9-1-1 OFFICE

PSAP Regional Shared Services Assessment Guidance

Effective May 10, 2013

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PSAP Regional Shared Services
Assessment Guidance

Purpose

The 9-1-1 system in Pennsylvania is at a decisive moment in its history. Advances in technology are forcing a fundamental shift in how 9-1-1 services are offered. The historical concept of "stand alone" PSAPs contributes challenges such as duplication without redundancy, excessive capacity, higher costs for replacement, support and sustainability, multiple maintenance and management arrangements and the lack of interoperability. Additionally, an austere fiscal and funding environment has created the need for planning strategic solutions to maximize the expenditures that are made. Total 9-1-1 revenue collected indicates a continuing decline in total funding available for Public Safety Answering Points (PSAPS); these funding limitations have introduced areas for improvement at every level and heightened the importance of sharing 9-1-1 resources to avoid costs and improve capabilities.

In anticipation of statewide implementation of Next Generation 9-1-1 (NG9-1-1) systems and in an effort to streamline PSAP costs, the Pennsylvania Emergency Management Agency (PEMA) has offered funding for PSAPs to undertake Regional Shared Services Assessments with the goal of assessing the feasibility of Emergency Services Internet Protocol-based networks (ESInets) and equipment sharing/regionalization of the PSAPs in a coordinated effort across the Commonwealth. The Regional Shared Services Assessments will clearly show current equipment and network capabilities, initial capital expenditures, the future five (5) years of anticipated capital expenditures, recurring expenditures and anticipated cost savings to be realized for each of the PSAPs within the region. The assessment will include anticipated governance requirements and draft documents to support such a solution as defined within the assessment.

Background

In 1998, Act 17 amended Act 78 of 1990 − Public Safety Emergency Telephone Act. With this amendment the legislation provided definitions for the powers and duties of PEMA (Agency) and the PUC. The Agency was tasked with defining the County Plans, and training and certifications of personnel. Those were issued in August 2000 as Rules and Regulations (4 Pa Code Chapters 120b, 120c, and 120d). These regulations defined and established technical

standards for the County plan, defining the need for a tri-annual submission and review, technical standards and definitions as to what the Commonwealth deemed made up a 9-1-1 Center or Public Safety Answering Position (PSAP). Per the revised Act, the Agency has the authority to set the technical standards for the PSAPs within the Commonwealth. The Agency is currently working to develop a Next Generation 9-1-1 State plan. The Agency's current NG9-1-1 strategy is to implement NG9-1-1 throughout the Commonwealth of Pennsylvania in a consistent, precise manner while maximizing all available resources including:

- ESInet development and implementation
- Utilizing standards based approach
- Implement IP capable PSAP
- Geographic based routing and database integration
- Deploy NG9-1-1 capable applications
- Converge networks and systems to implement system-of-systems regional approach
- Implement "Best Practices" approach to NG9-1-1
- Integrated regional technical specifications based upon NG9-1-1 standards
- Maintain local and regional operational control with enterprise level coordination

The Regional Shared Services Assessment is seen as one of the first steps in this strategy. In addition to moving forward with the implementation of NG9-1-1, there are several benefits to a regionalized approach to ESInet development and equipment sharing, including: enhanced collaboration and increased operational and technical efficiency amount the participants; improved interoperability; greater situational awareness; better disaster recovery and continuity of operations; enhanced fiscal control; and a common network solution.

GENERAL GUIDANCE

The PSAPs will collectively decide which ones will participate in their respective regions, and submit a combined letter of commitment or individual letters of commitment to PEMA detailing which PSAPs will be participating in the assessment in their respective region. Upon receipt and subsequent approval of the letter of commitment, PEMA will release 50% of the approved funds to each participating PSAP. The PSAPs in each region may self conduct or contract with vendor(s) to complete the assessment adhering to the minimum specifications issued by PEMA.

Once the assessment is complete, each region will forward a copy of the completed assessment report to PEMA. PEMA will review the assessment reports to ensure that the minimum requirements were met. When the report is accepted by PEMA, the remaining 50% of the approved funds will be disbursed to the each participating PSAP. It is expected that the assessment report will be used as the basis for Regional ESInet Planning projects that PEMA has

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also made eligible for funding during the Fiscal Year 2013-14 funding cycle. The following steps are to be followed by PSAPs interested in exploring the opportunity to regionalize public safety communications capabilities.

LETTER OF COMMITMENT SUBMISSION

Those PSAPs that wish to participate in a regional shared services assessment must submit a combined letter of commitment or individual letters of commitment to PEMA. The letter(s) of commitment must indicate:

1. which PSAPs will be participating in the regional assessment process, and
2. the PSAP(s) agree(s) to utilize the funding that has been approved for said assessments.

