Proviso 93.7:
First Responder Interoperability
2023-24 Report on Agency Compliance

admin

THE SOUTH CAROLINA
DEPARTMENT *of* ADMINISTRATION

REPORT OVERVIEW

Proviso 93.7 of the FY 2024-2025 Appropriations Act authorizes the South Carolina Department of Administration (Admin) to administer and coordinate First Responder Interoperability operations through the statewide Palmetto 800 radio system to better coordinate public safety disaster responses and communications. The following report serves as an overview of recent accomplishments and plans designed to support this proviso. The report also details those entities not yet integrated into the system as of the end of Fiscal Year 2023-2024, as required by the proviso.

Proviso 93.7

The text of the relevant proviso for the current fiscal year states:

"The Department of Administration is directed to administer and coordinate First Responder Interoperability operations for the statewide Palmetto 800 radio system to better coordinate public safety disaster responses and communications. First Responder Interoperability administration and coordination shall be funded as provided in this act. The cost-proportional funds shall be utilized for radio user fees of state agencies and public safety first responders (Fire, EMS and Law Enforcement) that participate in the statewide Palmetto 800 radio system (Palmetto 800 participants). The Department of Administration, in consultation with the State Law Enforcement Division, the Department of Public Safety, and the State Emergency Management Division, and a representative of the South Carolina Sheriffs Association, shall set a baseline number of radios used by each Palmetto 800 participant based on the technical aspects of the Palmetto 800 radio system and the jurisdictional requirements of the participant. If a Palmetto 800 participant reduces the baseline number of radios in use, the amount of funds allocated for the participants radio user fees shall be reduced in a proportional amount. The funds shall also be utilized to provide private county and city radio systems with grant funds to be used for purchases of equipment that support interoperability with the statewide Palmetto 800 radio system and its users. Grant funds shall be allocated to private county and city radio systems based on the criteria used for Palmetto 800 Participants and in amounts proportional to the amounts allocated to support the per-site radio user fees of Palmetto 800 participants. A matching share is required by a Palmetto 800 participant or by a private county or city radio system in order to qualify for receipt of funds pursuant to this proviso. Each fiscal year the Department of Administration shall establish the level of match required based upon funding provided by this act. These entities shall be required to furnish such documentation as may be required by the department to verify that the matching funds requirement is met. Upon funding state agency and public safety first responder user fees and private county and city equipment purchases, any remaining funds may be used to enhance and expand the statewide Palmetto 800 radio system. All funds shall be held in a separate account established by the department for the purposes set forth herein. Any unexpended portion of these funds may be carried forward and used for the same purpose. In the calculation of any across-the-board budget reduction mandated by the Executive Budget Office or General Assembly, the amount appropriated to the Department of Administration for First Responder Interoperability must be excluded from the departments base budget.

The Department of Administration shall provide a report on the status of the integration of the statewide Palmetto 800 radio system which shall include, but not be limited to, a list of entities who are not integrated into the system as of the end of the immediately preceding fiscal year and the reason why they are not integrated. The report shall be submitted by October first, of the current fiscal year to the Chairman of the Senate Finance Committee and the Chairman of the House Ways and Means Committee."[1]

SIGNIFICANT SYSTEM ACTIVITIES

Funding to Assist First Responders

The First Responder Interoperability Proviso of the FY 2023-24 Appropriations Act funds provided a 33% match to assist state and local first responders participating in the Palmetto 800 Statewide Radio Network. This funding also provided 33% in matching funds for eligible equipment purchases to first responder agencies on private county and city 800MHz systems to support interoperability between those systems and the Palmetto 800 radio network.

Palmetto 800 User Update

The Palmetto 800 radio network public/private partnership continues to be a model across the United States for its statewide adoption rate and its technical capabilities. The system currently serves a total of 82,540 users consisting of both primary and interoperability users. Of the 68,540 primary users, 5,566 are state agency radios and 14,000 are interoperability users in adjacent states as well as York and Horry counties.

