shall provide the info necessary to issue an Amber Alert to the Issuing authority within less than 20 minutes. The ECC tests themselves every month to ensure they can meet their goals when called upon.

2.3.13.3 Superior Criteria

The ECC has a documented and readily accessible Amber Alert procedure in place, and ALL personnel are trained in its use. The ECC shall provide the info necessary to issue an Amber Alert to the Issuing authority within less than 20 minutes.

The ECC tests themselves every month to ensure they can meet their goals when called upon.

2.3.14 National Center for Missing and Exploited Children (NCMEC) Standard Compliance in E9-1-1 or NG9-1-1. [D14]

Reference: [31]

2.3.14.1 Standard Criteria

The ECC has adopted the most recent version of the APCO Standard for Telecommunicators when Responding to Calls of Missing, Abducted, and Sexually Exploited Children.

2.3.14.2 Advanced Criteria

The ECC Agency Head or designee has attended NCMEC “Missing & Exploited Children Chief Executive Officer Seminar" or equivalent.

2.3.14.3 Superior Criteria

All operations staff working in ECCs have received initial training to comply with APCO ANS 1.101.2-2010 Standard; annual in-service training is delivered, and documentation of training is kept.

2.3.15 Wireless Call Management/Processing/Testing in E9-1-1 or NG9-1-1. [D15]

Reference: [32]

2.3.15.1 Standard Criteria

Documented training processes for handling wireless calls, based on the type of wireless calls the ECC typically receives (Phase I, Phase II), using the NENA 56-001 Standard or equivalent as a training tool.

2.3.15.2 Advanced Criteria

Documented training processes for handling wireless calls to allow the ECC to ascertain the level of accuracy they are getting on a day to day basis. A documented procedure is in place to address cases of misroutes or inaccurate data being delivered on a wireless call.

2.3.15.3 Superior Criteria

Documented training processes exist for handling wireless calls based upon the APCO ANS 1.103.1- 2008 Standard. A method is in place to document when/how remedial actions are taken on instances of misroutes or inaccurate wireless data, to include follow up and final verification of resolution of the problem.

2.3.16 Automated Intelligent Alerts (aka: Non-Voice Sensors) in E9-1-1 or NG9-1-1[14] (Not Inclusive of Auto-Dialers). [D16]

2.3.16.1 Standard Criteria

The ECC is positioned technologically to receive such alerts as they become available in their area.

Note: This may only be applicable in an NG9-1-1 environment.

2.3.16.2 Advanced Criteria

The ECC has a procedure in place that addresses how these calls will be received and processed if they are unable to be automatically received and processed into CAD or equivalent ECC tools.

2.3.16.3 Superior Criteria

The ECC has implemented automated receipt and processing of these alerts into CAD or equivalent ECC tools.

2.3.17 Telecommunications Devices for the Deaf (TTD)/Teletypewriter (TTY) in E9-1-1 or NG9-1-1. [D17 – D17c]

Note: In NG9-1-1, D17 items might be accomplished differently. The criteria are met as long as the intent is achieved.

2.3.17.1 TDD/TTY Equipment – DOJ Compliance. [D17a]

References: [01], [26], [29]

2.3.17.1.1 Standard Criteria

Compliance with DOJ ADA requirements for TDD/TTY is the minimum level acceptable for this item. That includes an acoustic coupler or equivalent technology that is available at each answering position (as required by the

[14] An Automated Intelligent Alert is any non-voice sensor alarm that based on prior ECC approval, first verifies and then transmits automatically to the ECC such predetermined conditions to provide the best possible information and reduce false alarms. A formal MoU is recommended, with supporting SOP.

ADA TDD/TTY rules), and the entire staff has been trained on its proper use (see 3.3.17.3 below TDD/TTY Equipment Training).

2.3.17.1.2 Advanced Criteria

The ECC has automatic detection of TDD/TTY calls.

2.3.17.1.3 Superior Criteria

The ECC has automatic detection of TDD/TTY calls integrated with Computer Telephony Integration (CTI) and/or CAD.

2.3.17.2 TDD/TTY Equipment Testing. [D17b]

References: [01], [26], [29]

2.3.17.2.1 Standard Criteria

The ECC shall conduct an internal testing program in which they conduct random TTY test calls of each PST position. The tests should be designed to ascertain whether TTY equipment functions properly and whether personnel have been adequately trained to recognize TTY calls quickly, to operate TTY equipment, and to conduct TTY conversations. All testing results shall be documented locally. [See the referenced DOJ ADA document (above) for their recommendations for an effective testing program.]

2.3.17.2.2 Advanced Criteria

The ECC shall have a formalized process in place with external TTY equipped agencies for the purpose of testing each device in accordance with the recommendations made in the ADA documentation.

2.3.17.2.3 Superior Criteria

Not applicable.

2.3.17.3 TDD/TTY Equipment Training. [D17c]

References: [01], [24], [25], [26], [29]

2.3.17.3.1 Standard Criteria

Initial training shall be provided to all persons who may be subject to receive a TDD/TTY call prior to being authorized to take live calls. DOJ

minimum refresher training requirement is every six months, and documentation of the training shall be on file.

2.3.17.3.2 Advanced Criteria

The ECC has a program in place to randomly test each PST on a TDD/TTY call at least once every six months.

2.3.17.3.3 Superior Criteria

The ECC has policies and procedures in place that align with CALEA Standards.

2.3.18 Internet Access in E9-1-1 or NG9-1-1. [D18]

Internet access is provided as an additional backup path for communication in abnormal situations and for day-to-day means of accessing Internet based tools, such as highway cameras, web-based Emergency Notification Systems, etc.

Note: In NG9-1-1 this might be accomplished differently. The criteria are met as long as the intent is achieved.

Reference: CSRIC Best Practice: 11-7-3210

2.3.18.1 Standard Criteria

The ECC has Internet access for viewing local weather and news information and monitoring distribution of information over EAS. (This has bandwidth, security and operational impacts that shall be considered to ensure reliability of other ECC communications tools.)

2.3.18.2 Advanced Criteria

Internet access available in the Communication Center/ECC in at least one location/position, with specific policies addressing the use of the Internet by ECC personnel. Such access is technologically isolated from other mission critical systems.

2.3.18.3 Superior Criteria

Internet access available in the Communication Center/ECC in multiple locations/positions, so that more than one PST can utilize it simultaneously.

2.3.19 Redundant Connectivity to Internet Based Services that Support Mission Critical Goals (If Applicable), as Determined by the AHJ in E9-1-1 or NG9-1-1. [D19]

Note: In NG9-1-1 this might be accomplished differently. The criteria are met as long as the intent is achieved.

Examples: highway cameras, web-based Emergency Notification Systems, etc.

2.3.19.1 Standard Criteria

The ECC uses two Internet Service Providers (ISPs) to ensure redundancy to Internet access for their critical services [i.e., a Digital Subscriber Line (DSL) access path and a Cable Modem access path].

2.3.19.2 Advanced Criteria

Internet access via wireless Internet connectivity.

2.3.19.3 Superior Criteria

Back-up Internet access via satellite (when available).

2.3.20 Emergency Notification Services in E9-1-1 or NG9-1-1. [D20]

CSRIC Best Practice P 11-9-3202

2.3.20.1 Standard Criteria

Not Required.

2.3.20.2 Advanced Criteria

Has the ability to do a limited mass notification within a reasonable amount of time for citizens who have opted in.

This level of performance can be achieved via contracts with external commercial providers who would do the notifications for the ECC.

2.3.20.3 Superior Criteria

The Center has the ability to do a limited mass notification to other technologies, such as: wireless, Short Message Service (SMS), etc.

