

REPORT NO. 12074

STATE OF FLORIDA
OFFICE OF THE AUDITOR GENERAL



151632

PERFORMANCE AUDIT
OF THE
STATEWIDE LAW ENFORCEMENT
RADIO SYSTEM

AS ADMINISTERED BY THE
DIVISION OF COMMUNICATIONS WITHIN THE
DEPARTMENT OF MANAGEMENT SERVICES

MAY 18, 1993

151632

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STATE OF FLORIDA

OFFICE OF THE AUDITOR GENERAL



CHARLES L. LESTER, C.P.A.
AUDITOR GENERAL

May 18, 1993

151632
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MEMO

The President of the Senate, the Speaker of the
House of Representatives, and the
Legislative Auditing Committee

DEC 19 1994

ACQUISITIONS

I have directed that a performance audit be made of the implementation of the Statewide Law Enforcement Radio System, as administered by the Division of Communications within the Department of Management Services. The results of the audit are presented to you in this report. This audit was made as a part of an ongoing program of performance auditing by the Office of the Auditor General as mandated by Section 11.45(3)(a), Florida Statutes.

Respectfully yours,

Charles L. Lester
Auditor General

Audit supervised by:

D. Byron Brown

Audit made by:

Frank Alvarez

**PERFORMANCE AUDIT
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STATEWIDE LAW ENFORCEMENT RADIO SYSTEM
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Pilot Project Implementation**

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The pilot project was not completed by the original statutory deadline of June 30, 1992, primarily due to problems the Division experienced in obtaining site permits. In addition, the Division did not meet deadlines for developing contract specifications and awarding contracts. However, three of the six system components were substantially installed as of October 1992. In October 1992, Division staff indicated that the pilot project would be completed by June 30, 1994. 12

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EXECUTIVE SUMMARY

Audit Report No. 12074

STATEWIDE LAW ENFORCEMENT RADIO SYSTEM

Purpose and Scope

The Auditor General conducts performance audits as part of the Legislature's oversight responsibility for public programs. The primary objective of performance audits is to provide information the Legislature can use to improve programs and allocate limited public resources.

This report reviews the implementation progress of the Statewide Law Enforcement Radio System, which will provide statewide radio communications to state and local law enforcement agencies. Specific objectives addressed in this audit were to:

- Determine the status of the pilot project implementation and the reasons why the original statutory deadline was not met;
- Identify the total costs of the pilot project implementation; and
- Identify factors the Division should consider before proceeding with statewide implementation of the System.

Background

Law enforcement personnel need radio communications systems in order to carry out their responsibilities, such as responding expeditiously to emergency situations and exchanging information while performing investigative activities. Each of the state's

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law enforcement agencies currently operates a separate and different radio communications system.

In 1988, the Legislature authorized a pilot project to acquire and implement a common radio communications system for the state's law enforcement agencies. The 800 Megahertz (MHz) Trunked Radio System is designed to be implemented statewide in six phases, with the first phase being the pilot project. The purpose of the pilot project is to develop and refine the technical and managerial aspects of implementing, operating, and maintaining a complete statewide system. Chapter 88-114, Laws of Florida, authorized a pilot project to be conducted in the southeast portion of the state to be completed by June 30, 1992. In 1992, the Legislature extended the deadline for completion of the pilot project to June 30, 1994.

The 800 MHz radio system operates on a high frequency radio wave level and has the capability to allow more efficient radio communications than the conventional radio systems currently used by state agencies. The new system is designed to alleviate three common problems with the agencies' existing systems: law enforcement staff from one agency cannot communicate by radio with law enforcement staff in another agency; radio communications have interference when too many users want to use the system at the same time; and the existing radio equipment is obsolete, making it difficult to repair and replace parts.

The pilot project communications network consists of 42 stations, 36 of which are located at different geographic sites in the southeast portion of the state, and 6 of which are located in Tallahassee. Each of the sites is to consist of one or more of the six technical components necessary for system operation. These

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components are communications towers, equipment shelters, microwave radio relay stations, power generators, 800 MHz radio equipment, and Computer Aided Dispatch with Automatic Vehicle Location (CAD/AVL).¹ The pilot project implementation process involves finding suitable sites to build towers and shelters, acquiring permits to build on those sites, building the facilities, and procuring, installing, and testing the radio communications equipment.

As authorized by s. 282.1095, F.S., the acquisition and implementation of the statewide radio system is to be accomplished by a management structure consisting of a Joint Task Force on State Agency Law Enforcement Communications and the Division of Communications of the Department of Management Services. The Joint Task Force shall establish policies, procedures, and standards which shall be incorporated into a comprehensive management plan. The Joint Task Force membership consists of representatives from five state agencies: the Department of Law Enforcement, the Game and Fresh Water Fish Commission, the Division of Florida Highway Patrol of the Department of Highway Safety and Motor Vehicles, the Division of Law Enforcement of the Department of Natural Resources, and the Division of Alcoholic Beverages and Tobacco of the Department of Business Regulation.

The Division of Communications provides technical support to the Joint Task Force and is responsible for the design, acquisition, and implementation of the statewide radio system, and for ensuring the proper operation and maintenance of all

¹ See Appendix B, page 31, for technical definitions of the system's component parts.

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system equipment used in common by all five agencies represented on the Joint Task Force. Within the Bureau of Communications Engineering, the Joint Task Force Radio Section carries out the day-to-day administration of the project. As of June 30, 1992, the Joint Task Force Radio Section had 11 employees, including 8 located in Tallahassee and 3 located in a regional office in Miami.

Chapter 88-144, Laws of Florida, created the State Agency Law Enforcement Radio System Trust Fund to be in effect from July 1, 1988, through December 31, 2003. The Trust Fund receives a one dollar surcharge (ss. 320.0802 and 327.25, F.S.) that is levied and imposed on the motor vehicle license tax and the vessel registration fee. Monies in the Trust Fund are to be used to fund the entire costs of the pilot project. Upon successful project completion, approval by the Governor and Cabinet, and appropriation by the Legislature, Trust Fund monies may be used to complete and maintain the statewide radio communications system. According to a February 1992 Joint Task Force estimate, approximately \$178 million is expected to be generated through the end of the year 2003. As of June 30, 1992, the State Agency Law Enforcement Radio System Trust Fund had expended approximately \$9.4 million and had a balance of approximately \$25.4 million.

Results in Brief

The pilot project was not completed by the original statutory deadline of June 30, 1992, primarily due to problems the Division experienced in obtaining site permits. In addition, the Division did not meet deadlines for developing contract specifications and awarding contracts. However, three of the system's six

EXECUTIVE SUMMARY

major components were substantially installed as of October 1992. In October 1992, Division staff indicated that the pilot project would be completed by June 30, 1994.

Total pilot project implementation costs will exceed May 1988 cost estimates of \$19.7 million by approximately \$4 million (20%). This is due primarily to higher costs than expected for communications towers, equipment shelters, and computer equipment, and additional costs of two more years of salaries due to pilot project extension.

Because of the problems experienced with the pilot project implementation and the amount by which the pilot project implementation may exceed projected costs, the Legislature needs to be assured that the statewide radio communications system works as designed and that statewide implementation is desirable before proceeding any further. Several issues need to be addressed if statewide implementation is to be accomplished effectively, including concerns regarding the cost of the system, the adequacy of the funding mechanism, the timetable for system implementation, and the usefulness of the system for mutual aid communications.

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Findings

Problems in Obtaining Construction Permits and Developing Contract Specifications Have Caused Delays in the Pilot Project

The pilot project was not completed by the original statutory deadline of June 3, 1992, primarily due to problems the Division of Communications experienced in obtaining two site permits, including a permit for a critical proposed site in Key Largo. Final approval for the Key Largo site permit was received 13 months after the original estimated construction date.

The Division of Communications did not meet its deadlines for finalizing contract specifications and awarding contracts. None of the contract specifications for the six major system component parts were completed by their respective deadlines, and one contract was bid 11 months behind schedule. No compliant bids were initially received for three component parts, requiring contract specifications to be revised and further delaying the award of contracts for these components. Furthermore, some contracts could not be awarded until other system components were completed.

As of October 1992, three of the six major system components were substantially installed. Although the Division has established a new implementation schedule to have the system operational by August 1993, the Division had not met interim target dates for two sites under the new schedule as of October 1992. As of March 1993, however, project status reports indicated that construction and installation of four of the six system components had been completed at all sites.

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Pilot Project Implementation Costs May Exceed Original Estimate by \$4 Million

Our review showed that total pilot project implementation costs may be at least \$23.7 million, exceeding May 1988 cost estimates by approximately \$4 million (20%), due primarily to higher than expected costs for the construction of communications towers and equipment shelters. In May 1988, the Division of Communications estimated the total cost for implementing the pilot project would be \$19.7 million. Pilot project implementation costs were \$20.5 million as of June 30, 1992. The \$20.5 million figure, however, does not include costs for the purchase and installation of computer equipment or salaries through June 30, 1994, the new statutory deadline for completion of the pilot project. Division staff estimated the purchase and installation of CAD/AVL would be \$2.3 million. Assuming salaries remain at the fiscal year 1991-92 level, we estimate that salaries through June 30, 1994, will add another \$980,000 to the cost of the pilot project and result in pilot project expenditures being \$4 million or 20% higher than the May 1988 estimate. A Department of Management Services internal audit report published in January 1993 indicated that the causes of the insufficient forecast could not be determined because the Division did not formally document its 1988 forecast.