The PSAPs will be responsible for either conducting the assessment themselves or will contract with a vendor to conduct the assessment. The combined letter of commitment must be signed by representatives of all of the participating PSAPs within the given region. The representative that signs the combined letter of commitment or individual letter of commitment must have signatory authority to commit the PSAP to participation in the regional assessment. A sample letter is attached in Appendix A.   Any contracts entered into will be the responsibility of the participating PSAPs; PEMA will not contract for services for the assessments. Letters must be addressed as follows:

> 9-1-1 Office
> Attn: Jonathan C. Hansen, Director
> Pennsylvania Emergency Management Agency
> 2605 Interstate Drive
> Harrisburg, PA 17110

FUNDING/CONTRACTING

Funding for the Regional Shared Services Assessments is based on the class of counties involved. 1st through 3rd Class Counties are allotted \$45,000 per county; 4th and 5th Class Counties were allotted \$35,000 per county; and 6th through 8th Class Counties were allotted \$25,000-\$30,000 per county. Upon receipt and subsequent approval of the letter of commitment, PEMA will release 50% of the approved funds to each participating PSAP. The PSAPs in each region may self conduct or contract with vendor(s) to complete the assessment adhering to the minimum specifications outlined in this document. Specifics on the contract and billing will be

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the responsibility of the PSAPs and the contractor. If the cost for the regional assessment is less than the amount approved and funded to the participating PSAPs, the excess funds may be reallocated to a project supporting the design, or implementation of the regional ESInet initiative.

ASSESSMENT / REPORT

The assessment and subsequent report generated must include but is not limited to technical, governance, operational and fiscal areas for each of the PSAPs in the participating region. Each of the areas will be a separate section report that becomes a part of the "Regional Shared Services Assessment Findings Report of _____ Region." All findings reports are required to be submitted in the exact layout of Appendix B of this guidance, and copies shall be submitted to each participating PSAP and the Agency. Each entity shall receive one (1) printed and one (1) electronic copy in Microsoft Word 2010 (or equivalent) format of each of the documents. All additional information gathered in the process of this assessment shall be provided to the Agency in Microsoft Excel 2010 (or equivalent) format.

Standard (non-optional) findings and section reports are Technological Assessment, Operational Assessment, and Fiscal Assessment.

Technological Assessment
The Technological Assessment section shall at a minimum include detailed maps of local, county and/or commercial owned fiber and/or microwave assets that can be leveraged into an ESInet solution with the specific PSAPs and EOCs involved; as well as existing PSAP network connections to LECs, EOC and PSAP owned facilities.

The report shall provide additional details that identify the potential shared elements. Furthermore, existing PSAP or County/City owned tower latitude/longitude, current load, known frequencies, tower analysis (if completed within the past 12 months) proposed existing tower latitude/longitude, tower owner, land owner, any existing right of ways, lease terms, current load, known frequencies, tower analysis (if completed within the past 12 months), proposed need-to-be-constructed tower sites, land owner, any existing right of ways, proposed height, and any federal, state, local municipalities impacted shall be identified.

1. The assessment report shall reflect the PSAP and 9-1-1 Application-related bandwidth requirements for the region as well as bandwidth for interconnection to surrounding regions. Current bandwidth available and bandwidth needed must be identified. If using existing equipment, current bandwidth that is in use and an analysis reflecting that sufficient bandwidth

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will be available for all conceived services must be reported. These services can include: IP Telephony, CPE, CAD, RMS, CLEAN/NCIC, GIS, Logging/Recording systems, ITS, Emergency Notification systems, etc. A suggested detailed list of applications, anticipated life cycle, manufacturers, software apps and versions, capacity in number of users, etc. should be shown in the report. The use of tables/spreadsheets to support the analysis in the report is strongly encouraged. Geographic Information Systems (GIS) data availability and readiness for regional sharing must be listed/described in the report.

Operational Assessment

The Operational Assessment section shall at a minimum include detailed call management flow for each of the PSAPs, current staffing plans and proposed staffing changes/enhancements for the answering of calls, ESInet system installation/maintenance, etc. Specific equipment planned on being shared (CPE, CAD, Radio, voice logger, etc.) must be listed. Continuity of Operations – disaster recovery plans, contingency call routing policies must be described. Future plans for the addition of additional shared services, PSAPs, other facilities, etc. must also be described.