END OF “D” ITEMS

Chapter Three

References

[01] **Americans with Disabilities Act (ADA), Title II, 28 C.F.R. Part 35.**

[02] **Bush, George W. (2003). Homeland Security Presidential Directive/HSPD-8, National Preparedness. Washington, D.C.: The White House.**

[03] **Department of Transportation Federal Aviation Administration (2005). Lightning and Surge Protection, Grounding, Bonding and Shielding Requirements for Facilities and Electronic Equipment. (FAA-STD-019)**

[04] **Federal Communications Commission (2015). Report and Order in the Matter of Wireless E911 Location Accuracy Requirements, PS Docket Number 07-114, FCC 15-9, Adopted January 29, 2015, Issued February 3, 2015.**

[05] **IEEE (2006). Recommended Practice for Powering and Grounding Electronic Equipment. (IEEE Std 1100 – 2005) OR IEEE Std 1100 - 2005 IEEE Recommended Practice for Powering and Grounding Electronic Equipment.**

[06] **National Fire Protection Association - National Electric Code 70 – Chapter 2: Wiring and Protection; Article 250: Grounding and Bonding; Article 280: Surge Arrestors over 1kV; Article 285: Surge Protective Devices (SPDs), 1kV or less. (NFPA NEC 70) 14**

[07] **National Fire Protection Association - Standard for the Installation of Lightning Protection Systems. (NFPA 780) 14**

[08] **National Fire Protection Association - Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems. (NFPA 1221) 14**

[09] **National Fire Protection Association - Standard on Disaster/Emergency Management and Business Continuity Programs. (NFPA 1600)[15].**

[15] The NFPA document links take you to the NFPA portal which lists all the codes and standards. When you click on one of them, you are taken to a page which offers several choices (view online, download, etc.) for the standard you've chosen. You will be required to sign in when you choose a standard. The documents are designed to be viewed (FREE) online, but there are no "print", "save", "cut and paste", or "search" options. The website does provide a link where you can purchase the fully- functional version if you need one.

[10] **NENA Communications Center/ECC Disaster and Contingency Plans Model Recommendation Document 53-001.**

[11] **National Emergency Number Association (2007). NENA Hazard and Vulnerability Analysis 53-501.**

[12] **National Emergency Number Association (2007). NENA Resource Analysis 53-502.**

[13] **National Emergency Number Association (2007). NENA ECC Survivability Operations Information Document 53-503.**

[14] **National Emergency Number Association (2007). NENA Public Safety Answering Point Site Selection Criteria Operations Information Document 56-506.**

[15] **National Lightning Safety Institute. Structural Lightning Safety.**

[16] **Network Reliability & Interoperability Council. Best Practices, retrieved March 4, 2008 from https://www.fcc.gov/nors/outage/bestpractice/ProcessBestPractice.cfm (then search for the text: 911).**

[17] **Powers, L. Robert and Schmid, David (1993). Network Reliability Council E-911 Focus Group Report on 9-1-1 Service Delivery Reliability.**
http://www.nric.org/pubs/nric1/sections/fcontents.pdf
http://www.nric.org/pubs/nric1/sections/fbody.pdf
http://www.nric.org/pubs/nric1/sections/fappendix.pdf

[18] **U.S. Department of Homeland Security, Lessons Learned Information Sharing (LLIS.gov) is the national network of Lessons Learned and Best Practices for emergency response providers and homeland security officials.**

For more information on LLIS, please contact their Help Desk at feedback@llis.dhs.gov.

[19] **Target Capabilities List - A companion to the National Preparedness Guidelines U.S. Department of Homeland Security September 2007.**

[20] **National Emergency Number Association (2009). NENA Master Glossary.**

[21] **For a list of U.S. States and their 911 Authorities – including statutes etc. see this site or see National Association of State 911 Administrators for more generic information.**

[22] **Standards for Public Safety Communications Agencies 2nd Edition, July, 2007, section 6.4.1 Security Measures for Communications Centers [in general], and section 81.3.1**

Security Measures for Communications Centers [located inside a Law Enforcement Center]. Both are available for purchase at calea.org.

[23] National Emergency Number Association (2004). NENA TTY Phone Pal Program (PPP) OID 52-501.

[24] National Emergency Number Association (2005). NENA TTY Training Operational Standard 52-001.

[25] National Emergency Number Association (2005). NENA Managers' Guide to the ADA: Title II, Direct Access Operational Standard 52-002.

[26] National Emergency Number Association (2005). NENA TTY Call Taker Proficiency and Quality Assurance E9-1-1 Operational Standard/Model Recommendation 52-003

[27] CJIS Security Policy Version 5.6 June 2017 - Section 5.9.1 Physically Secure Location. The CJIS Security Policy is available at https://www.fbi.gov/about-us/cjis/cjis-security-policy-resource-center/view.

[28] (FEMA) developed the Building Design for Homeland Security Course (E155).

[29] APCO ADA Training Standard for Communication Officers August 2003.

[30] NENA Emergency Call Processing Protocol Standard 56-006.

[31] Standard for Public Safety Telecommunicators when Responding to Calls of Missing, Abducted, and Sexually Exploited Children[16]

[32] Wireless 9-1-1 Deployment and Management Effective Practices Guide - APCO ANS 1.103.1- 2008 www.apcostandards.org

[33] ANSI/APCO Public Safety Grade Site Hardening Requirements, APCO ANS 2.106.1-2019.

[34] APCO Non-Traditional PSAP Task-Force Final Report, June 2018.

[35] APCO Broadband Implications for the PSAP, A Project 43™ Initiative, 2017.

[16] www.apcointl.org/standards/standards-to-download/

Chapter Four

Exhibits

4.1 An Example of Reporting Rating Results for Item S1:

This is a typical example of how the ECC would utilize the matrix tables to record their results.

CA	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S1	Receipt of E9-1-1 calls using static ALI functionality, or Receipt of NG9-1-1 calls with ALI equivalent functionality	ECC has CPE to enable the receipt of "Enhanced 9-1-1" calls with associated data (CBN & caller location information) from callers in the ECC's jurisdiction. This includes traditional wireline, static VoIP, and wireless Phase 1 types of calls. ECC is also Phase 1 wireless capable for at least one WSP in the jurisdiction or has made a valid formal request for Phase 1 wireless service with the WSPs doing business in their jurisdiction. In NG9-1-1 Environment: ECC has Call Handling equipment or functionality to enable the receipt of "NG9-1-1" calls with associated data [call back number (CBN) & caller location information] from callers in the ECC's jurisdiction. This includes traditional wireline, static Voice over Internet Protocol (VoIP), and wireless Phase I types of calls. ECC is also Phase I wireless capable for at least one Wireless Service Provider (WSP) in the jurisdiction or has made a valid formal request for Phase I wireless service with the WSPs doing business in their jurisdiction.	ANI & ALI data is interfaced to CAD and electronic mapping. ANI is 10-digits from the SR. (no NPD digit) In NG9-1-1 Environment: Capable of receiving the 10-digit CBN within the NG9-1-1 callpath, and graphically displays the caller's estimated location via GIS (as opposed to a cell sector location).	Using a GIS mapping tool In NG9-1-1 Environment: ECC is using a Geographic Information System (GIS) mapping tool for the graphical display of location information to the PST

Assessment Result: ADVANCED

Notes: 8-digit CAMA-MF signaling from SR is no longer used. ANI delivered from the SR uses the industry standard Enhanced-MF 10-digit format (or 20-digits where applicable for wireless calls). The [any name] ECC is Phase 2 compliant for all WSPs known to be serving the jurisdictional area, and all incoming E9-1-1 call data received from ALI is automatically delivered electronically into the [any brand] CAD system.

***Informative and not part of the ANS**

4.2 An Example of Reporting Rating Results for Item D1:

This is a typical example of how the ECC would utilize the matrix tables to record their results.

CAT Item		Standard Criteria	Advanced Criteria	Superior Criteria
D 1	Retention (Personnel) This would be based on employees who have completed their probationary period.	Turnover less than 19%	Turnover less than 10%	Turnover less than 5%

Assessment Result: SUPERIOR

Notes: The [Any Name] ECC maintains an average turnover rate of 4.25%.