Additional Issues That Need to Be Addressed

Section 282.1095(3), F.S., requires the Joint Task Force to submit an updated status report to the Governor and Cabinet and the President of the Senate and Speaker of the House of Representatives by January 1994, and include a recommendation relative to the statewide implementation of the system. Because of the problems experienced with the pilot project implementation and the amount (20%) by which the pilot project may exceed projected costs, the Legislature needs to be assured that the statewide radio system works as designed and that statewide implementation is desirable before proceeding any further. The Joint Task Force and the Division of

EXECUTIVE SUMMARY

Communications need to provide sufficient information to the Legislature and Governor and Cabinet to justify plans to continue with statewide implementation. We identified several issues that need to be addressed if statewide implementation is to be accomplished effectively, including concerns regarding the cost of the system, the adequacy of the funding mechanism, the timetable for system implementation, and the usefulness of the system for mutual aid communications.

Recommendations

Recommendations to the Joint Task Force and the Division of Communications

In its January 1994 report to the Legislature and the Governor and Cabinet, the Joint Task Force and the Division of Communications will make a recommendation regarding continued statewide implementation of the 800 MHz radio communications system. As a basis for the decision, the Division plans to review the results of the pilot project in order to determine whether the radio equipment that has been installed meets the contract specifications and whether users in the pilot project area are satisfied with the system.

We believe that because of pilot project implementation delays, increased implementation costs, and the substantial commitment of the state resources, the Joint Task Force and the Division of Communications should address specific implementation issues in its January 1994 report. In addition to an evaluation of the pilot project, the following issues should be addressed:

- The feasibility of statewide implementation on a five-year schedule;

EXECUTIVE SUMMARY

- A plan for the statewide availability of a mutual aid system;
 - An updated formal cost estimate; and
 - A recommended funding mechanism for statewide implementation.
-

Agency Response

The Secretary of the Department of Management Services, in response to our preliminary and tentative findings and recommendations, concurred with our conclusions and recommendations. He agreed with our discussion regarding project delays. He also acknowledged the validity of inclusion of the items contained in our calculation of estimated project cost overruns, and provided the Department's estimate for comparison. The Secretary disagreed with our assessment that the Mutual Aid portion of the plans for statewide implementation have assumed a secondary role.

CHAPTER I

Introduction: Purpose and Scope, Methodology

Purpose and Scope

This audit reviews the implementation of the Statewide Law Enforcement Radio System, which will provide statewide radio communications to state and local law enforcement agencies. The System's implementation is administered by the Department of Management Services and managed by a Joint Task Force Board of Directors. This performance audit reviews the implementation progress of the System's pilot project, as well as issues related to the System's statewide implementation.

Performance audits are conducted by the Auditor General as part of the Legislature's oversight responsibility for public programs. The primary objective of performance audits is to provide information the Legislature can use to improve programs and allocate public resources. This audit was conducted as part of the Auditor General's 10-year schedule of performance audits, as directed by Ch. 90-110, Laws of Florida.

Specific objectives addressed in this audit were to:

- Determine the status of pilot project implementation and the reasons why the original statutory deadline was not met;
- Identify the total costs of pilot project implementation; and
- Identify factors the Division should consider before proceeding with statewide implementation of the System.

Methodology

Our audit was made in accordance with generally accepted government auditing standards and accordingly included appropriate performance auditing and evaluation methods. Audit fieldwork was conducted from May to October 1992. Follow-up work was done in March 1993.

To gain a general understanding of the Statewide Law Enforcement Radio System, we reviewed applicable sections of the Florida Statutes and Florida Administrative Code. We also reviewed Department of Management Services' (DMS) management and operational plans, Joint Task Force Board minutes, status reports, and other reports and correspondence related to the System's implementation. In addition, we interviewed DMS staff, 29 Joint Task Force members and subcommittee members, and private consultants involved in the System's implementation.

To determine the reasons why the implementation of the System's pilot project has been delayed, we reviewed DMS management and operational plans, progress reports and correspondence, and Joint Task Force Board minutes. In addition, we interviewed DMS staff. To identify the costs of the pilot project implementation, we reviewed DMS reports and financial statements for fiscal years 1988-89 through 1991-92.

To identify the factors that the Division should consider before proceeding with statewide implementation of the System, we reviewed DMS management and operational plans, reports, and other documents. We also interviewed DMS staff and 29 Joint Task Force and subcommittee members. In addition, we interviewed staff responsible for implementation of similar systems in 6 other states that have installed or plan to install a similar type of communications system.

CHAPTER II

Background: Program Design and Organization

Program Design

Law enforcement personnel need radio communications systems in order to carry out their responsibilities, such as responding expeditiously to emergency situations and exchanging information while performing investigative activities. Each of the state's law enforcement agencies currently operates a separate and different radio communications system. In March 1984, the Governor and Cabinet established a task force to explore the feasibility of a common comprehensive radio communications system that would meet the state's law enforcement needs and minimize duplicative expenses to the state. The task force identified three common problems with the agencies' radio systems: law enforcement staff from one agency cannot communicate with law enforcement staff in another agency; radio communications have interference when too many users want to use the system at the same time; and the existing radio equipment is obsolete, making it difficult to repair and replace parts.

To address these problems, the task force studied existing technologies and recommended the acquisition and implementation of an 800 Megahertz (MHz) Trunked Radio System. Subsequently, in 1988 the Legislature authorized a pilot project to acquire and implement a radio communications system in the southeast portion of the state beginning on January 1, 1989, and ending on June 30, 1992. In 1992, the Legislature extended the time for completing the pilot project to June 30, 1994. The system is designed to be implemented statewide in six phases, with the first phase being the pilot project. The purpose of the pilot project is to develop and refine the technical and managerial aspects of implementing, operating, and maintaining a complete statewide system.

The 800 MHz Trunked Radio System is a radio communications system that operates on a high frequency radio wave level and has the capability to allow more efficient radio communications than the conventional radio systems currently used by state agencies. Conventional radio systems assign a radio channel to each user, so the channel cannot be used by others. The number of users is thus limited by the number of channels in the radio spectrum. In contrast, a trunked radio system involves the automatic computerized assignment of channels from a pool of radio frequencies each time a transmission is desired. When the transmission is complete, the frequency returns to the pool for automatic temporary reassignment. The computer control thus allows for an increase in the communications traffic that can be carried over a given number of channels.

The pilot project communications network design consists of 42 stations, 36 of which are located at different geographic sites in South Florida in the counties of Broward, Dade, Monroe, and Palm Beach, and 6 of which are located in Tallahassee. Each of the sites is to consist of one or more of the six technical components necessary for system operation. These components are communications towers, 800 MHz radio equipment, equipment shelters, microwave radio relay stations, power generators, and Computer Aided Dispatch with Automatic Vehicle Location (CAD/AVL).¹ The Tallahassee sites are computer control points to coordinate radio communications for each agency in the pilot project. The South Florida sites have components to send, relay, and receive radio transmissions. Eighteen of these station sites include a tower or antenna for transmitting purposes, ranging in height from 65 to 450 feet. Most sites have microwave radio relay equipment, and many have equipment shelter facilities and generators to power the system. Two sites house the central computers that control and manage communications for the entire pilot project area.

The pilot project implementation process involves finding suitable sites to build towers and shelters, acquiring permits to build on those sites, building the facilities, and procuring, installing, and testing the radio communications equipment. Once a site is

¹ See Appendix B, page 31, for technical definitions of the system's component parts.

selected, a survey of the site is conducted and a permit application is prepared to submit to the local zoning authority. After the application receives tentative approval from the local zoning board, a public hearing is held to allow for citizen input. Upon completion of the public hearing, the city or county commission having jurisdiction for the site votes to either approve or deny the permit application. This process from application to permit approval typically takes six months to complete but has taken as long as 17 months.

To construct facilities, the state must procure the services of contractors, obtain state and county building certificates, and make site inspections. Contractors are solicited through the state's competitive bidding process to perform a variety of services, such as surveying, land clearing, landscaping, building towers and security fences, and installing equipment components of the radio system. The state must also develop specifications for each of the specific types of equipment needed, evaluate the bids, and select the vendor. Each contractor's work is monitored and an inspection is conducted on each site. Program schedules indicate the process for constructing towers, shelters, and generators takes approximately 9 months to complete, and the installation of radio and computer equipment takes another 8 months, for a total of 17 months. Finally, the state verifies and tests the performance of the equipment for ten days to assure compliance with the technical bid specifications.

Program Organization

As authorized by s. 282.1095, F.S., the acquisition and implementation of the statewide radio communications system is to be accomplished by a management structure consisting of a Joint Task Force on State Agency Law Enforcement Communications and the Division of Communications of the Department of Management Services. The Joint Task Force shall establish policies, procedures, and standards which shall be incorporated into a comprehensive management plan. The Division of Communications shall provide technical support to the Joint Task Force and bear the overall responsibility for the design, engineering, acquisition, and implementation of the statewide radio communications system

and ensure the proper operation and maintenance of all system equipment used in common by all five agencies represented on the Joint Task Force.