Regional Oversight Assessment

The Regional Oversight Assessment section shall at a minimum include detailed executed or proposed memorandums of understandings for the installation and maintenance of the ESInet and shared systems. Existing fiduciary related models and documents including leases, contracts, purchase agreements, with terms and conditions must be shown. Methods for existing or planned integrated situational awareness with EMA integration are to be described.

Proposed documents, such as an Inter-governmental Agreement to create an oversight board, facility uses, bandwidth uses, equipment purchases/leases are to be included in the report. Future plans for adding additional shared services, PSAPs, other facilities, etc must be described. The assessment report should provide suggested legislative changes/modifications for the effective oversight and operations of proposed regional solutions.

Fiscal Assessment

The Fiscal Assessment section shall at a minimum include the pricing that each PSAP is currently paying for monthly recurring line leases, telephone tariffs, equipment maintenance and upgrades. Any capital purchases needed for the ESInet development/deployment must be listed as well proposed funding sources for the purchases. A cost benefits analysis for each County combined into an overall regional cost benefit analysis must be shown. Cost projections for shared services capital purchases and recurring costs of the ESInet and shared systems and applications for five (5) years post system(s) installation and acceptance must be identified.

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Each PSAP's projected budget for development, implementation and five years maintenance on the ESInet and shared services, along with identification of any anticipated cost savings must be shown, along with future plans for the addition of additional shared services, PSAPs, other facilities, etc.

Specific Areas of examination and analysis may include, but not limited to:
- Assessment/inventory of currently in use communications systems and equipment
- Analysis of compatibility of CPE, Radio, CAD,RMS, Video conferencing, GIS data and Database data at each of the participating entities
- Benefits and disadvantages to regionalization options, including impacts on capacity, redundancy, interoperability, customer service, bargaining units, training requirements
- Viable configurations that support all the participating entities, and includes locations and redundancy locations, examples of potential regional oversight documents, job descriptions of new positions required to support regionalization, compensation and benefits.

SUMMARY

The Regional Shared Services Assessment is one of the first steps in the Commonwealth of Pennsylvania's Next Generation 9-1-1 strategy: to implement NG9-1-1 throughout the Commonwealth in a consistent, precise, standards based manner while maximizing all available resources. The information compiled during the assessment will assist PSAPs in short and long term planning as they move forward with the design, development and implementation of a foundational IP network backbone. PEMA appreciates all of the PSAPs' collective efforts in working toward regionalized Emergency Service IP network (ESInet) initiatives, cost-saving measures and the ultimate deployment of NG9-1-1 to serve the needs of the citizens of Pennsylvania.

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Appendix A

Sample Letter Of Commitment

_____
       (date)

9-1-1 Office
Attn: Jonathan C. Hansen, Director
Pennsylvania Emergency Management Agency
2605 Interstate Drive
Harrisburg, PA 17110

Dear Mr. Hansen:

The undersigned Public Safety Answering Points (PSAPs) hereby commit to participation in a "Regional Shared Services Assessment", as requested and approved in their FY 2012-13 or FY 2013-14 9-1-1 Wireless Funding applications. The PSAPs understand that 50% of the approved funding will be released to the individual PSAPs upon receipt of this letter by PEMA, and that the remaining 50% of the approved funding will be released to the individual PSAPs upon receipt and acceptance of the completed assessment by PEMA.

The PSAPs agree that they will either conduct the assessment themselves or contract with a vendor to have the assessment completed. The PSAPs understand that they will solely be responsible for any contracts associated with the "Regional Shared Services Assessment".

Respectfully Submitted,

_____   _____
_____ County   _____ County

_____   _____
_____ County   _____ County

_____   _____
_____ County   _____ County

_____   _____
_____ County   _____ County

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Report Format

Cover Page

"Regional Shared Services Assessment
Findings Report of _____ Region"

Final Report

Completion Date

2. **Table of Contents**
   Include all major and minor headings as well as all appendices

3. **Executive Summary**
   Provide a high level overview of findings and recommendations, Regional members, Region Leadership contact information

4. **Methodology**
   What was used and how it was used for the findings and recommendations

5. **Findings − Assessment**

   5.1. **Overview of findings**

   5.2. **Section on Technological Assessment**
       A. Bandwidth requirements (both existing and future)
       B. ESInet integration requirements
       C. Current call management
       D. Current standalone configuration CPE and CAD system replacement upgrade schedule and budget
           1. Existing systems and workstations vs. future
               a. Manufacturer
               b. Acquisition Date

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      c. Planned Replacement Date

      d. Estimated Cost for Replacement

2. Geographic Information Systems (GIS) data availability and readiness for regional sharing

      a.   Software platform

      b.   Layers (list layers available):

