

2014 STRATEGIC PLANNING REPORT

STATEWIDE LAW ENFORCEMENT RADIO SYSTEM (SLERS)

JOINT TASK FORCE ON STATE LAW ENFORCEMENT COMMUNICATIONS

May 29, 2014

**2014 STRATEGIC PLANNING REPORT
STATEWIDE LAW ENFORCEMENT RADIO SYSTEM (SLERS)**

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EXECUTIVE SUMMARY

The Department of Management Services (Department) is responsible for the design and operation of the Statewide Law Enforcement Radio System (SLERS) pursuant to section 282.709, Florida Statutes (F.S.). The Joint Task Force on State Law Enforcement Communications (JTF) was created to advise the Department on planning, designing and establishing the statewide radio communications system. Pursuant to JTF Standard Operation Procedure 16, the Department was tasked to develop this strategic plan incorporating consideration of and recommendations on system attributes, desired coverage, and needed user functionality.

SLERS is a network of 219 radio communication sites statewide providing radio coverage to over 4,000 state law enforcement personnel. SLERS provides mission critical voice radio communications vital to the daily mission of state agency law enforcement and other public safety users. SLERS was designed to primarily serve the 22 state agencies with nearly 20,000 radios in patrol cars, boats, all-terrain vehicles, motorcycles, and aircraft throughout the state. Another 41 local law enforcement jurisdictions have selected to participate as SLERS Partner Subscribers. SLERS is operated under a 20-year contract, and the current vendor has responsibility for building, operating, and maintaining SLERS.

SLERS overarching purpose is to promote safety of the general public through improved radio communications for law enforcement and other public safety agencies. To better realize this purpose, the JTF has set forth five strategic goals for the future of public safety radio communications.

Strategic Goals

- 1. Promote law enforcement personnel safety through expansion of statewide handheld/portable coverage.***
- 2. Core, adaptive technology which is Project 25 (P25) compliant.***
- 3. System interoperability.***
- 4. A dynamic system of governance to facilitate participation from counties and cities.***
- 5. Ongoing training of personnel on effective use of the system and equipment.***

In terms of achieving these strategic goals, this planning report focuses on three interrelated yet distinct challenges facing the JTF, the Department, and SLERS users: system coverage, system technology, and equipment. As explained in this report, reliable equipment for system users, and training on this equipment, is paramount to the JTF and the Department. The common link to all of the goals is Project 25 (P25), the current industry standard for digital radio communications.

Regarding the goal of expanded coverage, SLERS is delivering reliable in-vehicle/mobile coverage in 98 percent of the state and handheld/portable coverage in defined areas. Looking ahead, SLERS can be improved for handheld/portable coverage statewide when state law enforcement personnel are outside their vehicles. Expansion of handheld/portable coverage will require additional radio frequencies, which will be available with P25 technology.

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For the goals of adaptive technology and interoperability, the industry standard for digital radio communications is P25, a non-proprietary technology with “open standards” that promotes interoperability for radio communication equipment. Land Mobile Radio (LMR) manufacturers have adopted this standard. Today, P25 Phase II is an improvement over the initial rollout of P25 technology. P25 Phase II was developed to improve 700MHz spectrum utilization by doubling the number of talk paths for each frequency using enhanced voice compression technology. The FCC set a deadline of January 1, 2017, for all 700MHz P25 systems to be converted to 700MHz P25 Phase II. On the far horizon is FirstNet, a national effort to build a secure high-speed broadband data and voice network based on internet protocols (IP) for public safety agencies. FloridaNet is Florida’s state effort, part of 50 states and 6 territories planning for FirstNet. At this time, there is no projected date for FirstNet to be operational. However, P25 technology can provide a bridge between SLERS current system and one based on IP.

The goal relating to governance to facilitate county and city participation in SLERS is also tied to P25 and ultimately to FirstNet/Florida Net. This is a long term objective that would result in a nearly seamless interoperable radio communication system connecting all levels of public safety agencies. Achievement of this goal would result in a unified system, and maximize economies of scale in terms of system costs.