Top 10 Users by Number of Radios (as of June 30, 2024):

▶ Charleston County – 9,652
▶ Beaufort County – 8,938
▶ Florence County – 2,784
▶ Greenville County – 2,721
▶ Anderson County – 2,249
▶ SC Department of Public Safety – 2,031
▶ Sumter County – 1,940
▶ Marion County – 1,586
▶ Richland County – 1,388
▶ Lancaster County – 1,170

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[1] 2023-24 Appropriations Act, Part 1B Section 93.7 D-500 Department of Administration.

Network Expansion

Federal grant reductions and increased expenses serve to limit the expansion of the Palmetto 800 system into rural counties of the state. The increased cost in insurance, operations and maintenance of the state's cache of emergency communications equipment and portable towers also limits funds for expansion of the statewide radio system. During FY 2023-24, Motorola Solutions completed the construction and incorporation of four site expansions into the network. Moreover, three new wireline dispatch consoles were added bringing the total to 49.

Completed Site Expansions:

- ▶ Calhoun Falls – Abbeville County
- ▶ Draytonville – Cherokee County
- ▶ Limehouse – Jasper County
- ▶ Youngs – Laurens County

Wireline Console Additions:

- ▶ Calhoun County Dispatch
- ▶ Greenville County EMS
- ▶ Greenville County Backup

New Users

Thirteen new customers were added to the system between July 1, 2023, and June 30, 2024, which include:

- ▶ SC DHEC Land and Waste Management
- ▶ Berkeley Goose Creek Public Works
- ▶ Camden, City of Public Works
- ▶ Marlboro County EMS
- ▶ Allendale County Coroner's Office
- ▶ Union County STORM
- ▶ Westview Fairforest Fire Department
- ▶ Fountain Inn, City of Public Works
- ▶ Pageland Fire Department
- ▶ Pageland Rescue Squad
- ▶ Converse College Campus Security
- ▶ First Choice Ambulance, Inc
- ▶ MTC Meducare 4

FIRST RESPONDER INTEROPERABILITY OPERATIONS

OTIS Public Safety Communications Team Mission Fulfillment

The South Carolina Department of Administration's (Admin) Office of Technology and Information Services' (OTIS) Emergency Services team is tasked with the mission of ensuring communications interoperability and coordination between law enforcement, fire and emergency medical service responders working events throughout South Carolina. This mission also requires coordination with other state agency partners and with private sector service providers.

This mission required the team to provide communications interoperability support to over 50 different agencies across a variety of events in FY 2023-24. Such events included:

- ▶ 2023 Hurricane Idalia
- ▶ 2023 Bamberg County Law Enforcement Complex Dedication
- ▶ 2023 Barnwell County EMS provider transition
- ▶ 2023 Charleston Police Chief Memorial Services
- ▶ 2023 Chesterfield County Sheriff's Office Transitional Patch
- ▶ 2023 City of Greer Freedom Blast
- ▶ 2023 City of Spartanburg Spring Fling
- ▶ 2023 Darlington May & Labor Day events
- ▶ 2023 Interoperability Workshop
- ▶ 2023 Irmo Okra Strut Event
- ▶ 2023 Kershaw County Christmas Parade
- ▶ 2023 Lights of Lugoff & Boykin Parade
- ▶ 2023 Myrtle Beach Country Music Festival
- ▶ 2023 Presidential Campaign Visits
- ▶ 2023 Special Olympics
- ▶ 2024 Allendale Unity Festival
- ▶ 2024 Carolina Country Music Festival
- ▶ 2024 Carolina Cup Event
- ▶ 2024 Federal, state and local joint interdiction operations
- ▶ 2024 Kinetic Derby Day
- ▶ 2024 Lake Murray Drift Jam
- ▶ 2024 South Carolina Army National Guard Operation Palmetto Fury
- ▶ 2024 South Carolina Poultry Festival
- ▶ Firefighter Mobilization Line of Duty Death support missions
- ▶ Claflin University special campus events
- ▶ Clemson University home athletic contests and special campus events
- ▶ South Carolina State University special campus events
- ▶ University of South Carolina home athletic contests and special campus events