As authorized by s. 282.1095, F.S., the Joint Task Force membership consists of representatives from five state agencies: the Department of Law Enforcement, the Game and Fresh Water Fish Commission, the Division of Florida Highway Patrol of the Department of Highway Safety and Motor Vehicles, the Division of Law Enforcement of the Department of Natural Resources, and the Division of Alcoholic Beverages and Tobacco of the Department of Business Regulation. Initially, each member of the Board of Directors of the Joint Task Force is appointed by the head of their respective agency for a term beginning on July 1, 1988, and ending on June 30, 1994, and shall serve at the agency head's pleasure. Thereafter, each member shall be appointed for a term of one year by the agency head.² The Task Force Board of Directors elects a chairman, who in turn appoints a vice chairman. In accordance with its management plan, the Board members have selected staff from each agency to serve on several subcommittees to assist in the management of the radio communications system. Appendix A, page 30, provides a list of Joint Task Force board members, as of June 30, 1992.

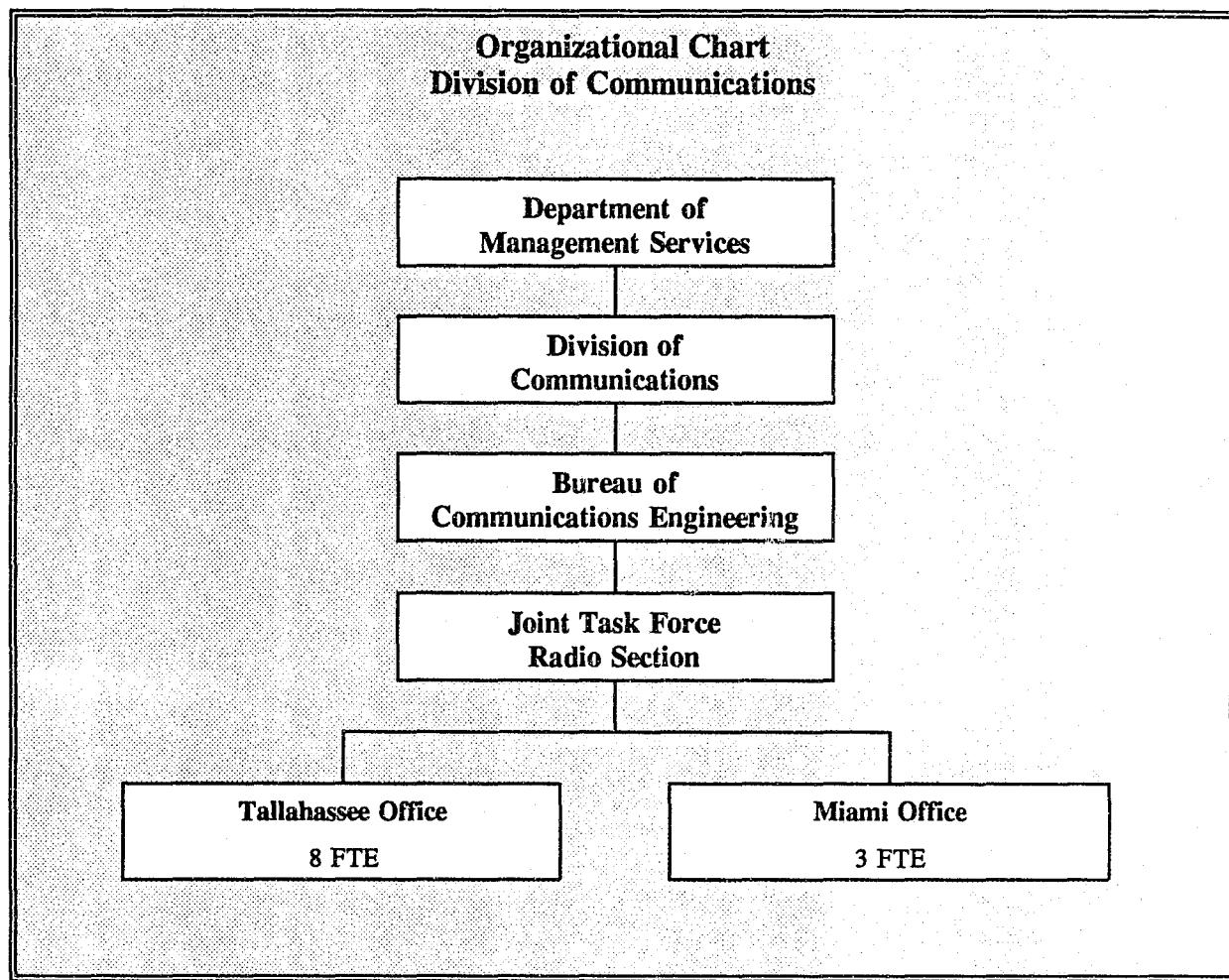
The Division of Communications in the Department of Management Services provides technical support to the Joint Task Force and is responsible for the design, engineering, acquisition, and implementation of the statewide radio communications system. Within the Bureau of Communications Engineering, the Joint Task Force Radio Section carries out the day-to-day administration of the project, including planning, designing, acquiring, operating, and maintaining the pilot project system. As of June 30, 1992, the Joint Task Force Radio Section had 11 employees, including 8 located in Tallahassee and 3 located in a regional office in Miami. The Department is headed by a Secretary who is appointed by the Governor and confirmed by the Senate. Larry Strong served as Acting Secretary of the Department of Management Services from July through October 1992.

² Section 282.1095(2)(h), F.S., provides that the terms of members appointed beginning July 1, 2002, shall expire December 31, 2003, the date on which the Joint Task Force ceases to exist.

William Lindner was appointed Secretary of the Department on November 1, 1992. (See Exhibit 1 for the organizational chart.)

According to a survey conducted by the Division of Communications, approximately 3,650 state law enforcement personnel in the five member agencies used existing radio communications systems during 1991. Approximately 680 of these personnel were users in the pilot project area.

Exhibit 1



Source: Division of Communications.

Program Resources

Chapter 88-144, Laws of Florida, created the State Agency Law Enforcement Radio System Trust Fund to be in effect from July 1, 1988, through December 31, 2003. The Trust Fund is to be funded from surcharge fees collected under ss. 320.0802 and 327.25, F.S. A one dollar surcharge is levied and imposed on the motor vehicle license tax and the vessel registration fee and is deposited in the Trust Fund. According to a Joint Task Force estimate dated February 1992, approximately \$178 million is expected to be generated through the end of the year 2003. Monies in the Trust Fund are to be used to fund the entire costs of the pilot project. Upon successful project completion, approval by the Governor and Cabinet, and appropriation by the Legislature, Trust Fund monies may be used to complete and maintain the statewide radio communications system. In addition, monies in the Trust Fund may be used by the Joint Task Force to maintain and enhance existing radio systems of member agencies, up to a maximum of 10% annually per agency of the existing radio equipment inventory, until their equipment is replaced by the statewide system. During fiscal year 1991-92, the Joint Task Force expended \$277,587 on maintaining and enhancing agencies' existing systems.

According to s. 282.1095(3), F.S., if the pilot project is deemed unsuccessful by June 30, 1994, the remaining statewide implementation shall be abandoned immediately and all monies remaining in the Trust Fund shall revert to general revenue, unallocated. The surcharges imposed in accordance with ss. 320.0802 and 327.25, F.S., shall be terminated within six months of the determination but no later than midnight December 31, 1994.

Actual revenues and expenditures for fiscal years 1988-89 through 1991-92 for pilot project implementation are presented in Exhibit 2, page 10. In addition to the actual expenditures for these fiscal years, approximately \$11.1 million has been encumbered, as of June 30, 1992, to be used to complete pilot project implementation through June 1994. As of June 30, 1992, the State Agency Law Enforcement Radio System Trust Fund had a balance of approximately \$25.4 million, before encumbrances.

Exhibit 2

**State Agency Law Enforcement Radio System Trust Fund
Actual Revenues and Expenditures
Fiscal Years 1988-89 Through 1991-92**

	Fiscal Year					Total 1988-1992
	1988-89	1989-90	1990-91	1991-92		
Beginning Trust Fund Balance July 1	\$ 0	\$ 5,255,785	\$ 17,681,599	\$ 17,029,820	\$ 0	0
Revenues						
Taxes ¹	\$5,593,025	\$12,560,145	\$12,495,427	\$13,034,988	\$43,683,585	
Interest	28,851	779,881	1,629,752	1,281,159	3,719,643	
Miscellaneous Fees and Charges	45	262	530	167	1,004	
Total	<u>\$5,621,921</u>	<u>\$13,340,288</u>	<u>\$14,125,709</u>	<u>\$14,316,314</u>	<u>\$47,404,232</u>	
Expenditures						
Salaries	\$ 208,275	\$ 288,978	\$376,756	\$ 490,619	\$ 1,364,628	
Other Personal Services	345	30,117	0	0	30,462	
Administrative Fees	16,650	150,821	85,998	79,282	332,751	
Expenses	72,503	176,368	166,213	1,249,833	1,664,917	
Operating Capital Outlay	54,530	24,233	8,932	19,952	107,647	
Fixed Capital Outlay	0	243,957	2,519,054	2,879,598	5,642,609	
Interest Expense	13,833	0	0	0	13,833	
Maintenance of Existing Radio Systems	0	0	0	277,587	277,587	
Total	<u>\$ 366,136</u>	<u>\$ 914,474</u>	<u>\$3,156,953</u>	<u>\$4,996,871</u>	<u>\$ 9,434,434</u>	
Adjustments						
Money Transferred to General Revenue ²	\$ 0	\$ 0	\$11,620,535	\$ 907,554	\$12,528,089	
Trust Fund Balance June 30	<u>\$5,255,785</u>	<u>\$17,681,599</u>	<u>\$17,029,820</u>	<u>\$25,441,709</u>	<u>\$25,441,709</u>	

¹ A one dollar surcharge is levied and imposed on the motor vehicle license tax and the vessel registration fee and is deposited in the State Agency Law Enforcement Radio System Trust Fund.