In meetings and workshops over the course of fiscal year 2013-14, the JTF reviewed several scenarios for implementing a P25 system. After careful consideration of the many factors associated with the need for new technology, a new business model, and sustainable funding the JTF came to the conclusion that it was time to begin the procurement process.

As the next logical step, the JTF recommends that the Department immediately begin the creation of a P25 Phase II system for use by SLERS state agencies and additional subscribers by advancing a new procurement. The new procurement process will begin with the Department contracting with an external entity for a comprehensive study of all present and emerging technological solutions and operational structures available and the development of a business case report as required by Section 287.0571, F.S. The business case report will look at issues, including but not limited to practices in other states, system ownership structures, coverage expansion, transition/migration to a new system, equipment interoperability, and performance measures. The business case will incorporate input from user representatives of SLERS state agencies and additional subscribers who will be integrally and directly involved in the formulation of specifications and features which will be part of the new procurement. Due to the magnitude of the project, the board requests that this process begin as soon as funds can be made available to support this study. The P25 Phase II system should be in place, fully operational, and all SLERS users migrated thereto before the present contract expires on June 30, 2021.

The Department is also encouraged to seek staff augmentation by a legislative budget request for the 2015 legislative session. This staff is necessary for project management, procurement development, subscriber workshops, and transition to a new system. Such staff should be retained until the end of fiscal year 2021-22. The Department will develop a “wind down” timeline for coverage enhancement projects presently in progress that require expenditures from the SLERS Enhancement Trust Fund. It is anticipated that all such projects will

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have been completed no later than December 31, 2015, unless substantial completion is hindered by unforeseen, justifiable circumstances approved by the JTF.

SLERS state agencies and additional subscribers are advised to purchase adequate stocks of EDACS equipment to meet their needs for the period leading up to the completion of the new system, which could extend to the end of the current contract on June 30, 2021. Any newly manufactured radio equipment purchased must be P25 Phase II compliant.

If funding is not appropriated for 2014-15 fiscal year, the following schedule of activities is recommended.

PROJECTED SLERS PROCUREMENT TIMELINE*

TASK	START DATE	END DATE
1. Develop JTF SLERS Strategic Planning Report	July 2013	June 1, 2014
2. Develop LBR for SLERS Business Case	July 2014	TBD
3. Develop LBR for DMS Staff Augmentation	July 2014	TBD
4. Develop Procurements for SLERS Business Case and Staff Augmentation	January 2015	June 2015
5. Procure and Complete SLERS Business Case and Procure Staff Augmentation Contract	July 1, 2015	December 31, 2015
6. Develop SLERS Procurement	January 1, 2016	May 31, 2016
7. SLERS Procurement Process	June 1, 2016	May 31, 2017
8. New SLERS Contract Start Date	July 1, 2017	
9. Migration/Transition of SLERS	July 1, 2017	June 30, 2021
10. Current SLERS Contract End Date		June 30, 2021

*Procurement items subject to appropriation per Chapter 216, F. S.

SLERS TODAY

System Purpose

SLERS is a network of 219 radio communication sites statewide providing radio coverage to over 4,000 state law enforcement personnel. SLERS provides mission critical voice radio communications vital to the daily mission of state agency law enforcement and other public safety users.

SLERS provides 98 percent coverage for in-vehicle/mobile radios. Coverage is also provided for handheld/portable radios in selected areas, approximately 86 percent coverage, and coverage is provided for vessel/mobile radios up to 25 miles offshore. The system allows law enforcement personnel to roam across state agency regional boundaries without loss of radio communication to dispatch centers or to other law enforcement personnel. SLERS provides both statewide intra-agency radio communication and mutual aid radio communication available to all SLERS and non-SLERS radios.

Users and Size of the System

SLERS is the radio communication system for 22 state agencies with nearly 20,000 radios in patrol cars, boats, all-terrain vehicles, motorcycles, and aircraft throughout the state. Of these radios, 80 percent belong to four state agencies: the Department of Highway Safety and Motor Vehicles, the Fish and Wildlife Conservation Commission, the Department of Corrections, and the Department of Law Enforcement. Even though the Department of Corrections is a large user of SLERS, that department also has separate local radio systems at each correctional facility because of the need for indoor radio coverage not provided by SLERS.