South Carolina State Strategic Technology Reserve (STR)

OTIS maintains a strategic reserve of communications equipment for use by public safety during such events which serves as the state's strategic technology reserve (STR). This communications cache is used to backfill communications needs as agencies deploying their own resources exhaust their equipment inventories. The STR includes satellite resources, portable data networks, phone systems, mobile towers and handheld digital radios. These are provided at no cost to requesting agencies as needed and must be returned to the OTIS Emergency Services team when the event concludes.

South Carolina Communications Unit (SCCOMU)

The aftermath of Hurricane Katrina and the Graniteville train wreck, both in 2005, caused South Carolina to realize the need for a highly trained communications response team to support public safety communications during disasters, large emergencies and significant events. The South Carolina Communications Unit (SCCOMU) is comprised of technically proficient communication expertise across public safety disciplines, who are familiar with both legacy and current communication technologies and who can deploy as county and state mutual aid resources. SCCOMU members are evaluated for credentialing by the Statewide Interoperability executive committee, and OTIS coordinates the SCCOMU deployments when it is called into action.

As the lead coordinating agency for the communications Emergency Support Function (ESF-2), OTIS — in conjunction with the South Carolina Emergency Management Division's (SCEMD) — conducted an annual communications exercise with a focus on emergency communications restoration, response and recovery operations. Representatives from both the private and public sector worked together to test plans and response capabilities during a simulated 7.1 magnitude earthquake near North Charleston, South Carolina.

Palmetto Tactical Communications Network (PATCON)

To enhance South Carolina's public safety communications and interoperability capabilities and to add statewide communications redundancy, OTIS continues to operate and maintain the Palmetto Tactical Communications Network (PATCON), a statewide conventional interoperable repeater network supporting traditional 700/800MHz radio communications. The PATCON network is comprised of 130 standalone transmitter sites providing additional interoperability, redundancy and capacity resources to the Palmetto 800 statewide network. This system is free to use for all public safety agencies in South Carolina. PATCON interoperable repeaters are deployed in every county in the state.

In FY 2022-23, proviso funding was used to purchase 126 end-of-life repeaters which make up the core network infrastructure of the PATCON system. In FY 2023-24, 122 replacements were completed. The PATCON network continues to evolve to meet demands of the system.

Private County and Adjacent State System Interoperability

York and Horry counties in South Carolina, along with Augusta-Richmond, Georgia; Mecklenburg County, North Carolina; and the state of North Carolina own and operate their own 800 MHz P25 radio systems which are compatible with the South Carolina Palmetto 800 network. There are a total of 14,000 mutual aid IDs on the system designated to support interoperability between these systems and their agencies. Because of the compatibility between systems, state agencies, local government and first responders in all three states can respond across state lines in support of one another as needed. This interoperability provides invaluable mutual aid during events and in emergency situations as well as day to day operations for agencies who operate along the border where coverage is shared between the different systems. During FY 2023-24, South Carolina, North Carolina, Kentucky and Tennessee participated in a multi-state communications exercise sponsored by Federal Emergency Management Agency (FEMA) Region IV where all states were able to successfully communicate across borders utilizing patches that were facilitated by each state's system.