² The Legislature transferred funds to general revenue in 1990-91 to balance the State budget. In 1991-92, a 7% surcharge was applied to all trust funds.

Source: DMS Statements of Revenues, Expenditures, and Changes in Fund Balance for Fiscal Years 1988-89 through 1991-92.

CHAPTER III

Findings and Recommendations

Section 1

Pilot Project Implementation

Chapter 88-144, Laws of Florida, authorized a pilot project to be conducted in the southeast portion of the state to be completed by June 30, 1992. Due to problems experienced with the pilot project implementation, the statutory deadline was not met. Chapter 92-72, Laws of Florida, extended the deadline for completion of the pilot project to June 30, 1994.

In this section, we discuss the reasons why the original statutory deadline was not met, the status of pilot project implementation as of October 1992, whether there are any indications the new statutory deadline will not be met, and whether actual pilot project expenditures will exceed the projected implementation costs. We found that:

- The pilot project was not completed by the original statutory deadline of June 30, 1992, primarily due to problems the Division experienced in obtaining site permits. In addition, the Division did not meet deadlines for developing contract specifications and awarding contracts. However, three of the six system components were substantially installed as of October 1992. In October 1992, Division staff indicated the pilot project would be completed by June 30, 1994.
- Total pilot project implementation costs will exceed May 1988 cost estimates of \$19.7 million by approximately \$4 million (20%), primarily due to higher costs than expected for towers, equipment shelters, and computer equipment, as well as additional salary costs.

Finding 1.1

The pilot project was not completed by the original statutory deadline of June 30, 1992, primarily due to problems the Division experienced in obtaining site permits. In addition, the Division did not meet deadlines for developing contract specifications and awarding contracts. However, three of the six system components were substantially installed as of October 1992. In October 1992, Division staff indicated that the pilot project would be completed by June 30, 1994.

To meet the original statutory deadline of June 30, 1992, the Joint Task Force adopted an implementation schedule in July 1988 showing target dates for complete installation of the pilot project's six major components. These major components are communications towers, equipment shelters, emergency generators, microwave radio relay stations, 800 MHz radio equipment, and Computer Aided Dispatch with Automatic Vehicle Location (CAD/AVL).³ Each of the pilot project's 42 sites is to consist of one or more of the six component parts, depending upon the purpose and location of the sites. With the exception of CAD/AVL, all major components were to be completely installed by November 1990. According to the original schedule, CAD/AVL was to be completely installed by February 1991. (See Exhibit 3, page 13.) None of the six major component parts were completely installed by their respective deadline dates, nor by the completion of our audit fieldwork in October 1992.

However, most of the work had been completed for three of the system's six major component parts, as of October 1992. Exhibit 4, page 14, shows the status of implementation of each of the pilot project's six component parts, as of October 1992. Only 2 of 18 towers, 2 of 16 equipment shelters, and 7 of 18 emergency generators remained to be installed, as of October 1992. Thus, the majority of work remaining involves the installation of the 800 MHz system, microwave radio relay equipment and CAD/AVL equipment. Because of the varying equipment requirements of each individual station site, only 2 of the 42 pilot project station sites had been completed by October 1992.

³ See Appendix B, page 31, for technical definitions of the system's component parts.

Exhibit 3

Target Completion Dates for Pilot Project's Six Major Component Parts According to Original Implementation Schedule

Component Part	Target Completion Date	Status as of October 1992
Communications Towers	September 1990	16 of 18 complete
Equipment Shelters	November 1990	14 of 16 complete
Emergency Generators	November 1990	11 of 18 complete
Microwave Relay Stations	November 1990	11 of 25 complete
800 MHz Radio Equipment	November 1990	none complete
CAD/AVL	February 1991	none complete

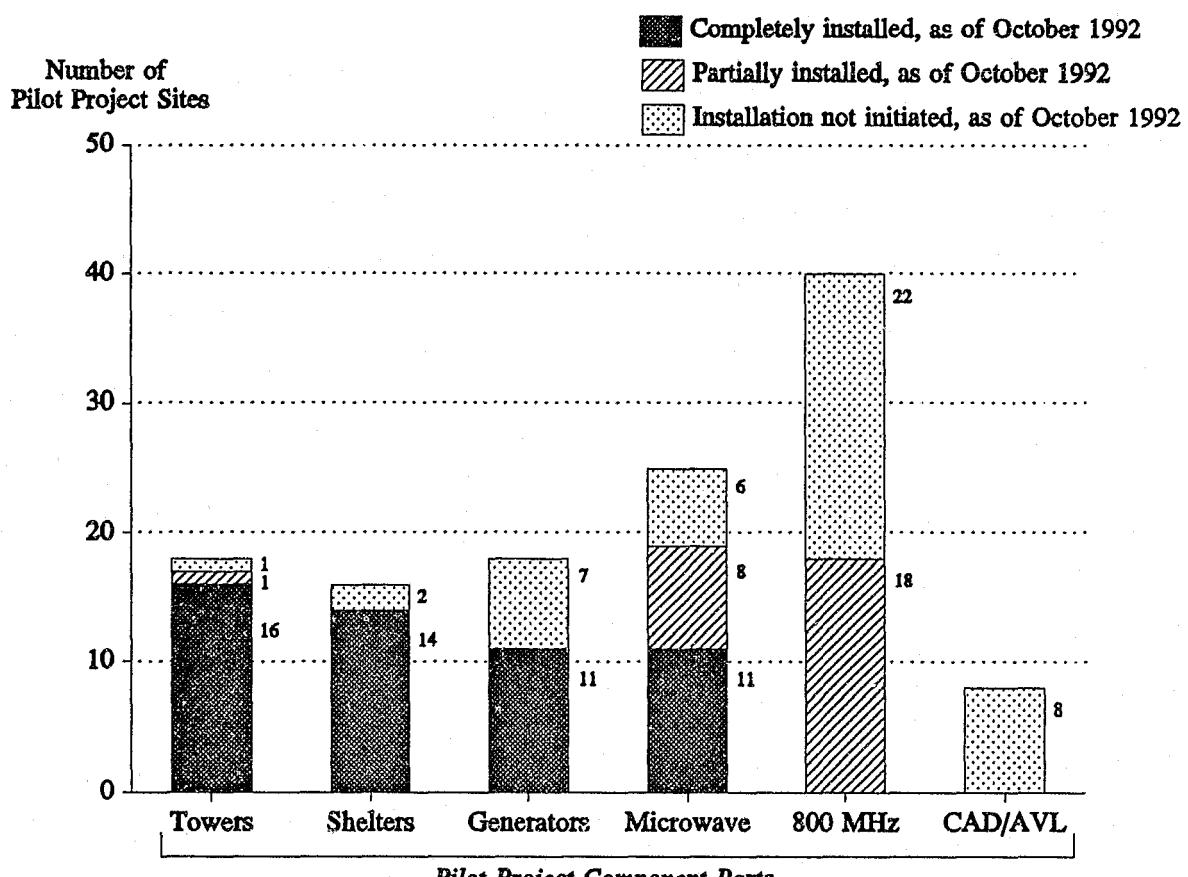
Source: Division of Communications.

To identify reasons for the pilot project not being completed by the original statutory deadline of June 30, 1992, we reviewed Joint Task Force reports and Division documents and interviewed Division of Communications staff. We determined that the primary delay in the pilot project completion was the difficulties encountered in obtaining site permits. In order to construct a tower and equipment shelter on a specific site, the Division must obtain a permit from the local zoning authority. The January 1992 Joint Task Force report indicated the Division experienced difficulties obtaining such permits for two proposed sites: Key Largo and Davie. Of the 18 sites with towers, the Key Largo site was particularly important because it provides a critical link in the pilot project's system. Although the application for the initial proposed Key Largo site was approved by the Monroe County Commission in August 1990, the Division withdrew the application due to objections voiced by environmental and neighborhood associations, as well as by the Department of Natural Resources. Final approval for an alternate Key Largo site was received from the Monroe County Commission on October 1991, or 13 months after the implementation schedule's target date of September 1990 for completion of tower construction. Since approval of the Key Largo site was obtained in October 1991, or 8 months before the deadline date of June 1992, the Division could not have met the deadline because it takes

approximately 17 months to construct towers and shelters and to install generators, radio, microwave, and computer equipment.

Exhibit 4

**Status of Implementation of the Pilot Project's Six Major Component Parts
As of October 1992**



Source: Division of Communications.