Appendix A (The "S" Items Matrix)

Service Capability Criteria Matrix for Survivability Items

(Each graduated rating assumes compliance with the prior rating criteria)

Legend for CAT: S = Related to Survivability

Each graduated rating assumes compliance with the prior level.

CAT	Item	Standard Criteria	Advanced	Superior Criteria
S1	Receipt of E9-1-1 calls using static ALI functionality, or Receipt of NG9-1-1 calls with ALI equivalent functionality	ECC has CPE to enable the receipt of "Enhanced 9-1-1" calls with associated data (CBN & caller location information) from callers in the ECC's jurisdiction. This includes traditional wireline, static VoIP, and wireless Phase 1 types of calls. ECC is also Phase 1 wireless capable for at least one WSP in the jurisdiction or has made a valid formal request for Phase 1 wireless service with the WSPs doing business in their jurisdiction. In NG911 Environment: ECC has Call Handling equipment or functionality to enable the receipt of "NG911" calls with associated data [call back number (CBN) & caller location information] from callers in the ECC's jurisdiction. This includes traditional wireline, static Voice over Internet Protocol (VoIP), and wireless Phase I types of calls. ECC is also Phase I wireless capable for at least one Wireless Service Provider (WSP) in the jurisdiction or has made a valid formal request for Phase I wireless service with the WSPs doing business in their jurisdiction.	ANI & ALI data is interfaced to CAD and electronic mapping. ANI is 10-digits from the SR. (no NPD digit) In NG9-1-1 Environment: Capable of receiving the 10-digit CBN within the NG9-1-1 callpath, and graphically displays the caller's estimated location via GIS (as opposed to a cell sector location)	Using a GIS mapping tool In NG9-1-1 Environment: ECC is using a Geographic Information System (GIS) mapping tool for the graphical display of location information to the PST

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S2	Receipt of E9-1-1 calls using dynamic ALI functionality.	ECC has CPE to enable the receipt of "Enhanced 9-1-1" calls with associated data via dynamic ALI updates (CBN & caller location information). This includes nomadic VoIP and wireless Phase 2 types of calls. ECC is also Phase 2 wireless capable, for at least one WSP in the jurisdiction, or has made a valid formal request for Phase 2 wireless service with the WSPs doing business in their jurisdiction. In NG9-1-1 Environment: ECC has Call Handling equipment or functionality to enable the receipt of "NG9-1-1" calls with associated data that is equivalent to dynamically updated data in an E9-1-1 environment (CBN & caller location information). This includes nomadic VoIP and wireless Phase 2 types of calls.	Capable of receiving the 10-digit CBN via the SR, or within the callpath, and graphically displays the caller's estimated location via GIS (as opposed to a cell sector location). In NG9-1-1 Environment: Capable of receiving the 10-digit CBN within the NG9-1-1 callpath, and graphically displays the caller's estimated location via GIS (as opposed to a cell sector location).	Providing wireless Phase 2 service for **all** carriers serving the jurisdiction. In NG9-1-1 Environment: Providing wireless Phase 2 service for all carriers serving the jurisdiction.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S3	CAD	The ECC provides their PSTs with software to assist in initiating calls for service, dispatching, and maintaining the status of responding resources in the field.	ECC provides additional software which provides capability to process information associated with incoming calls, including the maps display of the caller's reported location. ECC has the ability to access historical information from management system.	ECC has capability to transmit call information directly to responders, alternate ECCs, etc. ECC has the ability to provide data and interoperability electronically with other agencies and communications centers.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S4	GIS mapping tool	The ECC has the ability to automatically accept, display and plot caller location data on an electronic map display.	9-1-1 mapping displays the location of current calls and other resources. Updated quarterly and software upgrades.	ECC has a fully integrated GIS management system that supports 9-1-1 call routing [Master Street Address Guide (MSAG) management], CAD, as well as call handling. GIS system used by the ECC is fully supported by the AHJ and provides multiple layers for call taker reference. Address points, street layers, and any other layers that may have changed are updated at least monthly. ECC has the ability to provide data and interoperability electronically with other agencies and communications centers, i.e.: video, pictures, mapping tools, etc.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S5	Access to PSTN	ECC has access to PSTN through typical local service provisioning.	ECC has PSTN connectivity from physically diverse redundant network facilities (these may or may not be provided by the same network provider).	ECC also has PSTN connectivity incorporated into their Mobile Command Units or Alternate ECC locations.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S6	ADA compliance	TDD/TTY, special needs community access at each ECC position with semi-annual training	Standard Plus integrated into CTI, with a public outreach program	Advanced Plus conducting testing at regular intervals with the aid of actual end-user callers who need this type of service

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S7	Emergency Communication Plans in place for risks associated with local vulnerabilities[17] (This item also supports agency Continuity of Operations Planning) See also HSPD 8, footnote 3 above, and NFPA 1600.	Documented plans in place to survive risks associated with local vulnerabilities and provide at least basic levels of service for a brief period of time such as up to three days until more permanent changes or repairs could be made. For example, an ECC in a hurricane-prone area should have comprehensive emergency communication plans in place to ensure (at least) basic level service survivability and sustainability in the event of a hurricane. All ECCs share the risk from man-made events resulting in disruption of emergency services. This criterion could be met by establishing mutual aid agreements with neighboring ECCs to receive and handle calls during this time. This item also supports agency Continuity of Operations Planning (COOP).	Meets Standard requirements plus has the ability to survive risks associated with local vulnerabilities and provide routine levels of service for moderately longer periods of time before needing to hand-off all call receipt and handling responsibilities to some other ECC.	Meets Advanced requirements plus has the ability to survive risks associated with local vulnerabilities and sustain routine and surge capacity levels of service for extended periods of time that could be needed to effect repairs to the ECC and supporting infrastructure

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S8	Coordination and Collaboration of Emergency Communication Plans with all necessary partners	Having such plans in place, and in the hands of all partners (i.e., ECC Operations, E911SSP, AHJ, associated Public Utilities, and other applicable entities).	Having regular scheduled meetings to ensure that all partners share current expectations and make necessary revisions	Testing the plans through exercises at predetermined intervals with all partners to ensure they will result in the desired outcomes

Assessment Result: __

Notes: __

[17] ECCs should determine or have knowledge of all hazards identified during a threat assessment, with special attention given to risks associated with local vulnerabilities. An ECC in a hurricane prone area should have comprehensive emergency communication plans in place to ensure at least basic level service survivability and sustainability in the event of a hurricane. All ECCs share the risk from manmade events resulting in disruption of emergency services.

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S9	Schedule and conduct drills to exercise emergency communication plans.	A drill and exercise program are in place to evaluate contingency/continuity of operations plans. Each plan or planning item should be exercised at least annually. An after action and correction process is in place to evaluate and improve the planning process. All three of these specific goals shall be met in order to meet this Standard level of performance for item S9.	Drills and exercises are scheduled to assure all appropriate staff and support agencies/personnel have the opportunity to practice contingency/continuity of operations plans at least annually. (i.e., an ECC with four shifts will perform all annual drills/exercises at least four times.)	Drills and exercises are held quarterly including after hours to evaluate contingency/continuity of operations plans in worst case scenarios. (The intention of the quarterly drills and exercises is to give ECC staff an opportunity to deal with various types of simulated ECC incidents and demonstrate knowledge of and capability to activate the appropriate response plans. It is expected that all such drills will be immediately preceded with a notice making it clear that it is a drill, such as: "This is a drill" and again at the conclusion of the drill.)