Although SLERS was designed to primarily serve the 22 state agencies, another 41 local law enforcement jurisdictions have selected to participate as SLERS Partner Subscribers (SLERS Partners). A complete list of all participating agencies is provided in **Appendix 1, SLERS Users**.

Status of SLERS Contract

In 2000, the Department entered into a public-private partnership, through a competitive procurement, with Com-Net Ericsson Critical Radio Systems, Inc. (Com-Net) to establish SLERS. Under the resulting 20-year contract, using the “shared risk, shared reward” concept, Com-Net agreed to assume the risk and responsibility for building, operating, and maintaining SLERS. The Department in turn provides sustainable funding. In 2009 Harris Corporation (Harris) purchased Com-Net and is now the contracted SLERS provider.

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STRATEGIC GOALS

SLERS overarching purpose is to promote safety of the general public through improved radio communication for law enforcement and other public safety agencies. To better realize this purpose, the JTF has set forth five strategic goals for the future of public safety radio communications.

Strategic Goals

1. *Promote law enforcement personnel safety through expansion of statewide handheld/portable coverage.*
2. *Core, adaptive technology which is Project 25 (P25) compliant.*
3. *System interoperability.*
4. *A dynamic system of governance to facilitate participation from counties and cities.*
5. *Ongoing training of personnel on effective use of the system and equipment.*

In terms of achieving these strategic goals, this planning report focuses on three interrelated yet distinct challenges facing the JTF, the Department, and SLERS users: system coverage, system technology, and equipment. As explained in this report, reliable equipment for system users, and training on this equipment, is paramount to the JTF and the Department. The common link to all of the goals is Project 25 (P25), the current industry standard for digital radio communications.

CURRENT CHALLENGES

Challenges for SLERS which must be addressed are system coverage, system technology, and equipment.

Coverage

While the radio system is delivering reliable in-vehicle/mobile coverage in 98 percent of the state and handheld/portable coverage in defined areas, it does not meet the current needs of law enforcement for handheld/portable coverage statewide when law enforcement personnel are outside of their vehicles. The typical in-vehicle/mobile radio mounted in a vehicle has an approximate 18-mile range; however, the typical handheld/portable radio used by law enforcement personnel has an approximate 8-mile range. When considering the reduced range of handheld/portable radios, the state has 11,250 square miles without handheld/portable coverage.

The law enforcement personnel who utilize SLERS must frequently respond to incidents while outside of their vehicles in areas of poor to nonexistent handheld/portable coverage. When interacting with potentially dangerous suspects and assisting citizens in urgent need situations, law enforcement personnel may be away from their vehicle without the ability to communicate with other officers or the dispatch center because of handheld/portable coverage gaps.

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Technology

The SLERS technology platform, Enhanced Digital Access Communications System with Extended Addressing (EDACS-EA), has reached its maturity. Harris made a business decision to retire EDACS and now focuses its development resources on P25. Most manufacturers of LMR systems have moved beyond proprietary radio systems as their core offering and P25 is the featured radio system. The critical need for interoperable radio communications, driven by the public safety community and the development of P25 by the Association of Public Safety Communications Officials (APCO), has pushed the LMR manufacturers in this direction.

Another key consideration in planning for additional radio communication sites is the limited number of radio frequencies available from the Federal Communications Commission (FCC). SLERS currently uses a technology that is limited to a single type of radio frequency which operates at 800 Megahertz (800 MHz), and the frequency usage in Florida is significantly congested at this time. Other radio frequencies, such as 700 Megahertz (700 MHz), are available in Florida and a sufficient portion of the 700 MHz frequencies have already been reserved by the Department. However, the FCC currently mandates that P25 "Phase II" utilize these radio frequencies. The Department is currently working on a statewide 700 MHz spectrum usage plan to organize the utilization of 700 MHz frequencies between state agencies, counties, municipalities and tribal nations. A SLERS upgrade to P25 "Phase II" would be required to take advantage of these reserved 700 MHz frequencies.