Top 10 Interoperability Users by Number of Radios (as of June 30, 2024):

- ▶ Horry County SC – 4,560
- ▶ York County SC – 4,040
- ▶ Mecklenburg County NC Charlotte Fire – 1,960
- ▶ State of North Carolina – 1,000
- ▶ Augusta Richmond GA – 850
- ▶ Union County NC Emergency Services – 620
- ▶ Polk County NC Emergency Management – 175
- ▶ Anson County NC Emergency Management – 160
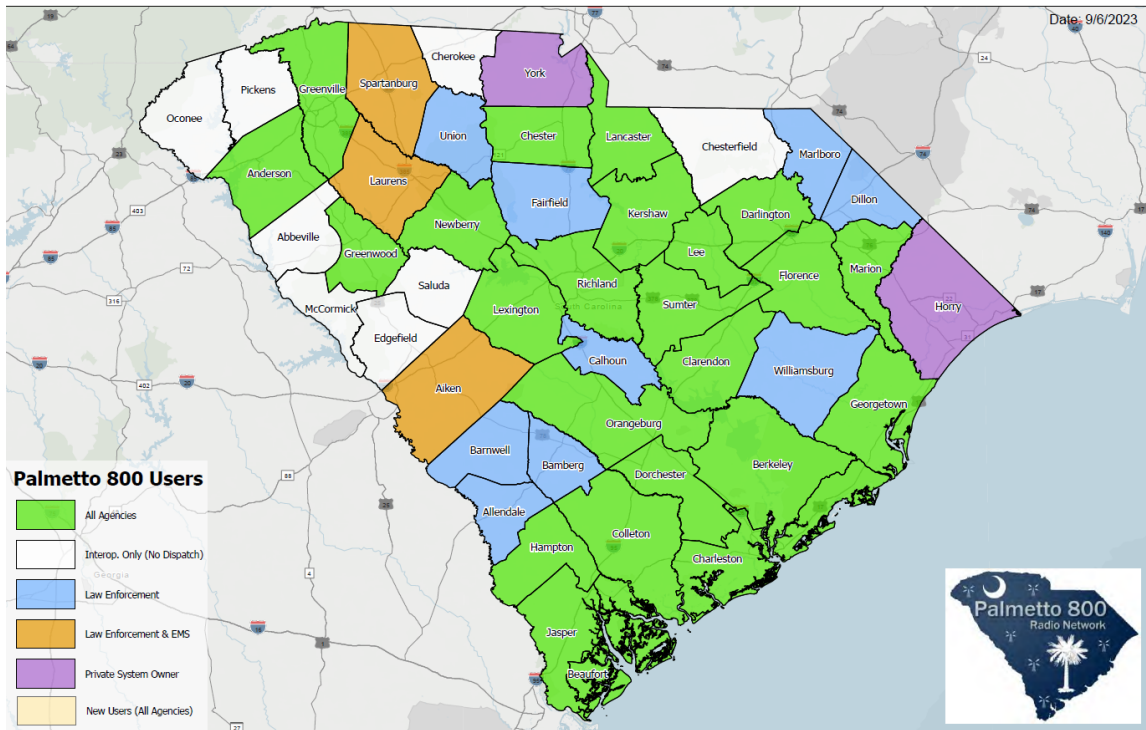- ▶ Mecklenburg County NC Fire & EMS – 155
- ▶ Union Co NC Waxhaw Fire – 100

COMMUNICATIONS INTEROPERABILITY CHALLENGES

Coverage Discrepancy

The original 800 MHz Trunking agreement between the State of South Carolina and Motorola Solutions was designed to provide 95% statewide mobile (in-car) radio coverage. Currently over 70% of the radios on the network today are portable (handheld) radios. Mobile radios are ten-times more powerful than portable radios, requiring less transmitter sites to provide the same level of radio coverage. With the disparity between the contractually required mobile coverage and the user's desired portable coverage needs, OTIS received an increase of coverage complaints in FY 2023-24. It is estimated that an additional 50 new transmitter sites would be required to provide the desired 95% statewide portable radio coverage. As part of a new statewide contract, the state has requested three additional towers to assist with coverage in areas of greatest need.

PALMETTO 800 USER INTEGRATION REPORT

The Palmetto 800 Users map, which lists the system's users by agency type, is featured below.