Although permitting problems are the primary reason that completion of the pilot project was delayed, the Division of Communications also did not meet its deadlines for finalizing contract specifications and awarding contracts. According to the implementation schedule, the contract specifications for all six major component parts were to be completed by July 1989. However, the Division did not complete contract specifications for any of the major component parts by this date. For example, the contract specifications for both equipment shelters and the microwave radio relay component were not completed until December 1989, or 5 months behind schedule, and the contract specifications for generators were not completed until June 1990, or 11 months behind schedule. This means the Division was several months behind schedule in preparing invitations to bid and in awarding contracts.

We identified two primary reasons for the delay in finalizing contract specifications and for contracts not being awarded in a timely fashion: Division staff had to modify original contract specifications and rebid contracts because no compliant bids were received, and finalizing contracts for some components was dependent on complete installation of other components. As a result, contracts for five major component parts were awarded several months after the initial invitations to bid were let. For example, the time period between the initial invitation to bid and the first purchase order for the 800 MHz contracts was 13 months, since the Division had to modify the contract specifications three times before any bids met specifications to be evaluated. The time period between the initial invitation to bid and the first purchase orders for shelters, generators, and the microwave radio components ranged from 10 to 16 months. The contracts for these three components were rebid two times before the contracts were awarded to qualified bidders. Furthermore, the generator contract was not awarded until July 1991 because the construction of towers and shelters was delayed by the permitting problems at the Key Largo site.

Although the pilot project did not meet the original statutory deadline of June 1992, the Division has established a new implementation schedule to complete the system by August 1993. Such a schedule would allow for system testing to be done before the results of the pilot project implementation are reported to the Legislature in January

1994. Division of Communications staff indicated that the Division would meet the new deadline of August 1993 to begin system testing.

However, we noted that the Division already had not met interim target dates for two sites under the new schedule. The January 1992 Joint Task Force report established a completion target date of May 1992 for one Key West site and July 1992 for the Key Largo site. As of October 1992, a substantial amount of work remained to be done at these sites, including constructing equipment shelters and installing equipment. Also, Hurricane Andrew in August 1992 caused damage that further delayed the pilot project, requiring that the towers at three sites be replaced or repaired. However, as of March 1993, the Division project status reports indicated that construction and installation of four of the six major components was complete at all pilot project sites.⁴

Finding 1.2

Total pilot project implementation costs will exceed May 1988 cost estimates by approximately \$4 million (20%), primarily due to higher costs than expected for towers, equipment shelters, and computer equipment, and additional salary costs.

In May 1988, the Division of Communications estimated the total cost for implementing the pilot project would be \$19.7 million. Previous cost projections for the pilot project included a \$9.4 million estimate in the 1985 Joint Task Force report, and a \$14.3 million estimate made in the February 1986 Joint Task Force report.⁵

Our review showed that total pilot project implementation costs may be at least \$23.7 million, exceeding May 1988 cost estimates by approximately \$4 million (20%) due primarily to higher costs than expected for towers, equipment shelters, and computer

⁴ The four major components completed are towers, equipment shelters, microwave radio relay equipment, and emergency generators.

⁵ We used the \$19.7 million figure in our calculations because the Division Director said that the \$19.7 million figure was presented to the Legislature at the time the decision was made to authorize the pilot project.

equipment, and additional costs resulting from two more years of salaries due to pilot project extension. Pilot project implementation costs were \$20.5 million, as of June 30, 1992. Although Division staff said that costs were higher than their initial estimate because of higher costs for materials than anticipated for the construction of radio towers and equipment shelters, they could not provide summary data on the actual amounts expended for each component part. A Department of Management Services internal audit report published in January 1993 indicated that the causes of the insufficient forecast could not be determined because the Division did not formally document its 1988 forecast.

The \$20.5 million figure, however, does not include costs for the purchase and installation of the Computer Aided Dispatch with Automatic Vehicle Location (CAD/AVL) component of the radio communications system, or salaries through June 30, 1994 the new statutory deadline for completion of the pilot project. The cost of purchasing and installing CAD/AVL was estimated in May 1992 to be \$2.3 million.⁶ Assuming salaries remain at the fiscal year 1991-92 level, we estimate that salaries through June 30, 1994 will add another \$980,000 (5%) to the cost of the pilot project. Therefore, salaries and all other pilot project expenditures will total \$23.7 million, \$4 million or 20% higher than the May 1988 estimate.⁷ (See Exhibit 5, page 18.)

⁶ The Division had not purchased the Computer Aided Dispatch with Automatic Vehicle Location (CAD/AVL) component of the pilot project. The May 1992 estimate for purchasing CAD/AVL was \$2.3 million, or approximately \$740,000 higher than the May 1988 estimate of \$1.5 million.

⁷ While some of the salary costs for fiscal years 1992-93 and 1993-94 will go toward preparing for phase 2, rather than work exclusively related to pilot project (phase 1) implementation, these costs are incurred prior to a Legislative determination to proceed with statewide implementation.

Exhibit 5

Actual and Estimated Pilot Project Costs as of June 30, 1992, and Projected Costs Through June 30, 1994

Actual Expenditures and Encumbrances

July 1988 - June 1992	Towers, shelters, generators, microwave equipment, and 800 MHz equipment for all 42 pilot project sites; other expenses	\$19,122,278
	Radio section staff salaries	<u>1,395,090</u>
	Total Actual Expenditures and Encumbrances	<u>\$20,517,368</u>

Estimated Cost to Complete Project

July 1992 - June 1994	Computer Aided Dispatch with Automatic Vehicle Location for pilot project sites	\$2,253,304
	Radio section staff salaries	<u>981,238</u>
	Total Estimated Costs	<u>\$3,234,542</u>

Total Costs

Total Actual and Estimated Pilot Project Costs (Office of the Auditor General projections)	\$23,751,910
May 1988 Joint Task Force Estimate for total Pilot Project Costs	<u>\$19,700,000</u>
Difference between May 1988 Joint Task Force Estimate and Office of the Auditor General projections for total Pilot Project Costs	<u>\$ 4,051,910</u>

Source: DMS Statements of Revenues and Expenditures and Office of the Auditor General projections.

Section 2

Statewide Implementation

Background

Because of the problems experienced with the pilot project implementation and the amount (20%) by which the pilot project implementation may exceed projected costs, the Legislature needs to be assured that the statewide radio communications system works as designed and that statewide implementation is desirable before proceeding any further. The Joint Task Force and the Division of Communications need to provide sufficient information to the Legislature to justify plans to continue with statewide implementation.

Section 282.1095(3), F.S., requires the Joint Task Force to submit updated status reports to the Governor and Cabinet and the President of the Senate and Speaker of the House of Representatives on the performance of the pilot project. These reports are to include an evaluation of the efficiency and effectiveness of the pilot project system in serving the requirements of the five member agencies, and to recommend further action, if any, with respect to statewide implementation. The next report is due by January 1994.

In this section, we review the factors the Division of Communications and the Joint Task Force plan to consider in deciding whether to recommend statewide implementation of the 800 MHz radio communications system. In addition, we discuss issues that need to be addressed if statewide implementation is to be accomplished in an effective manner. We found that:

- In deciding whether to recommend statewide implementation, the Joint Task Force and the Division of Communications plan to consider two primary factors: whether the pilot project contract specifications are met and the satisfaction level of system users. However, concerns regarding the cost of the system, the adequacy of the funding mechanism, the timetable for system implementation, and the usefulness of the system for mutual aid communications need to be resolved prior to proceeding with statewide implementation.

Finding 2.1

In deciding whether to recommend statewide implementation, the Joint Task Force and the Division of Communications plan to determine whether the pilot project contract specifications are met and identify the satisfaction level of system users. However, concerns regarding the timetable for system implementation, the cost of the system, the adequacy of the funding mechanism, and the usefulness of the system for all state and local law enforcement agencies need to be resolved prior to proceeding with statewide implementation.

There are two primary criteria the Division of Communications and the Joint Task Force will use in determining whether to recommend statewide implementation. First, the Division will review the results of radio testing equipment to determine whether contract specifications have been met. Second, the Division will solicit the opinions of system users to determine their satisfaction. In October 1992, the pilot project testing was scheduled to begin in August 1993 and would include both equipment tests and user evaluation of equipment prior to November 1993. The Division had not developed specific plans for conducting the satisfaction survey. The Task Force will report their findings and its recommendation on whether to continue with statewide implementation in the January 1994 report to the Governor and Cabinet and Legislature.

To identify factors that they thought should be used to evaluate the pilot project, we interviewed the five members of the Joint Task Force and two alternates, and 22 ex-officio subcommittee members. Joint Task Force members generally concurred with the Division's choices for evaluation criteria for determining whether statewide implementation of the 800 MHz radio system should occur. The most frequent responses of these 29 individuals included criteria the Division plans to use, such as whether the radio equipment meets contract specifications (mentioned by 15 individuals) and whether the new system meets the users' needs to their satisfaction (mentioned by 15 individuals).

In addition, we asked these 29 individuals whether their agencies would benefit by statewide implementation of the new system, and whether there would be detrimental

effects to their agencies if statewide implementation did not occur. Of the 29 individuals we interviewed, 26 (90%) anticipated that statewide implementation of the new radio system will benefit their agency. Among the comments these individuals made were that the new system offers improved and expanded features and that it would alleviate the three problems with existing systems that were identified in the January 1992 Task Force report: channel congestion, antiquated and obsolete equipment, and lack of interagency communications capability. Twenty-three individuals (79%) indicated that there would be detrimental effects to their agency if statewide implementation does not occur. The most frequently mentioned responses by these individuals were concerns about maintaining or replacing their present outdated systems and the impact of these inadequate systems on the safety of law enforcement officers and the public.