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S10a	Trunking/ Transport Path Management • **Diversity**[18]	• Trunking diversity and redundancy shall be included in the ECC's operational/design documents. • **Diversity**: Selective Router (SR) to Local Serving Office (LSO) is the minimum level of diversity for the E9-1-1 transport path (aka: trunks or lines and supporting hardware and electronics). (Audited on an annual basis.)	**Diversity**: Meets Standard requirements plus have local loop diversity from the LSO to the ECC where economically feasible. The total number of trunks or lines shall be diverse including those entering and within the ECC. Example: if the ECC requires ten trunks or lines to attain a P.01 GoS, local loop diversity would be achieved by having five in one transport path and five in another.[19] (Audited on an annual basis.)	**Diversity**: Meets Standard & Advanced requirement plus has full redundancy as well as at least one level of diversity. Example: if the ECC requires ten trunks or lines to attain a P.01 GoS, fully redundant local loop diversity would be achieved by having Ten in each diverse transport path. (Audited on an annual basis.)

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S10b	Trunking/Transport Path Management **Status Monitoring of the network elements**	Paths are monitored & alarmed 24x7 by the network element providers.	Monitoring capabilities include some level of remote diagnostics via the network element providers.	Monitoring capabilities include some level of remote repair functions via the network element providers. ECC has real-time access to the monitoring being done by the network element providers.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S10c	Trunking/Transport Path Management **Status Monitoring of ECC CPE**	ECC CPE is alarmed 24x7 for automatic trouble reporting/alerting.	Monitoring capabilities include some level of remote diagnostics via the ECC CPE provider.	Monitoring capabilities include some level of remote repair functions via the ECC CPE provider.

Assessment Result: __

[18] NENA Technical Information Document 03-501 on Network Quality Assurance, Section 3.2 addresses E9-1-1 Network Diversity in the following manner, "When discussing diversity in a network, two concepts shall be considered – diverse routing and diverse facilities (or transport). Diverse routing implies diverse facilities, but the opposite may not be true. Both shall be implemented to completely eliminate single points of failure." See NENA 03-501 for more information.

[19] Consideration of economically feasible should be noted. Smaller ECCs are very unlikely to be able to afford local loop diversity. Wireless may be a viable option.

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S10d	Trunking/Transport Path Management **SOPs**	SOPs explain what to do when the alarm is activated and assign responsibility.	SOPs explain how and when to manually invoke alternate trunking/transport paths.	SOPs detail how and when alternate trunking/transport paths will be automatically invoked.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S10e	Trunking/Transport Path Management **Training**:	Trunking/Transport path management is addressed in ECC training document. Example: This would include having training material to allow ECC management to identify when one of the diverse transport paths has been interrupted.	Not applicable	Not applicable

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S11	Selective Router Redundancy for E9-1-1[20], and Next Generation Core Services (NGCS) Redundancy in NG9-1-1 [S11]	None required to be rated "Standard"	Redundant SRs are used to assure that more than approx. 50%, but less than 100% of the normal call volume (load) would remain in service in the event one of the SRs were to be unavailable for use. (Commonly called load sharing redundancy).	Redundant SRs are used to assure that 100% of the normal call volume (load) would remain in service in the event one of the SRs were to be unavailable for use. (Commonly called fully redundant).

Assessment Result: __

Notes: __

[20] If the redundant and diverse facilities are not part of normal day-to-day call delivery they should be exercised on a regularly scheduled basis.

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S12a	Continuity of Operations Planning (COOP) supported by SOPs	There are readily available, documented SOPs for daily operations, and ECC personnel are aware of them. There is an up-to-date, documented process for notifying people of changes.	SOPs for emergency communication planning to support the need to invoke restoration plans. There is a scheduled documented process in place for at a minimum annual review of all documented SOPs.	SOPs are available online for all center personnel and are updated in a timely fashion, by a designated administrator. COOP and supporting documents are readily available for retrieval and transport or remote access.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S12b	SOPs support staff by providing procedural guidance	Public Safety communications procedural guidance is available via published documents, such as: SOPs, SOGs and protocols. At a minimum, these documents SHALL cover such categories as: Personnel, Operations, Technical Support, Physical & Information Security, Routine Maintenance, Procurement and COOP.	Not applicable. If an ECC meets the Standard criteria, they are rated "Advanced" for this item.	SOPs align with CALEA (or equivalent standard setting organizations) requirements and are certifiable. There are timely drills/exercises/other evaluative processes to ensure the relevance and viability of the SOPs.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S13	Redundancy of mission critical systems or subsystems such as, but not limited to: • Telephones • Radio systems • ANI/ALI controllers • Recording equipment • Power sources This item includes ALL mission critical systems or subsystems, as identified in the local COOP or other contingency planning documents.	For ALL mission critical systems or subsystems written MOUs (or similar contractual agreements) exist to sustain COOP in the event of a mission critical system or subsystem failure. Appropriate SOPs exist to support Staff in accomplishing the above criteria.	Mission critical systems, subsystems are redundant to the extent that they provide reduced yet acceptable levels of service, but without requiring any outside/external MoU support. Appropriate SOPs exist to support the above criteria.	Mission critical systems, subsystems are redundant to the extent that they provide full service, but without requiring any outside/external MoU support Appropriate SOPs exist to support the above criteria.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S14	Level of service provided from an Alternate Facility (aka: back-up ECC) during a significant event that precludes use of the primary facility.	The ECC can receive and handle 9-1-1 calls as voice calls from their alternate (back-up) facility. CLARIFICATION: This is not meant to apply to short term rerouting of calls for temporary disruptions of service, or for temporary high call volume situations. See item(s) [S26] for that situation.	The alternate ECC facility provides the same level of E 9-1-1 service as the primary site but may do so at a diminished capacity. Alternate facility captures call and CAD data, and it is available to the primary site when it is back in service.	The alternate ECC facility provides a comparable standard of service as the primary site.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S15	Staffing as applied to critical incident situations 5 above	Adequate staffing to maintain service levels, at or above AHJ minimum during normal 9-1-1 call volume. In the absence of any other defining criteria, adequate staffing in this context means that 90% of the incoming E9-1-1 calls are answered in ten seconds or less. Methods to achieve these levels during critical incident situations could include mutual aid agreements with neighboring ECCs to receive and handle calls; or diverting non- emergency calls and non-active event radio traffic during crisis event level operations. SOP exists authorizing such adjustments	With up to a 10% increase in normal call volume, the ECC has adequate staff and maintain service levels to meet a 90/10 benchmark and to have adequate Supervisory support on hand. SOP to support such action exists and documented training in same is available.	With an increase greater than 10% in normal call volume, the ECC has adequate staff and maintain service levels to meet a 90/10 benchmark. Adequate Supervisory support, including training and technical services staff positions are readily available to PSTs. SOP to support such action exists and documented training in same is available . Adequate regard for rest, refreshment and family support is documented via SOP, internal memorandum, etc.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S16a	Access to Technical Support for all Mission Critical systems - **Remote Diagnostics**	Technical Support via remote diagnostic capability is available 24x7. Technical Support should begin resolution of the problem within the time specified in any applicable contract.	Technical Support should begin remote diagnostic resolution of the problem within two hours.	Technical Support should begin remote diagnostic resolution of the problem within one hour.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S16b	Access to Technical Support for all Mission Critical systems - **On-Site Response**.	On-site technical support is available 24x7. When required, technical support should be on-site to begin resolution of the problem within the time specified in any applicable contract.	When required, technical support should be on-site to begin resolution of the problem within four hours.	When required, technical Support should be on-site to begin resolution of the problem within two hours.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S16c	Access to Technical Support for all Mission Critical systems - **Availability of a spare parts kit[21] 24x7**	The spare parts kit can be on-site within two hours.	The spare parts kit can be on-site within one hour.	The spare parts kit is available on-site 24x7.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S17	Availability of an Evacuation Kit (See footnote 11 for a description of any evacuation kit for purposes of this item.)	The evacuation kit in paper format can be transported to the alternate site immediately upon evacuation.	The evacuation kit in electronic format (i.e., CD) can be transported to the alternate site immediately upon evacuation.	The evacuation kit in electronic format (i.e., LAN/WAN) is available at the alternate site at all times.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S18	Staff and Family Security Plan	Staff shall be ready to report (as specified locally) during any major event; staff have adequate access rights and credentials.	Authority has properly planned, arranged adequate food, supplies, rest areas and support for staff required to extend shifts during major event.	Same as "Advanced" and Authority has arranged shelter plans for family of staff, including prompt access and sustained resources.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S19	Current ECC Location, ECC Site Selection & Construction Considerations 8 above. Building location and architecture should minimize potential threats from natural and human sources.	ECC placement takes meteorological and seismic threats into account. ECC location is not located along a known fault line, and is not susceptible to flooding, tornados, hurricane winds, frequent lightning strikes, mudslides, etc.	ECC placement takes human threats into account. ECC location is not under or next to elevated roadways, electrical substations, natural gas or oil pipelines, rail lines or runways; reasonably protected from out-of-control vehicles; reasonably protected from casual vandalism.	ECC and related outdoor structures are built to withstand earthquakes according to state or local code. ECC is positioned within a secure perimeter to minimize physical access to the structure.