The following table lists the state, county and city government Palmetto 800 network radio users.

State Agency Interoperability		
State Agency	**800 MHz Interoperability**	**Comments**
Adjutant General	National Guard has Palmetto 800 network radios for interoperability.	This agency has 195 radios but would like to have additional 800 MHz radios to support state emergencies.
Department of Administration (Admin)	Fully Palmetto 800 network.	Maintains and deploys the state's strategic cache of communications radio and response equipment for public safety agencies statewide.
The Citadel	Fully Palmetto 800 network.	Fully Palmetto 800 network.

Clemson University	Fire and EMS are dispatched on the Palmetto 800 network.	Fire, EMS and police are on the University's conventional system. All agencies have access to Palmetto 800 for interoperability. Cost, coverage and interoperability with neighboring counties were provided as the primary reason they are not fully Palmetto 800.
Coastal Carolina University	Limited interoperability.	Utilizes Horry County's private 800 system. They have interoperability with local and state law enforcement.
Department of Corrections (DOC)	Limited interoperability.	Utilizes a local VHF system in prisons. DOC has Palmetto 800 radios for other operations and interoperability.
Emergency Management Division (SCEMD)	Fully Palmetto 800 network.	Maintains its own low band redundant system.
Department of Labor, Licensing and Regulation (LLR) and State Fire Marshal	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Forestry Commission	All law enforcement officers have Palmetto 800 network.	Non-law enforcement firefighting units still utilize the Forestry VHF radio system.
Wil Lou Gray Opportunity School	Law enforcement is fully Palmetto 800 network.	Fully Palmetto 800 network.
Department of Health and Environmental Control (DHEC)	Fully Palmetto 800 network.	Fully Palmetto 800 network.
S.C. Department of Public Safety • S.C. Highway Patrol • State Transport Police • Bureau of Protective Services	Fully Palmetto 800 network.	Fully Palmetto 800 network.

S.C. House of Representatives Sergeant-at-Arms	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Department of Juvenile Justice (DJJ)	Fully Palmetto 800 network.	Fully Palmetto 800 network.
S.C. Law Enforcement Division (SLED)	Fully Palmetto 800 network.	The agency maintains and utilizes VHF system for redundancy.
Medical University of South Carolina (MUSC)	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Department of Mental Health (DMH)	Law enforcement is fully Palmetto 800 network.	Fully Palmetto 800 network.
Department of Natural Resources (DNR)	Law enforcement is fully Palmetto 800 network.	DNR still maintains and utilizes its own VHF radio system in areas of the state where Palmetto 800 coverage is unavailable.
Ports Authority	Fully Palmetto 800 network.	The agency is interoperable with State Palmetto 800 system, utilizing the Charleston County P25 system.
Department of Probation, Parole and Pardon Services (PPP)	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Department of Revenue (DOR)	Fully Palmetto 800 network.	Enforcement officers only.
Santee Cooper	Limited interoperability law enforcement only.	Santee Cooper has an independent radio system not compatible with Palmetto 800 system. Santee Cooper Law enforcement officers have 800 MHz radios for interoperability.
South Carolina State University	Police are fully Palmetto 800 Network.	Enforcement officers only.

S.C. State Senate Sergeant-at-Arms	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Department of Transportation (DOT)	Senior staff, engineers and State Highway Emergency Program (SHEP) have Palmetto 800 network radios.	Dispatch, SHEP and engineers involved in supporting hurricane evacuations and recovery have 800 MHz radios. Road work crews still are utilizing low band system.
State Transport Police (STP) (See also S.C. Highway Patrol)	Fully Palmetto 800 network.	Fully Palmetto 800 network.
University of South Carolina	Fully Palmetto 800 network.	Fully Palmetto 800 network.
University of South Carolina - Upstate	Fully Palmetto 800 network.	Fully Palmetto 800 network.