If the Joint Task Force and the Division of Communications recommend that the 800 MHz radio system be implemented statewide, we identified four additional factors that need to be addressed if statewide implementation is to be accomplished efficiently and effectively:

- Can the new system be implemented more rapidly than currently planned?
- What will the new system cost to implement statewide?
- Will the existing funding source be sufficient to accomplish statewide implementation? and
- Will the mutual aid portion of the new system serve the needs of state and local law enforcement agencies?

Can the New System Be Implemented More Rapidly than Currently Planned?

If the Legislature determines that the statewide radio project should be continued, there are operational benefits to implementing it at a faster rate than the current schedule. Although Ch. 88-144, Laws of Florida, created the Trust Fund to be in effect from July 1, 1988, through December 31, 2003, the Division of Communications Director said that he envisions statewide implementation can be accomplished more rapidly than by the year 2003. He said that if the Joint Task Force recommends statewide implementation to the Legislature, potential users in central and northern Florida will want the new system to be operational sooner than the year 2003. In addition, 9 of the 29 (34%) Joint Task Force board and subcommittee members we interviewed expressed concerns about the proposed timeframe for completing implementation of the statewide system.

Although the Division Director said that a five-year schedule for statewide implementation could be accomplished by June 30, 1999, he identified three obstacles to such an accelerated schedule. The primary obstacle to an accelerated timeframe is potential site permitting difficulties like those experienced during the pilot project. Also, additional staff would be required to plan and develop sites and monitor progress. Finally, funds would need to be made available sooner to allow for the construction of towers and shelters and the purchase and installation of the equipment in a timely manner.

Accelerating statewide implementation may depend on the timeliness with which the Division is able to obtain site permits from local governments. To accelerate future statewide implementation and to prevent potential permitting delays, Division staff said they are already planning for site acquisition for the next phase. Our review found that the Division had begun the application process for 5 out of 21 proposed sites in phase 2, as of October 1992. The Division's intent is to secure the necessary site permits for phase 2 prior to June 30, 1994, in order for tower and shelter construction for phase 2 to begin as early as possible. However, since beginning work on obtaining sites for phase 2 of statewide implementation, the Division already has had permitting problems with one of the five sites it

has attempted to secure. The Division Director said that if these difficulties occur in each of the implementation phases, then the Division's ability to meet a five-year schedule would be hindered. The Division is proposing an exemption from the state's permitting regulations to expedite site construction. This change may require legislative action to implement.

To provide additional staff for an accelerated project, the Division has proposed using Division staff outside the Joint Task Force Radio Section or hiring consultants. First, staff from another section within the Division could work with the Joint Task Force Radio Section to plan and develop sites and monitor site progress. However, such staff may lack expertise in land acquisition and their involvement in such duties would take time away from their own responsibilities. Second, the Division could hire outside consultants to assist with land acquisition. However, these services may be costly and these individuals may still require the supervision of Joint Task Force Section staff, reducing the effectiveness of having additional staff.

Finally, if statewide implementation were to be accelerated, the Division would need to have funds available to pay for additional staff, for the construction of towers and shelters, and for the purchase and installation of equipment. One option the Division is investigating is the Deferred Payment Commodity Contract under the Consolidated Equipment Financing Program. According to Comptroller's Office staff, the Division could borrow money from either an outside lender or from a pool of state funds, after obtaining approval from the Comptroller's Office. The Division could pay back the loan using the existing revenue stream provided by Joint Task Force receipts. One stipulation to the loan is that the Division could use such funds only for the purchase of equipment, not to pay for cost of services, such as the construction of towers and equipment shelters. An advantage to this option would be that the Division could obtain funds earlier and pay back the loan plus interest using existing Trust Fund revenues. A disadvantage to this option would be that the amount of interest charged to acquire the loan would increase the total costs for statewide implementation.

What Will the New System Cost to Implement Statewide?

In January 1992, the Joint Task Force estimated that implementation of the radio system statewide would cost \$220 million, a 36% increase over the Division's 1988 estimate of \$162 million.⁸ We identified various factors that would reduce or increase the actual cost of statewide implementation. For example, some factors may reduce the actual costs for statewide implementation, including the expectation that construction costs for towers and equipment shelters will be lower in other parts of the state than they were in South Florida. In addition, preliminary pilot project results have indicated the system may require less towers, and that user agencies may not require as many radios and as much other equipment to operate efficiently and effectively. If these factors have an effect, expected costs for statewide implementation could be less than the January 1992 estimate of \$220 million.

However, there are other factors that may increase the total actual costs for statewide implementation. The primary factor that would increase cost is the implementation of the Computer Aided Dispatch with Automatic Vehicle Location (CAD/AVL) part of the new system. Division staff indicated CAD/AVL may not be installed in order to offset the increased costs of some of the other components. This equipment is not essential to the operation of the radio system but could be used as a management tool to obtain information on officers' activities. According to an estimate prepared by Division staff, dated May 1992, the total projected costs for the purchase and installation of the CAD/AVL is \$16.9 million, or approximately 11% of the \$153.6 million projected total costs for fixed capital outlay expenses associated with the new system's statewide implementation.

Of the 29 Joint Task Force and subcommittee members we interviewed, 7 (24%) expressed concerns about the projected costs for statewide implementation. Four individuals stated that the cost of statewide implementation of the new system should be

⁸ The statewide cost projections include the cost of maintaining the five agencies' existing systems until the statewide radio system is operational.

examined. The Division should have a more precise estimate of the costs for statewide implementation when the pilot project implementation is completed, and should report its findings in the Joint Task Force report due in January 1994.

Will the Existing Funding Source Be Sufficient to Accomplish Statewide Implementation?

A primary problem with the current Joint Task Force funding mechanism is that total projected revenues may not be sufficient to cover total projected costs for statewide implementation. In addition, the revenue stream generated by the existing funding mechanism may not be sufficient to cover the costs of an accelerated project.

Although the January 1992 Joint Task Force report indicated that projected Trust Fund revenues would cover the projected costs for statewide implementation, subsequent estimates showed projected revenues to be insufficient for the total projected costs. According to subsequent Joint Task Force estimates in February 1992, total projected revenues will be \$178.4 million, or \$41.4 million less than the \$219.8 million in total projected costs for statewide implementation. The differing estimate results can be attributed primarily to changing two assumptions in the estimating formula. First, \$11.2 million was transferred from the Trust Fund to general revenue during fiscal year 1990-91 in an effort to balance the state's budget. In its January 1992 projection, the Division had assumed the loss would be replaced by a general revenue appropriation of \$2 million per year through the year 2003, for a total of \$22 million. The February 1992 estimate did not assume this fund replacement. Second, beginning in fiscal year 1991-92, a 7% annual surcharge is imposed on the Trust Fund's balance, pursuant to s. 215.20, F.S.⁹ The January 1992 estimate did not reflect this revenue loss; the February 1992 estimate does. We estimated the total revenue lost due to the 7% annual surcharge was \$10.9 million. These amounts taken from the Trust Fund, plus the amount of the loss of potential earned interest, account for the

⁹ Section 215.20, F.S., provides that a service charge of 7%, representing the estimated pro rata share of the cost of general government paid from the General Revenue Fund, shall be deducted from revenue deposited in all trust funds except those specifically exempted. These deductions shall be deposited in the General Revenue Fund.

difference in estimates. Therefore, statewide implementation costs may exceed revenues by \$41.4 million.

If the February 1992 projection is accurate, the Legislature will need to provide an additional funding source to accomplish statewide implementation. Among the options the Division is considering proposing are general revenue appropriations, bond financing, increasing the amount of the surcharge fees collected in accordance with ss. 320.0802 and 327.25, F.S., and extending the period for collection of such fees beyond the present effective date of December 31, 2003. Each of these options would require Legislative action to implement. All five other states we contacted that were in the process of implementing an 800 MHz radio system have used general revenue or bond financing to finance their systems.

In addition to an additional funding source, the Division will also need funds available earlier than the existing funding mechanism provides. The Trust Fund is expected to be running a deficit in fiscal year 1997-98 if statewide implementation were to proceed on its current schedule. An accelerated implementation schedule could also accelerate occurrence of a deficit, as well as require equipment funds to be available sooner.

Will the Mutual Aid Portion of the New System Serve the Needs of State and Local Law Enforcement Agencies?

A primary purpose of the statewide implementation of the 800 MHz radio system is the introduction of effective mutual aid communications for use by state, local, and federal agencies. The 800 MHz radio system design includes conventional radio channels in the 800 MHz band specifically set aside by the Federal Communications Commission for mutual aid communications. As provided by s. 23.1225, F.S., a mutual aid agreement is entered into between two or more law enforcement agencies for the purpose of coordinating joint activities such as investigations, or to meet a request for assistance due to a civil disturbance or other emergency. The existing separate and different radio systems operated by the state's law enforcement agencies do not provide mutual aid capability.