Assessment Result: __

Notes: __

[21] The term "spare parts kit" is meant to describe a collection of spare hardware typically expected to be necessary to support mission critical systems.

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S20	Data backup plan 8	The reliance upon CAD databases to facilitate call processing, manage resources and events has created a need for such mission critical data to be immediately available at the designated back-up location. A hard copy of critical call processing, dispatch and support resources are available at the designated back-up site for use in the event of a delay of availability of electronic resources.	Critical data is transportable to any back-up location (not pre-designated) within four hours.	Critical data is stored in a manner that allows it to be available to any authorized ECC or other entity that would be acting as a back-up in an emergency/disaster situation. This is likely a shared network drive or equivalent.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S21	Alternate Power Source with sustainable fuel options/sources	• Primary facility has the ability to operate via UPS devices (individual or facility level) during periods of commercial power loss, until alternate power becomes available. • Alternate Power Source (appropriately sized generator placed in a safe and accessible location) is readily available to operate immediately to serve the primary facility, with documented SOP and training for starting procedures. • The AHJ has plans and sources identified to provide sustained refueling as necessary. • Regular testing of Alternate Power Source is conducted per local SOP and Manufacturer Guidelines, with documentation of test results available.	• Alternate Power Source at primary and remote critical facility sites such as distributed radio control locations. • Generator Status Monitor Panel installed inside ECC. • Documented training of understanding of such panel alerts and remedial actions. • Load capacity allows maintenance of routine functionality at the primary and remote facilities. • Documented MoU with local power provider for priority restoration. • Automatic Transfer Switch with Manual Starting Options while primary facility is served by UPS devices. • Sustained refueling contracts include priority service in disaster situations with audits to ensure the supplier has the capability for delivery even in the event of loss of power to the supplier's facility.	• Primary facility has a secondary alternate power supply if the primary alternate generator fails. • Alternate generator is capable of maintaining all mission critical functionality. • This level is as all others, inclusive of lower levels' objectives. • A test of backup power under load is performed according to NFPA 1221 Chapter 11-Testing.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S22	Telecommunication Service Priority (TSP) for wireline restoration and provisioning	The AHJ has been assigned formal TSP status. Assignment records are audited against current service records annually.	Has been assigned formal TSP status. Has written procedures in place to utilize these tools when necessary.	Includes the use of TSP tools in routine practice drills.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S23	WPS access in emergency circumstances	The AHJ has been assigned formal WPS status. WPS test calls made quarterly from all WPS assigned handsets.	The AHJ has written procedures in place to utilize WPS when necessary. Handsets assigned WPS access are acquired from two or more carriers.	Includes the use of WPS in routine practice drills.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S24	GETS cards for access in emergency circumstances	The AHJ has been assigned formal GETS status. GETS Test calls made by all card holders on a Quarterly basis.	The AHJ has written procedures in place to utilize GETS when necessary.	Includes the use of GETS in routine practice drills.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S25	Remote access to call forwarding for admin lines	As available from LEC, ECC has capability to set call forwarding on admin lines remotely. SOP defines and explains the process for such action. Phone numbers and other contact information referenced in any specific SOP shall be verified minimally annually, or as notice of change takes place.	ECC has documented the demonstration of such capability during regularly scheduled staff training. Phone numbers and other contact information in protocol are verified semi-annually, or as notice of change takes place.	ECC has documented the capability during regularly scheduled exercises or actual events. Phone numbers and other contact information in protocol are verified quarterly, or as notice of change takes place.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S26	Remote access to rerouting for E911 trunks and lines	As available from LEC, ECC has capability to establish rerouting of E911 trunks/line remotely. If not available, shall have a documented and effective process identified. If there is a third-party service provider, an agreement shall be in place and the process shall be tested. Phone numbers and other contact information referenced in any specific SOP shall be verified minimally annually or as notice of change takes place.	ECC has documented the demonstration of such capability during regularly scheduled staff training. Phone numbers and other contact information in protocol are verified semi- annually, or as notice of change takes place.	ECC has documented the capability during regularly scheduled exercises or actual events. Phone numbers and other contact information in protocol are verified quarterly, or as notice of change takes place.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
S27	Grounding Lightning Protection	ECC shall employ industry recognized lightning and grounding practices, such as those defined in the most recent version of the National Electric Code (NEC) sections 250, 280 and 285 or equivalent, and any applicable local laws or ordinances that exceed NEC requirements, as amended. Special attention should be given to ensuring that the contractor provides a "single ground point" for ECC area to protect staff. Conformance with such standards provides a reasonable level of protection from lightning induced failures associated with tower strikes, building strikes, incoming facility strikes, etc. In all cases, any new or modified equipment shall be installed in accordance with these best practices and so certified to the ECC.	The ECC meets the requirements of NFPA-780 or equivalent, and the associated re-inspection cycles, performed by a qualified inspector.	The ECC meets the requirements of the most recent version of FAA-STD-019 or equivalent, or IEEE 1100 or equivalent, and the associated re-inspection cycles, performed by a qualified inspector.

Assessment Result: __

Notes: __

Appendix B (The "D" Items Matrix)

Service Capability Criteria Matrix for Day-to-Day Operational Items

(Each graduated rating assumes compliance with the prior rating criteria)

Legend for CAT: S = Related to Survivability, D = Day-to-Day Operational Items

Each graduated rating assumes compliance with the prior level.

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D1	Retention (Personnel) This would be based on employees who have completed their probationary period, excluding retirees and employees who moved on to other roles within the local government or agency.	Turnover less than 19%.	Turnover less than 10%.	Turnover less than 5%.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D2	Building/Facility Maintenance and Repair Where the Buildings or Applicable Space used for ECC Purposes are Under the Control of the AHJ in E9-1-1 or NG9-1-1 NOTE: This item may be a function of the entity having responsibility for building maintenance & repair. But the ECC/E9-1-1 AHJ needs to ensure certain levels of performance are achieved for this item.	• Maintenance occurs based upon the needs of the physical plant and critical equipment necessary to keep it habitable and useful to support an ECC operation. • The ECC shall maintain a documented contact list of parties responsible for doing the building maintenance and repair functions. • There shall be signed maintenance agreements with outside vendors as necessary to meet the above schedules. • Maintenance schedules shall meet manufacturer schedules and other such governing local documentation, such as: an AHJ created schedule of maintenance for all critical components that are in the building.	Not Applicable	Not Applicable

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D3	Funding Stream is adequate to maintain operational integrity of the ECC on a day-to-day basis and includes plans to be able to provide adequate funding in the event of a disaster situation, specifically as it applies to items included in this document.	The ECC relies on existing telecommunications device/service provider E9-1-1 surcharges and/or supplemental general government funding to provide an adequate revenue base.	The ECC has access to State and/or Federal grants, and/or they have contracts in place with other agencies that provide additional streams of revenue that allows them to implement advanced or superior levels of service as described in this document.	The ECC has a legislated revenue stream to provide adequate dedicated funds or has their general funding stream(s) protected against non-ECC use (can't be "raided" by other government entities).