          5.2.D.2.I.b.1. Street Centerlines (with names)

          5.2.D.2.I.b.2. Address Points (or ranges if ranges are used)

          5.2.D.2.I.b.3. Polygons

          5.2.D.2.I.b.4. All others available

      c.   Maintenance and update process and responsibility (Department(s))

3. Current disaster recovery solutions / proposed solutions vs. future

4. Detailed equipment listing/ pricing

    (All items for Section D will also be formatted in an excel spreadsheet and attached as Appendix A of the Final Report)

E. Detailed map(s) showing specific systems for sharing. *(Appendix B of Final Report)*

5.3. **Section on Operational Assessment**

A. Detailed report on whether any existing PSAP system(s) can serve as a host or part of the overall regional system

B. Detailed recommendations on regional shared systems by participating PSAPs (what can be utilized in a ESInet shared system, what will need to be procured/implemented)

C. Continuity of Operations – disaster recovery plans, contingency call routing policies *(Appendix C of Final Report)*

D. Detailed migration schedule for anticipated replacement and/or upgrade from standalone to a shared configuration. The migration schedule will list for each PSAP: CAD/CPE/IP/Telephony/RMS/CLEAN/NCIC/GIS/Logging/Recording systems/ ITS/Emergency Notification systems, etc.
(In Microsoft Project and Placed as Appendix D of the Final report)

E. Define existing PSAP workload/ normal operations average vs. peak busy hour.

1. Define existing staffing vs. future

    a. Details of individual PSAP's current call taking/dispatch configuration:
        # of call-taking only positions
        # of dispatch only positions
        # of combined call-taking and dispatch positions

    b. Details of individual PSAP's current staffing:
        # of full time PSAP Administrative and Technical (be specific) positions

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# of Part time PSAP Administrative and Technical (be specific) positions >20 hours but less than 40

# of Part time PSAP Administrative and Technical (be specific) positions <20 hours

# of Full Time PSAP Supervision positions

# of Part Time PSAP Supervision positions > than 20 hours but less than 40 hours

# of Part time PSAP Supervision positions < than 20 hours

# of Full time 9-1-1 and Dispatcher positions

# of Part time 9-1-1 and Dispatcher positions >20 hours and less than 40 hours

# of Part time 9-1-1 and Dispatcher positions < 20 hours hours

# of Total FTE's in each role

   c. Details of individual PSAP's Dispatch Volume:
   # of law enforcement incidents dispatched in the previous year
   # of fire/rescue incidents dispatched in the previous year
   # of EMS incidents dispatched in the previous year

F. Recommendations on regional shared systems by participating PSAPs - what is the strategic direction for shared systems including, but not limited to:
   - CAD
   - CPE
   - IP
   - Telephony
   - RMS
   - CLEAN/NCIC
   - GIS
   - Logging/Recording systems
   - ITS
   - Emergency Notification systems,

These recommendations should be detailed for the primary systems and also for disaster recovery operations.

5.4. **Section on Regional Oversight Assessment**
   A. Detailed Memorandums of Understanding (Appendix E of Final Report)
   B. Detailed Contracts (Appendix E of Final Report)

5.5. **Section on Fiscal Assessment**

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A. Detailed individual PSAP's current expenditures
   1. Total Wireless and Wire line eligible 9-1-1 expenses for the previous year
   2. Total other expenses
   3. Annual Rent/Lease for PSAP Space (if not owned)
   4. Any other pertinent fiscal information
B. Individual PSAP's detailed schedule of current CPE and CAD equipment
C. Detailed predicted expenditures for implementation of ESInet and Shared Services
D. A cost benefits analysis for each County, combined into an overall regional cost benefit analysis
E. Detailed predicted expenditures for operation and maintenance of solution
F. Detailed individual PSAP's predicted expenditures for the next five (5) years
   1. Migration budget for anticipated replacement and/or upgrade from standalone to shared configuration for each PSAP: CAD/CPE/Voice Logger/Recorder, Etc
   (All items will be captured in Microsoft Excel and be a part of Appendix A of the Final Report).
      a) Annual capital investment budget
      b) Annual operating costs

6. Appendices

6.1. Appendix A – Current PSAPs Equipment Listing (Matrix of each system and application including type, date of purchase, manufacturer, estimated end of life, capacity/capability for sharing (how many positions are supported), GIS Data Layers Available for Regional Sharing

6.2. Appendix B – Maps

6.3. Appendix C – Disaster Recovery model for each PSAP for Emergency call taking and dispatch

6.4. Appendix D – Proposed Regional Equipment Listing and migration schedule

6.5. Appendix E – Regional Management Documents

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