Our review found a basic concern with the proposed use of the state's 800 MHz radio system for mutual aid communications. The mutual aid portion of the plans for statewide implementation appears to have assumed a secondary role, and it is not clear whether the state's system will be useful to local law enforcement agencies that do not plan to use 800 MHz technology.

According to s. 282.1095(1), F.S., the Joint Task Force and the Trust Fund were established for the purpose of acquiring and implementing a statewide radio communications system to serve law enforcement units of state agencies and local law enforcement agencies through a mutual aid channel. According to a survey of potential users conducted by an outside consultant in June 1989, mutual aid capability is a primary reason for implementing the statewide radio communications system. The January 1992 Joint Task Force Report states that the implementation of the statewide 800 MHz system is a necessary step in the evolution of law enforcement communications because a number of local agencies are presently using or have plans to use the 800 MHz radio technology.

A survey of 389 local law enforcement agencies in the state conducted by the Division of Communications in 1991 indicate that only one-third of the state's local law enforcement agencies are using or are making plans to use 800 MHz radio technology.¹⁰ However, Division staff did not know whether the remaining two-thirds have any plans to use 800 MHz technology. They indicated that agencies that do not use 800 MHz radios can be connected to the state's system using patch circuits, but that this option was not an optimal solution to this problem. Further, some of the state agency staff interviewed expressed concern that the Task Force had not sufficiently solicited input from nonparticipating agencies relative to the mutual aid portion of statewide implementation. As of October 1992, neither the Division nor the Joint Task Force had developed any formal plans to provide statewide mutual aid capability for the nonparticipating agencies.

¹⁰ As authorized in Ch. 92-165, Laws of Florida, any county that participates in an intergovernmental radio communications program approved by the Division of Communications may assess an additional surcharge of up to \$12.50 for each moving traffic violation, to be used by the county to fund its participation in the program.

Conclusions and Recommendations

In its January 1994 report to the Governor and Cabinet and Legislature, the Joint Task Force and the Division of Communications will make a recommendation to either proceed with statewide implementation of the 800 MHz radio communications system or to abandon it. As a basis for the decision, the Division plans to review the results of the pilot project in order to determine whether the radio equipment that has been installed meets the contract specifications and whether users in the pilot project area are satisfied with the system.

We believe that because of pilot project implementation delays, increased implementation costs, and the substantial commitment of the state resources, the Joint Task Force and the Division of Communications should address specific implementation issues in its January 1994 report. In addition to an evaluation of the pilot project, the following issues should be addressed:

- The feasibility of statewide implementation on a five-year schedule;
- A plan for statewide availability of mutual aid system;
- An updated formal cost estimate; and
- A recommended funding mechanism for statewide implementation.

Appendices

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Appendix A

Joint Task Force Board of Directors As of September 1, 1992

Board of Directors	Agency and Position
Jack Carmody, Chairman	Florida Highway Patrol, Deputy Director
Ed Williams, Vice Chairman	Florida Department of Law Enforcement, Deputy Director
Dale Patchett, Member	Department of Natural Resources, Deputy Assistant to the Executive Director
John Harris, Member	Department of Business Regulation, Deputy Director for Law Enforcement
Gwynn Kelly, Member	Game and Fresh Water Fish Commission, Assistant Director of the Division of Law Enforcement

Source: Department of Management Services.

Appendix B

Definition of Terms

800 MegaHertz Trunked Radio - radio system using frequencies in the 800 MHz radio spectrum in which channels are pooled for temporary assignment to users, rather than dedicated to assigned users as with conventional radio systems. A computerized system controller automatically identifies frequencies in the pool that are not in use and temporarily assigns them to users requesting transmission. The computer returns the frequency to the pool for reassignment when transmission is completed.

Microwave Radio Relay System - microwave radio signals, transmitted in the 2 and 6 Gigahertz bands, link radio sites by carrying control data signals between the central controller computer and the individual site controller computer at each cell site. The microwave links carry multiple communications simultaneously among cell sites, controller sites and dispatch centers.

Communications Tower - self-supporting or guyed tower, ranging in height from 65 to 450 feet, that holds antennas and other radio equipment.

Equipment Shelter - concrete or fiberglass structure to house radio equipment, designed to provide optimum climatic and security conditions for radio equipment operations.

Power Generator - stand-by power source housed in some equipment shelters, used to power the radio system when necessary.

CAD/AVL - abbreviation for Computer Aided Dispatch with Automatic Vehicle Location, a computer system that provides status information on requests for assistance and the corresponding law enforcement personnel activities, and visual illustrations on computer screens of the exact locations of the mobile radio users.

Appendix C

**Response From the
Department of Management Services**

In accordance with the provisions of s. 11.45(7)(d), F.S., a list of preliminary and tentative audit findings was submitted to the Secretary of the Department of Management Services for his review and response.

The Secretary's written response is reprinted herein beginning on page 33. Where necessary and appropriate, Auditor General's comments have been inserted into the body of the response.



DEPARTMENT OF MANAGEMENT
SERVICES

The Koger Center • 2737 Centerview Drive • Knight Building • Tallahassee, Florida 32399-0950

LAWTON CHILES, GOVERNOR

WILLIAM H. LINDNER, SECRETARY

May 7, 1993

Mr. Charles Lester, Auditor General
Office of the Auditor General
Claude Denson Pepper Building
111 West Madison Street
Tallahassee, Florida 32301

Dear Mr. Lester:

Pursuant to Section 11.45(7)(d), Florida Statutes, this is our response to the findings in your report, Performance Audit of the Implementation of the Statewide Law Enforcement Radio System Administered by the Department of Management Services' Division of Communications. Our response corresponds with the order of your findings and recommendations.

FINDINGS

Finding 1.1

The pilot project was not completed by the original statutory deadline of June 30, 1992, primarily due to problems the Division experienced in obtaining site permits. In addition, the Division did not meet deadlines for developing contract specifications and awarding contracts. However, three of the six system components were substantially installed as of October 1992. In October 1992, Division staff indicated that the pilot project would be completed by June 30, 1994.

Response

Project Delays - We agree with the finding. As noted in the audit report, the completion of Pilot Project installations will be in August 1993. However, the CAD/AVL system installation, which is required to follow the acceptance of the 800 MHz radio system, will be completed in November 1993. We are seeking ways to accelerate the site permitting process for future phases of the project. Our personnel have become more proficient, through the Pilot Project experience, at obtaining permits in a timely fashion. We do not, however, see the time required for obtaining permits as being reducible to any great degree, unless exemption to the permitting rules can be provided in some manner.

Regarding contract preparation, it should be noted that in some cases preparation of the contract specifications was deliberately delayed in the course of proper management. This was sometimes done to await the results of site acquisitions which were delayed and necessarily would affect the specification (e.g. the type of radio tower required depends largely on the size and location of the property permitted for use). At other times contract specification preparation was delayed to free personnel resources to assist in other areas, because site permitting delays sometimes caused a shift in priorities to overcome some of the delay. We consider these cases to be merely prudent project management choices. Nevertheless, we did encounter delays in the contracting process itself, attributed to the difficulties vendors often had in bidding properly under the State's purchasing laws and process.

Project Work Status - Regarding project status, we have provided a chart (page 3) to update the one in Exhibit 4 of the audit report, to show the present status of the project. Please note the substantial completion of most component installations. *As of March 26, 1993, the first operation of the 800 MHz trunking system was begun in the Miami area, and two agencies, the Florida Highway Patrol and the Division of Alcoholic Beverages and Tobacco, were equipped with 800 MHz radios.*

In our chart, we have separated the 800 MHz Mutual Aid system from the 800 MHz trunking radio system to depict these two distinct project objectives. *The first portion of the 800 MHz Mutual aid radio system (Miami and Ft. Lauderdale areas) has been operational since May, 1992, and provided vital communications to many public safety agencies, the National Guard, the U.S. Army, and the Department of Health and Rehabilitative Services, in the aftermath of Hurricane Andrew. In addition, the Mutual Aid system was used to support the Governor's multi-agency Violent Street Crime Task Force established in response to tourist slayings. The portion of the 800 MHz Mutual Aid system in the Florida Keys was completed in January 1993.*