Local Government Interoperability by County

Note: All county 911 dispatch centers and county emergency operations centers (EOC) statewide have been provided with 800 MHz radios for interoperability between local government and state agency dispatch centers.

Local Government Interoperability by County		
County	**800 MHz Interoperability**	**Comments**
Abbeville	Limited interoperability.	Has Palmetto 800 network radios for interoperability. Abbeville has opted to migrate from Palmetto 800 to a non-P25 compliant commercial system due to coverage and costs.
Aiken	County sheriff and EMS are fully Palmetto 800 network. All police are fully 800 MHz departments.	County fire is on UHF, all others are fully Palmetto 800.
Allendale	County sheriff and most police departments utilize Palmetto 800 network for interoperability.	County fire is on VHF, sheriff and most law enforcement agencies have 800 MHz radios for interoperability or primary use.
Anderson	Fully Palmetto 800 network.	County fire utilizes VHF but has Palmetto 800 radios for interoperability.
Bamberg	Law enforcement is fully Palmetto 800 network.	County Fire and EMS have Palmetto 800 radios for interoperability only, both utilize VHF and UHF systems for primary dispatch.
Barnwell	Sheriff & EMS have Palmetto 800 network radios. Fire has some 800 MHz radios for interoperability.	Fire agencies utilize VHF for primary dispatch. EMS is provided by private contractor Med Shore who have Palmetto 800 network radios.
Beaufort	Private 800 network that shares Palmetto 800 core.	Beaufort uses a private 800 MHz System connected to the Palmetto 800 P25 core for interoperability.

Berkeley	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Calhoun	Sheriff's Department is fully Palmetto 800.	Sheriff's Department, St. Matthews Police Department and some fire departments have radios for interoperability with 800 MHz radios. EMS and fire have limited participation on the in Palmetto 800 due to equipment cost and user fees.
Charleston	Private 800 network that shares Palmetto 800 core.	Charleston utilizes a private 800 MHz System connected to the Palmetto 800 P25 core for interoperability.
Cherokee	Limited interoperability.	Cherokee has opted to utilize a non-P25 compliant commercial system that was awarded a contract by the county. Sheriff's Department, Gaffney Police Department and some fire departments have 800 MHz radios.
Chester	Fully Palmetto 800 network	All agencies completed their migration to the Palmetto 800 network in FY 2022-23.
Chesterfield	Sheriff and police departments have Palmetto 800 network radios for interoperability.	Due to concerns with their current county DMR system, Chesterfield is considering a partnership with Palmetto 800 to migrate to the system. Temporary patches are in place supporting law enforcement, fire and EMS primary dispatch operations.
Clarendon	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Colleton	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Darlington	Fully Palmetto 800 network.	Fully Palmetto 800 network. County owned VHF system in place for backup.
Dillon	Sheriff and police are utilizing Palmetto 800 network.	Fire and EMS not participating due to startup equipment cost and recurring participation cost.

Dorchester	Fully Palmetto 800 network.	Fire uses VHF and Palmetto 800. All others are fully Palmetto 800.
Edgefield	Limited interoperability.	Edgefield Sheriff, police and EMS have some 800 MHz radios for interoperability. Edgefield has opted to utilize a non-P25 compliant commercial system. Cost is given as the reason they are not participating fully.
Fairfield	Sheriff and police are fully Palmetto 800 network.	Fire and EMS have some 800 MHz radios for interoperability. Equipment cost and coverage given as the reason they are not participating fully. Fairfield has opted to utilize a commercial business system for fire and EMS.
Florence	Private 800 network that shares Palmetto 800 core.	Florence utilizes a private 800 MHz System connected to the Palmetto 800 P25 core for interoperability.
Greenville	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Georgetown	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Greenwood	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Hampton	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Horry	All agencies are fully 800 MHz on the county's own private system.	Private county 800 system. Horry County decided to install an independent radio system in 2016. Horry County and Palmetto 800 have exchanged mutual aid IDs for interoperability.
Jasper	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Kershaw	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Lancaster	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Laurens	Sheriff, police and EMS are fully Palmetto 800 network.	Fire is not participating due to startup equipment cost and recurring cost. Laurens is in the process of