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D4	Access Controls for Primary and Off Site where the buildings or applicable space used for ECC purposes are under the control of the AHJ in E9-1-1 or NG9-1-1 (Example of Off Site would be a radio tower, etc.) This item refers to physical access to rooms, equipment and software applications, etc.	Primary physical access to the site is limited to Public Safety Communications personnel and to others only under escort. Compliance with NFPA 1221 Section 4.6 (Security). Where applicable, to achieve this rating the ECC shall be in compliance with NCIC and other physical security related local requirements. The official definition of a physically secure location can be found in the CJIS Security Policy.	Physical/electronic access controls are in place. Video monitoring in place and retained for period of time that is established by the AHJ.	Access is based upon legitimate need to enter or to perform work on specific equipment or software applications. Example: a person may be authorized to enter a room that contains filing cabinets and the logging equipment, but they may only be authorized to access the cabinets, not the logging equipment.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D5a	Training in E9-1-1 or NG9-1-1 • Probationary training	There is a documented training process for new employees that meet local or State minimum requirements, and it is reviewed annually to retain consistency with operational changes that may be driven by new technologies, applications etc. Documented training curriculum complies with or is comparable to the APCO National Minimum Training Standards for Public Safety Telecommunicators (most recent version). Applicable courses or training materials could include the information found in NENA 52- 001 TTY Training Operation Standard, APCO ADA Training Standards, or APCO Institute PST1 or equivalent. To meet this rating the training shall include additional TTY training beyond the APCO Minimum Training Standards and shall meet minimum DOJ ongoing requirements for TTY training. Training should also include use of ECP (9 above) if used by the local AHJ. To meet this rating the training shall include successful completion of NIMS IS-100 & IS- 700.	All training, including On-the-Job- Training (OJT) is delivered by certified trainers. A state or nationally recognized program is utilized for probationary training. Compliance with NFPA 1221 Section 7.2 (Telecommunicator Qualifications & Training) as it applies. [Certification may be obtained through specific APCO and/or NENA CTO courses or equivalent.]	Training plans align with applicable CALEA probationary training processes.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D5b	Training in E9-1-1 or NG9-1-1 Ongoing Professional Development	There is a documented training process for new employees that meet local or State minimum requirements. Professional Development training should build upon requirements for Continuing Education Points for various applicable Certifications. Documented training curriculum complies with or is comparable to the APCO National Public Safety Telecommunicator Training Standard (the Project 33 Training Standard). Applicable courses or training materials could include the information found in NENA 52- 001 TTY Training Operation Standard or APCO Telecommunicator PST1 course (the 40-hour course). To meet this rating the training shall include additional TTY training beyond the APCO Project 33 Training Standard, and shall meet minimum DOJ ongoing requirements for TTY training Training should also include use of Emergency Call Protocols (ECP) if used by the local AHJ.	Professional Development training shall exceed the requirements for Continuing Education Units for various applicable Certifications for each job category in the ECC, by guiding the PST along a career path formally defined by the AHJ. All training, including OJT is delivered by certified trainers. A state or nationally recognized program is utilized for ongoing Professional Development training. Compliance with NFPA 1221 Section 7.2 (Telecommunicator Qualifications & Training) as it applies.	To achieve this rating the Professional Development training shall go beyond the basic requirements for CEUs by introducing defined means for career development, to include skills such as: a foreign language, operational specialties, pursuit of post high school degrees. Training plans align with applicable CALEA, or other accreditation program processes and are certifiable. Training program is reviewed annually to retain consistency with operational changes that may be driven by new technologies, applications etc.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D6	Logging Recording in E9-1-1 or NG9-1-1	Records all incoming emergency calls and all radio traffic associated with emergency calls	Records all incoming emergency calls and all radio traffic associated with emergency calls, with instant replay capability	Records all new incoming emergency and non-emergency calls (with instant replay capability), and records associated ALI/CAD and multimedia data.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D7	Quality Assurance in E9-1-1 or NG9-1-1	A procedure is in place to proactively review a random sample of incoming calls for emergency service based on call log recordings or other historical recorded data (i.e., CAD records) to assess the level of performance per established SOPs.	A procedure in place to proactively review a proportionate stratified random (footnote10 above) sample of incoming calls for emergency service based on call log recordings or other historical recorded data (i.e., CAD records) to assess the level of performance per established SOPs.	A procedure is in place to have assigned staff personnel contact callers for emergency service to gauge their perception of service (either mailing, phone call, personal contact etc.) per SOPs.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D8	Interoperability with PSTN in E9-1-1 or NG9-1-1	Can receive calls from the PSTN using POTS capabilities, typically without any vertical services (i.e., Caller-ID, Calling-Name, etc.).	Centrex/PBX functions, the ability to transfer a call to another PSTN destination.	Ability to receive a PSTN call and introduce it into an ESInet along with automatically or manually collected data, hence passing voice and data to

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D9	Public Education in E9-1-1 or NG9-1-1	Public Safety Agencies should actively engage in public education efforts aimed at informing the public of the capabilities and proper use of 9-1-1. This can be incorporated into crime prevention and fire prevention education programs.	ECC has a designated Public Education office within the agency, or an equivalent structured Public Education (PubEd) program. The materials that were distributed and the extent of the reach achieved by that distribution is documented.	The results of feedback from the PubEd Program are used to implement changes to the Program and operational SOPs (if needed).