Finding 1.2

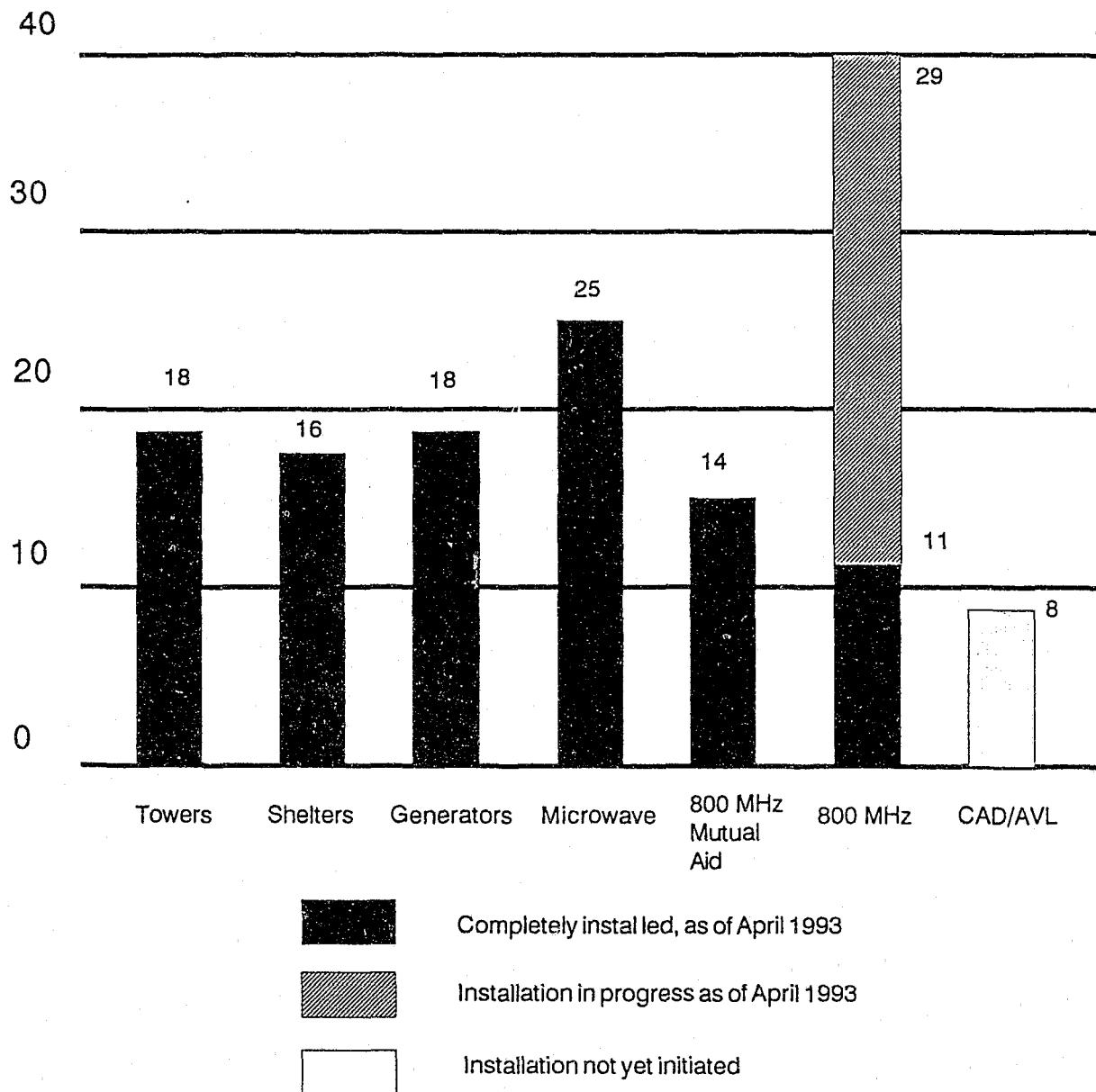
Total pilot project implementation costs will exceed May 1988 cost estimates by approximately \$4 million (20%), primarily due to higher costs than expected for towers, equipment shelters, and computer equipment, and additional salary costs.

Response

Project Costs - The costs shown in Exhibit 5 of the audit include costs caused by permitting delays and an overestimate of the CAD/AVL costs. *We estimate that the net cost in the Pilot Project of dealing with the delays caused by the permitting regulations of state and local agencies to be approximately \$1.2 million. This figure could support this project's exemption from the permitting process.*

Status of Implementation of the Pilot Project's Major Component Parts as of April 1993

Number of Pilot Project Sites



The \$1.2 million consists mostly of additional Fixed Capital Outlay expenditures that were required due to the delays, such as:

- a. Contract penalties imposed on the State due to delaying of the contractors (Example: Purchase Order #019905 for the microwave system totalled \$165,000);
- b. Warehousing storage costs to hold equipment until after the delay (Example: Purchase Order #20597 for the 800 Mhz system totalled \$40,000);
- c. Costs required to re-analyze and/or redesign certain facilities to fit into new locations or to adjust equipment configurations (Example: Purchase Order #014877 to modify the Key Largo tower contract totalled \$40,396);
- d. Costs to establish a second radio cell site to provide radio coverage in an area that was to have been covered by a single site (Example: Miscellaneous purchase orders to establish the Mystic Pointe site after the Davie site permit was denied by local officials totalled \$431,161).

Based on the costs in the proposal recently negotiated with Integris, Inc., for the CAD/AVL system and the State contract costs for the laptop computers/mobile data terminals to be used with it, the actual cost of the CAD/AVL system will be \$1,988,608, or \$264,696 less than estimated in Exhibit 5 of the audit report.

Since we did not anticipate the project delays we encountered, the approximately \$980,000 salaries for July 1992 through June 1994, were not included in our original estimate. Although we acknowledge the validity of the Auditor General's inclusion of these and other delay costs, *if these costs and the revised CAD/AVL estimate are deducted from the audit report's total estimated pilot project costs, the difference from our original estimate is \$1,556,074 or 7.9% above the original estimate of \$19,745,793.*

Finding 2.1

In deciding whether to recommend statewide implementation, the Joint Task Force and the Division of Communications plan to determine whether the pilot project contract specifications are met and identify the satisfaction level of system users. However, concerns regarding the timetable for system implementation, the cost of the system, the adequacy of the funding mechanism, and the usefulness of the system for local law enforcement agencies need to be resolved prior to proceeding with statewide implementation.

Response

The Division has plans to fully evaluate each of these issues prior to statewide implementation. We have discussed further certain areas in the body of this finding, below:

Project Evaluation - With each contract, we develop an Acceptance Test Plan to use for validating the equipment and system performance. In addition, we are planning to develop an overall system performance evaluation plan, including a radio coverage assessment and a user satisfaction survey. These are project tasks still to be accomplished after project installation. *Acceptance Test Plans have been completed as required and the remaining test plans for each contract will be completed when the appropriate point is reached.*

Mutual Aid Communications - We do not believe the Mutual Aid portion of the plans for statewide implementation have assumed a secondary role. At the time the original legislation for this project was written, there existed only a single statewide radio channel available and licensed for the Mutual Aid function. This channel, designated the Florida Public Safety/Special Emergency Mutual Aid Channel is an 800 MHz channel. After the Pilot Project was begun, the Federal Communications Commission officially released 5 additional channels solely for Mutual Aid purposes, for use in statewide systems. The Joint Task Force chose to do more than the minimum by implementing two of these in the Pilot Project, rather than the single channel as previously planned, thereby showing the concern for implementing a significant Mutual Aid capability with the new system. However, it is true, that our major efforts have been to replace the existing systems of the JTF agencies, the objective which we believe to be primary to the implementation of the entire 800 MHz system.

We have also re-analyzed our survey on the potential use of the 800 MHz Mutual Aid channels by local agencies, and *have documentation which shows that the total number of sworn law enforcement personnel of both state and local agencies which can be expected to eventually be using 800 MHz radio systems represents 63% of all law enforcement personnel within the state.* This result is as we expected since most of the agencies switching to 800 MHz technology represent the larger agencies. These agencies are switching for many of the same reasons the Pilot Project was initiated, such as for relief of channel congestion and the need for better interagency communications. Since this total will exceed the combined numbers of law enforcement personnel of agencies having radio systems in all the other 3 radio bands, and since 800 MHz is the only radio band having clear statewide channels available for Mutual Aid, it represents the only choice for developing a Mutual Aid radio system.

In addition, the survey was conducted prior to the addition of Section 316.655(6), Florida Statutes (Chapter 92-165, Laws of Florida), The Florida Mutual Aid Act, which allows counties to fund an intergovernment radio communications system with the approval of the Division of Communications, via a surcharge of up to \$12.50 for each moving traffic violation. Based on the interest we have already seen in taking advantage of this provision in the statutes, we expect the number of agencies moving to 800 MHz radio systems to rapidly increase over the survey estimate.

Auditor General's Comments

Our concern focuses on the need for an evaluation of the system's usefulness to the mutual aid needs of local government law enforcement agencies which employ the vast majority of law enforcement personnel in the state. The Legislature established the Statewide Radio System with the provision that it benefit local as well as state agencies, and those benefits should be disclosed to the Legislature prior to the decision to proceed with statewide implementation.

CONCLUSIONS AND RECOMMENDATIONS

We believe that the Joint Task Force and the Division of Communications should address specific implementation issues in its January 1994 report. In addition to an evaluation of the pilot project, the following issues should be addressed:

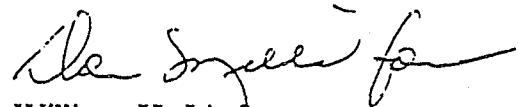
- * The feasibility of statewide implementation on a five-year schedule;
- * A plan for statewide availability of mutual aid system;
- * An updated formal cost estimate; and
- * A recommended funding mechanism for statewide implementation.

Response

We concur with the conclusions and recommendations presented in the audit report. As we have discussed with the Office of the Auditor General, we have had plans to address these issues since the beginning of the project. We have already begun to update the cost estimate for statewide implementation, including a study of the feasibility of a shorter schedule and the recommendation of a funding mechanism. Regarding a plan for statewide availability of Mutual Aid, we have followed the Region 9 Plan for Public Safety Radio Communications, which is the plan approved for Florida by the Federal Communications Commission, pertaining to the assignment and use of certain 800 MHz radio channels, including those designated for Mutual Aid communications.

If further information is needed concerning our response, please contact this office.

Sincerely,



William H. Lindner
Secretary

WHL/slb