		submitting a proposed penny tax to acquire the funding for the fire departments.
Lee	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Lexington	Fully Palmetto 800 network.	Fully Palmetto 800. Batesburg-Leesville Police Department is utilizing UHF but has some 800 radios for interoperability.
Marion	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Marlboro	Sheriff and police have Palmetto 800 network for interoperability.	EMS and fire have some 800 MHz radios for interoperability. Fire and EMS would like additional radios but are not fully participating due to costs.
McCormick	Limited interoperability.	Law enforcement and EMS services have a few 800 MHz radios for interoperability. Fire service not participating due to cost.
Newberry	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Oconee	Limited interoperability.	Law enforcement and EMS services have some 800 MHz radios for interoperability. Primary dispatch is UHF for all Oconee agencies.
Orangeburg	Fully Palmetto 800 network	Fully Palmetto 800 network.
Pickens	Limited interoperability.	In FY 2023-24, Pickens opted to utilize a non-P25 compliant commercial system that was awarded a contract by the county. Sheriff, police, EMS and a few fire departments have 800 MHz radios for interoperability. Others are not participating due to cost and poor regional coverage.
Richland	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Saluda	Limited interoperability.	Sheriff, 911 Center, County EMD and Ridge Spring have active Palmetto 800 radios for interoperability. Saluda has opted to utilize a non-P25 compliant

		commercial system. Equipment costs and recurring fees given as the primary reason for not participating.
Spartanburg	Sheriff, police and EMS fully Palmetto 800 network.	City and county fire do not participate in the Palmetto 800 MHz system. Some fire departments have Palmetto 800 radios for interoperability. Recurring cost given as the primary reason for not participating.
Sumter	Fully Palmetto 800 network.	Fully Palmetto 800 network.
Union	Limited interoperability.	Sheriff's Office, police and EMS have some 800 MHz radios for interoperability. Cost, fees and need for better coverage given as reasons for not fully participating. County would like to switch to the Palmetto 800 if funding becomes available.
Williamsburg	Sheriff and police are fully Palmetto 800 network.	Fire and EMS have 800 MHz equipment for interoperability. County Fire and EMS need additional funding to fully participate.
York	All Agencies are fully 800 MHz on the county's own system.	Private County 800 System. York County decided to install an independent radio system in 2007. York County and Palmetto 800 have exchanged mutual aid IDs for interoperability.

ADDITIONAL INFORMATION

For questions or additional information regarding the South Carolina Department of Administration's compliance efforts with Proviso 93.7 of the FY 2023-24 Appropriations Act, please contact Brooke Bailey (brooke.bailey@admin.sc.gov).

For a presentation of the Palmetto 800 system and the other communications interoperability missions of the OTIS Emergency Communications section, please see the agency website at: https://admin.sc.gov/sites/default/files/flipbook/PalmettoRadioNetwork/.

APPENDIX A

In April 2021, the Palmetto 800 Advisory Committee decided to upgrade the Palmetto 800 system to P25 Phase II time division multiple access (TDMA) to ensure interoperability with neighboring systems, accommodate future growth due to limited spectrum availability and provide adequate channel capacity for new technologies. All radios on the system must be capable of TDMA operations before the migration target completion date of July 1, 2027.

In preparation for the migration to TDMA, the South Carolina Department of Administration's (Admin) Emergency Services team continues the process of replacing the 500 800MHz radios which are part of the state's strategic technology reserve (STR). In FY 2024-25, the remaining 34 radios which are not TDMA capable will be replaced — placing the state's cache of emergency communications equipment upgrades two years ahead of schedule.