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D10	Viewing local weather and news information, and monitoring distribution of information over EAS in E9-1-1 or NG9-1-1	ECC has an all hazards radio with selective alerting and/or other form of locally informative advance warnings for weather or other public safety related events.	ECC subscribes to specific weather, news and traffic related services that provide early warnings. Such as: National Weather Service, NOAA, etc.	ECC CAD or equivalent technology interfaces with the local early warning systems such as the Intelligent Transportation System (ITS) or other applicable systems. For example, if associated agency data is presented to the ECC, data from such systems are integrated into the CAD, providing the ability to utilize: • automatic insertion of calls into the waiting queue, • automatically selected video feeds which can be viewed by the PST, and/or forwarded to responding units with data video capability.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D11	Care of a spare parts kit that contains enough spares to maintain critical functionality as determined by the AHJ in E9-1-1 or NG9-1-1.	The spare parts kit is able to be onsite within two hours. The ECC has documented arrangements to allow spare parts kit spares to be replaced within 72 hours of being used. Spare parts kit contents are upgraded consistent with current equipment configurations.	The spare parts kit is able to be onsite within one hour. The ECC has documented arrangements to allow spare parts kit spares to be replaced within 48 hours of being used.	The spare parts kit is onsite. The ECC has documented arrangements to allow spare parts kit spares to be replaced within 24 hours of being used.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D12	Care of an evacuation kit in E9-1-1 or NG9-1-1. (See footnote 11 above for a description of an evacuation kit for purposes of this item.)	Documentation is available in printed format, and kept up-to-date manually on a prescribed schedule, and is reviewed at least semi-annually for accuracy. The prescribed schedule for each item contained in the evacuation kit should be based upon the normal frequency of changes made to the data sources used for each item within each agency.	Documentation is available in electronic format which is kept up to date l manually on a prescribed schedule and is reviewed at least quarterly for accuracy. The prescribed schedule for each item contained in the evacuation kit should be based upon the normal frequency of changes made to the data sources used for each item within each agency.	Documentation is available in electronic format that is continually updated automatically, and always available from the alternate/back- up location.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D13	Amber Alerts in E9-1-1 or NG9-1-1	The ECC has a documented and readily accessible Amber Alert procedure in place, and a minimum of one person per shift is trained in its use. The ECC shall provide the info necessary to issue an Amber Alert to the Issuing Authority within 30 minutes. The ECC tests themselves every six months to ensure they can meet their goals when called upon.	The ECC has a documented and readily accessible Amber Alert procedure in place, and ALL supervisory personnel are trained in its use. The ECC shall provide the info necessary to issue an Amber Alert to the Issuing authority within 20 minutes. The ECC tests themselves every three months to ensure they can meet their goals when called upon.	The ECC has a documented and readily accessible Amber Alert procedure in place, and ALL personnel are trained in its use. The ECC shall provide the info necessary to issue an Amber Alert to the Issuing authority within less than 20 minutes. The ECC tests themselves every month to ensure they can meet their goals when called upon.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D14	NCMEC	Center has adopted the APCO ANS 1.101.2-2010: Standard for PST when Responding to Calls of Missing, Abducted, and Sexually Exploited Children	Center/Agency Head or designee has attended NCMEC "Missing & Exploited Children Chief Executive Officer Seminar or equivalent."	All operations staff working in Center have received initial training to comply with APCO ANS 1.101.2-2010, Standard, annual in-service training is delivered, and documentation of training is kept.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D15	Wireless call management / processing/ testing	Documented training processes for handling wireless calls, based on the type of wireless calls the ECC typically receives (Phase I, Phase 2), using the NENA 56-001 Standard as a training tool.	Documented training processes for handling wireless calls to allow the ECC to ascertain the level of accuracy they are getting on a day to day basis. A documented procedure is in place to address cases of misroutes or inaccurate data being delivered on a wireless call.	Documented training processes exist for handling wireless calls based upon the APCO ANS 1.103.1-2008 standard. A method is in place to document when/how remedial actions are taken on instances of misroutes or inaccurate wireless data, to include follow up and final verification of resolution of the problem.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D16	Automated intelligent alerts (any kind, not just automotive, but this is not inclusive of auto-dialers in footnote 12) [NOTE: This does not preclude the ECC having verbal communication with the sender of the automated intelligent alert, if applicable.]	ECC is positioned technologically to receive such alerts as they become available in their area. This may only be applicable in a NG9-1-1 environment.	The ECC has a procedure in place that addresses how these calls will be received and processed if they are unable to be automatically received and processed into CAD or equivalent ECC tools.	The ECC has implemented automated receipt and processing of these alerts into CAD or equivalent ECC tools.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D17a	TDD/TTY Equipment	Compliance with DOJ ADA requirements for TDD/TTY is the minimum level acceptable for this item. That includes an acoustic coupler or equivalent technology that is available at each answering position (as required by the ADA TDD/TTY rules), and the entire staff has been trained on its proper use (see Item D 17c below).	The ECC has automatic detection of TDD/TTY calls.	The ECC has automatic detection of TDD/TTY calls integrated with CTI and/or CAD.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D17b	TDD/TTY Equipment Testing	The ECC shall conduct an internal testing program in which they conduct random TTY test calls of each PST position. The tests should be designed to ascertain whether TTY equipment functions properly and whether personnel have been adequately trained to recognize TTY calls quickly, to operate TTY equipment, and to conduct TTY conversations. All testing results shall be documented locally.	The ECC shall have a formalized process in place with external TTY equipped agencies for the purpose of testing each device in accordance with the recommendations made in the ADA documentation.	Not Applicable

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D17c	TDD/TTY Equipment	Training Initial training shall be provided to all persons who may be subject to receive a TDD/TTY call prior to being authorized to take live calls.	The ECC has a program in place to randomly test each PST on a TDD/TTY call at least once every six months.	The ECC has policies and procedures in place that align with CALEA Standards.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D18	Internet Access in E91-1 or NG9-1-1 Internet based tools, such as highway cameras, web-based Emergency Notification Systems, etc. Note that in NG9-1-1 this might be accomplished differently. The criteria are met as long as the intent is achieved.	ECC has Internet access for viewing local weather and news information and monitoring distribution of information over EAS. (This has bandwidth, security and operational impacts that shall be considered to ensure reliability of other ECC communications tools.)	Internet access available in the Communications Center/ECC in at least one location/position, with specific policies addressing the use of the Internet by ECC personnel Such access is technologically isolated from other mission critical systems.	Internet access available in the Communications Center/ECC in multiple locations/positions, so that more than one PST can utilize it simultaneously.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D19	Redundant connectivity to critical Internet based services in E9-1-1 or NG9-1-1 (IF APPLICABLE) Ex: bank tracking function, etc. Note that in NG911 this might be accomplished differently. The criteria are met as long as the intent is achieved.	ECC uses two Internet Service Providers to ensure redundancy to Internet access for their critical services (i.e., a DSL access path and a Cable Modem access path).	Internet access via wireless Internet connectivity.	Back-up Internet access via satellite.

Assessment Result: __

Notes: __

CAT	Item	Standard Criteria	Advanced Criteria	Superior Criteria
D20	Emergency Notification Services	Not Required	Center has the ability to do a limited mass wireline notification within a reasonable amount of time, for citizens who have opted in. This level of performance can be achieved via contracts with external commercial providers who would do the notifications for the ECC.	Center has the ability to do a limited mass notification to other technologies such as wireless, SMS, etc.

Assessment Result: __

Notes: __

Appendix C CSRIC Best Practices [16]

CSRIC Best Practices used as additional reference material in this document:
https://opendata.fcc.gov/Public-Safety/CSRIC-Best-Practices/qb45-rw2t/data

BP Number	Descriptive Text
11-9-9569	Network Operators, Service Providers, and Public Safety should consider using the Public Switch Telephone Network (PSTN) as a backup to dedicated trunks for the 9-1-1 network during periods of network failure. In cases where the ability to deliver 9-1-1 calls to the Emergency Communications Center (ECC) through normal routing is interrupted by a failure (not all trunks busy conditions) consider forwarding the call over the PSTN to a telephone number specified and answered by Public Safety authorities. It is desirable for that specified telephone number to be a type that can provide the original Caller ID/Automatic Number Identification (ANI).
11-10-0488	Network operators, Service Providers, and Public Safety should consider registering critical circuits with Telecom Service Priority (TSP).
11-10-0512	Network Operators, Service Providers and Property Managers should perform periodic inspections of fire and water stopping where cable ways pass through floors and walls (e.g., sealing compounds).
11-9-0513	Network Operators and Service Providers should maintain a 24 x7x365 contact list of other providers and operators for service restoration of inter- connected networks and as appropriate, this information should be shared with Public Safety Service and Support providers.
11-9-0566	Network Operators and Service Providers should consider placing and maintaining 911 circuits over diverse interoffice transport facilities (e.g., geographically diverse facility routes, automatically invoked standby routing, diverse digital cross-connect system services, self-healing fiber ring topologies, or any combination thereof).
11-9-0568	Network Operators Service Providers and Public Safety should establish a routing plan so that in the case of a lost connectivity or disaster impact affecting a Public Safety Answering Point Emergency Communications Center (PSAPECC), 9-1-1 calls are routed to an alternate PSAPECC answering point (e.g., alternate PSAPECC.
11-9-0570	Network Operators, Service Providers, and Public Safety should implement procedures that allow for 9-1-1 traffic to be rerouted to an alternate 9-1-1 answering location such as a fixed, mobile, or temporary PSAPECC (automatically, based on policy rules or with minimal manual intervention). For example, situations where a network condition causes 9-1-1 call delivery to be disrupted or PSAPECC personnel must be evacuated for safety reasons.