Equipment

Radios are the lifeline of personnel in the field. Nearly all state agency law enforcement personnel using SLERS have two radios, which include a mobile radio mounted in the vehicle and a handheld/portable radio with a shoulder microphone. The equipment lifecycle for these radios, as set forth in the State of Florida Law Enforcement Communications Plan, is typically six years for handheld/portable and eight years for in-vehicle/mobile.

Except for some recent purchases, the state agency law enforcement radios are predominantly 9-10 years old, and operate only on the proprietary EDACS-EA system, meaning they cannot operate on P25. The majority of these radios have reached the End-of-Support date, which is defined by the manufacturer, Harris, as the date after which there is no further support of the product. The End-of-Support date is preceded by an End-of-Manufacturing date, which is typically 5 years prior the End-of-Support date. The manufacturers recommended service life is typically 7 years. The Department maintains an inventory listing of all SLERS radios, which is available for review upon request.

The Harris contract includes terms for the purchase of replacement radios as part of the long-term purchase agreement schedule. In fiscal year 2012-13 a select group of state agencies were appropriated approximately \$3.4 million, which was used to purchase approximately 680 radios and accessories.

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SLERS state agencies and additional subscribers are advised to purchase adequate stock of EDACS equipment to meet their needs for the period leading up to the completion of the new system, which could extend to the end of the current contract on June 30, 2021. Any newly manufactured radio equipment purchased must be P25 Phase II compliant.

TECHNOLOGY REFRESH

The JTF's role is to advise the Department of user needs relating to the planning, designing, and establishment of the statewide radio communication system. Consistent with this role, the JTF has examined the technology of radio communications available today. As mentioned previously, P25 is the industry standard, yet other technologies are on the horizon.

Technology Evolution

Project 25 (P25)

P25 is an open standard established by the APCO. P25 is also internationally recognized and endorsed by the federal, state, and local law enforcement communities, as well as the vendor industry, as the open standard for current and future digital radio systems and services. The State of Florida Law Enforcement Communications Plan requires P25 capability for all new radio unit purchases.

Since P25 is an open standard supporting full mission critical voice interoperability, it allows users to choose from a wide range of network products and suppliers. From the end user point of view, the P25 standard provides:

1. Group Call
2. Individual Call
3. Telephone Interconnect Call
4. Secure Encryption
5. Talk Around Mode
6. Dynamic Grouping
7. Emergency Call
8. Push-to-Talk (PTT)
9. Talker Identification
10. Digital Audio Quality

In 2011, 10 of the SLERS radio tower sites used exclusively by law enforcement personnel in aircraft were upgraded to the newer industry standard P25. To achieve interoperability between the disparate P25 and EDACS-EA systems the Department also purchased an Internet Protocol (IP) gateway that seamlessly allows

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interoperable radio communication between the two technologies. This partial P25 upgrade has been successful.

FirstNet (LTE Broadband)

FirstNet is a national effort to build a secure high-speed broadband data and voice network, also based on Internet Protocol, for public safety agencies. FloridaNet is Florida's state effort, part of 50 states and 6 territories planning for FirstNet. At this time, FirstNet is in the planning stage and there is no projected date for FirstNet to be operational. While FirstNet is planning to eventually offer voice services, the initial service offering will be data only and standards have not yet been developed for public safety grade voice services over this network.

Long-term Evolution (LTE) is the technology that will first be deployed for FirstNet broadband data applications. However, LTE technology does not currently include a standard for providing mission critical voice radio communications. Until FirstNet will support SLERS, P25 is a logical solution to bridge the gap between SLERS today and the future of mission critical voice radio communications via LTE. Because P25 and LTE technology are similar, a P25 system should be capable of merging with the FirstNet in the future.