BP Number	Descriptive Text
11-9-0571	Network Operators and Public Safety should consider deploying dual active 9-1-1 selective routing architectures to enable circuits from the serving end office to be split between two selective routers or Emergency Service Routing Proxies (ESRP) in order to eliminate single points of failure (SPOF) taking diversity between Selective Routers (SR) or ESRP and PSAPECC into consideration.
11-9-0574	Network Operators and Service Providers should remotely monitor and manage the 911 network components using network management controls, where available, to quickly restore 9-1-1 service and provide priority repair during network failure events. When multiple interconnecting providers and vendors are involved, they will need to cooperate to provide end-to-end analysis of complex call-handling problems.
11-9-0575	Network Operators, Service providers, and Public Safety should deploy location identification systems used by Public Safety in a redundant, geographically diverse manner (i.e., two identical ALI/Mobile Positioning Center (MPC) Gateway Mobile Location Center (GMLC)/VPC/LIS database systems with mirrored data located in geographically diverse locations).
11-9-0577	Network Operators, Service Providers and Public Safety Agencies responsible for ECC operations should jointly and periodically test and verify that critical components (e.g., automatic re-routes, ECC Make Busy keys) included in contingency plans work as designed.
11-9-0579	Network Operators, Service Providers, and 911 administrators, and public safety agencies should routinely team to develop, implement, periodically test, evaluate and update as needed plans for 911 disruption contingencies (e.g., share information about network and system security and reliability where appropriate).
11-9-0580	Network Operators and Public Safety Authorities should apply redundancy and diversity, where feasible, to other network links considered vital to a community's ability to respond to emergencies. An order for these links would be placed by the Public Safety Authority. Security practices and concepts should be applied to the critical systems supporting Link Redundancy and Diversity.
11 -9-0599	Network Operators and Service Providers should conduct exercises periodically to test a network's operational readiness through planned drills or simulated exercises. The exercise should be as authentic as practical. Scripts should be prepared in advance and team members should play their roles as realistically as possible.
11-9-1011	Network Operators, Service Providers, Equipment Suppliers and Public Safety Authorities should establish alternative methods of communication for critical personnel.
11-9-1037	Network Operators, Service Providers, Equipment Suppliers and Public Safety Authorities should use a disaster recovery support model that provides a clear escalation path to executive levels, both internally and to business partners.
11-9-1063	Network Operators and Service Providers should set Initial Address Messages (IAMs) to congestion priority in accordance with applicable ANSI standards. This will ensure government emergency calls (e.g., 911, GETS) receive proper priority during national emergency situations. Implementation in all networks should be in accordance with ANSI T1.111.
11-9-3202	The Service Provider and the Public Safety Agency or its agent that utilize Public Safety mass calling systems for emergency notification should have a pre- established procedure to notify all impacted network operators, prior to launching an alert event.

BP Number	Descriptive Text
11-7-3210	Emergency Operations Centers and ECCs should consider obtaining connections to provide video (for viewing local weather and news information and monitoring distribution of information over EAS) and utilize that connection to provide diverse access to the Internet and telecommunications.
11-9-3211	Network Operators and Service Providers should develop and maintain operations plans that address network reliability issues. Network Operators and Service Providers should proactively include Public Safety authorities when developing network reliability plans in support of 911 services.
11-9-3218	Training on Obtaining E9-1-1 Phase II Data: ECCs should provide Training to educate ECC personnel as to the process to obtain E9-1-1 Phase II data.
11-9-3219	Training on E9-1-1 Phase II ALI Display: ECCs should provide training to educate ECC personnel as to the proper meaning and interpretation of the E9-1-1 Phase II display parameters.
11-11-3223	Network Operators, Public Safety and Service Providers should implement dedicated trunk groups between the Mobile Switching Center (MSC) end office or similar source and the E9-1-1 Selective Router (SR), based on the geography served by the default Public Safety Answering Points (ECCs).
11-9-3238	Network Operators, Service Providers, and Public Safety should consider using wireless public or private networks as a backup to dedicated trunks for the 9-1-1 network during periods of network failure. In cases where the ability to deliver 9-1-1 calls to the Public Safety Answering Point (ECC) through normal routing is interrupted by a failure (not all trunks busy conditions) consider forwarding the call over wireless public, private networks, or satellite-based services to provide an additional alternate path to the PSTN, providing IP multimedia connectivity for next generation networks, or used solely as an alternate call delivery path for the voice component of 9-1-1 calls.
11-9-5127	Network Operators, Service Providers, Equipment Suppliers and Public Safety Authorities should provide a Government Emergency Telecommunications Service (GETS) card to essential staff critical to disaster recovery efforts and should consider utilizing Wireless Priority Service (WPS) for essential staff. Appropriate training and testing in the use of GETS & WPS should occur on a regular basis (i.e. in conjunction with testing of the corporate disaster recovery plan).
11-9-5128	Network Operators, Service Providers, Equipment Suppliers and Public Safety Authorities should maintain accurate records for Government Emergency Telecommunications Service (GETS) cards and Wireless Priority Service (WPS) phone assignments as staff changes occur.

ACRONYMS AND ABBREVIATIONS

ADA	Americans with Disabilities Act
AHJ	Authority Having Jurisdiction
AKA	Also known as
ANI/ALI	Automatic Number Identification/ Automatic Location Identification
ANS	American National Standard
ANSI	American National Standard Institute
APCO	Association of Public Safety Communications Officers
BP	Best Practice
CAD	Computer-Aided Dispatch
CAT	Category
CBN	Call Back Number
CEU	Continuing Education Unit
CJIS	Criminal Justice Information Shari
COOP	Continuity of Operations Planning
CPE	Customer Premise Equipment
CTI	Computer Telephony Integration
CTO	Communications Training Officer
D	Day-to-day Operations Category
DOJ	Department of Justice
DSL	Digital Subscriber Line
E9-1-1	Enhanced 9-1-1
E911SSP	Enhanced 9-1-1 Systems Service Provider
EAS	Emergency Alert System
ECC	Emergency Communications Center
ECP	Emergency Call Protocol
ESIPnet	Emergency Service IP Network

FAA	Federal Aviation Administration
FBI NCIC	Federal Bureau of Investigations National Crime Information Center
FCC	Federal Communications Commission
The Guidelines	National Preparedness Guidelines
GETS	Government Emergency Telecommunication
GIS	Geographic Information Systems Scoring System
GoS	Grade of Service Scoring System
HSPD	Homeland Security Presidential Directive
IEEE	Institute of Electrical and Electronics Engineers
ISP	Internet Service Provider
ITS	Intelligent Transportation System
LEC	Local Exchange Carrier
LSO	Local Serving Office
MoU	Memorandum of Understanding
MSAG	Master Street Address Guide
NEC	National Electric Code
NENA	National Emergency Number Association
NG9-1-1	Next Generation 9-1-1
NEXTGEN911	Next Generation 9-1-1
NFPA	National Fire Protection Association
NLSI	National Lighting Safety Institute
NOAA	National Oceanic and Atmospheric Administration
NPA	Number Plan Area
NPD	Number Plan Digit
CSRIC	Network Reliability and Interoperability Council
OJT	On-the-Job Training
POTS	Plain Old Telephone Services
PSAP	Public Safety Answering Point
PSC	Public Service Commission

PST	Public Safety Telecommunicators
PSTN	Public Switched Telephone Network
PubEd	Public Education
QA	Quality Assurance
S	Survivability Category
SOG	Standard Operating Guidelines
SOP	Standard Operating Procedure/Protocol
SR	Selective Router
TLC	Target Capabilities List
TDD/TTY	Telecommunications or Telephone Device for the Deaf /Teletypewriter (Text Telephone)
TSP	Telecommunications Service Priority Service Scoring System
TTY-PASS	Teletypewriter—Performance Assessment and
UPS	Uninterruptible Power Supply
VoIP	Voice over Internet Protocol
WPS	Wireless Priority Service
WSP	Wireless Service Provider

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