Timing

Over the course of fiscal year 2013-14, the JTF conducted meetings and workshops with the JTF Technical Committee representatives and DMS staff regarding potential scenarios for implementing P25. These scenarios included initiating a procurement for a new system, negotiating a new system within the current contract, and related questions regarding expansion of coverage areas. After careful consideration of the many factors associated with the need for new technology, a new business model, expanded bandwidth availability, and sustainable funding, the JTF came to the conclusion that it was time to begin the procurement process for a P25 Phase II system.

Technology Recommendation

As the next logical step, the JTF recommends that the Department begin the creation of a P-25 Phase II system for use by SLERS state agencies and additional subscribers by advancing a new procurement. The new procurement process will begin with the Department contracting with an external entity for a comprehensive study of all present and emerging technological solutions and operational structures available and the development of a business case report as required by section 287.0571, F.S. The business case report will look at issues including, but not limited, to practices in other states, system ownership structures, coverage expansion, transition/migration to a new system, equipment interoperability, and performance measures. The business case will incorporate input from user representatives of SLERS state agencies and additional subscribers who will be integrally and directly involved in the formulation of specifications and features which will be part of the new procurement. The P25 Phase II system should be in place, fully operational, and all SLERS users migrated thereto before the present contract expires on June 30, 2021.

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SLERS state agencies and additional subscribers are advised to purchase adequate stock of EDACS equipment to meet their needs for the period leading up to the completion of the new system, which could extend to the end of the current contract on June 30, 2021. Any newly manufactured radio equipment purchased must be P25 Phase II compliant.

The JTF makes these recommendations based upon the following factors:

1. P25 will resolve many of the current challenges.
2. P25 is the most appropriate technology to bridge the gap between a proprietary core system and the future of mission critical voice over LTE.
3. P25 will enable a greater level of radio communications interoperability than is provided by SLERS today.
4. P25 will make SLERS more attractive to local agency subscribers, in turn bringing more revenue to the system which will augment the cost of coverage expansion.

CONCLUSION

After considering a number of alternatives for implementing a technology refresh of the current system, the JTF is of the unanimous opinion that the best course of action is the creation of a P25 Phase II system for use by SLERS state agencies and additional subscribers. This new system will create a logical and technical bridge to FirstNet/FloridaNet. The new procurement process will begin with the Department contracting with an external entity for a comprehensive business case report of practices in other states, system ownership structures, coverage expansion, transition/migration to a new system, equipment interoperability, performance measures, and other elements required by section 287.0571, F.S. The business case will incorporate input from user representatives of SLERS state agencies and additional subscribers who will be integrally and directly involved in the formulation of specifications and features which will be part of the new procurement.

Although the current SLERS contract does not end until June 30, 2021, the time to decide the future of SLERS is now. With a 2-year procurement and 4-year migration, the legislative decision to upgrade SLERS to P25 technology should not be delayed beyond the 2015 legislative session.

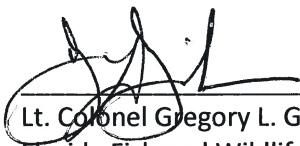
The Department is also encouraged to seek staff augmentation by a legislative budget request for the 2015 legislative session. This additional staff will be necessary to assist with development of the project communication and procurement, subscriber workshops, and transition to a new system, and should be retained until the end of fiscal year 2021-22. The P25 Phase II system should be in place, fully operational, and all SLERS users migrated thereto before the present contract expires on June 30, 2021.

The Department will develop a "wind down" timeline for coverage enhancement projects presently in progress that require expenditures from the SLERS Enhancement Trust Fund. It is anticipated that all such projects will be completed no later than December 31, 2015, unless hindered by unforeseen, justifiable circumstances approved by the JTF.

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To help ensure the success of the new procurement, the JTF, the JTF Technical Committee, and representatives from SLERS state agencies and additional subscribers will provide input for the formulation of specifications and features which will be part of the new procurement. The JTF is committed to supporting every step of this effort.

Respectfully Submitted by the Joint Task Force (JTF),


6/3/14

Lt. Colonel Gregory L. Gibson, Deputy Director
Florida Fish and Wildlife Conservation Commission
JTF Board Chairman