

# The Post and Courier

## Too often, records show, Charleston County's emergency radio system simply doesn't work

'UNRELIABLE'

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Sheriff's Deputy Murray Fink found himself in a desperate fight after discovering cocaine on a driver he had stopped outside a Mount Pleasant drug store.

The man pushed, shoved and kicked the deputy in a bid to escape. Fink fired his Taser and blasted the driver with pepper spray, but the man kept fighting. Wrestling on the ground, Fink frantically radioed for help as the driver ripped the stun gun from his grasp.

**Audio clip**

### James Island Emergency Radio Problems

**Audio clip**

### Isle of Palms Emergency Radio Problems



Photo by Grace Beahm

Tasha Lemon, who has worked as a dispatcher for 15 years, directs call traffic at the Charleston County Consolidated 911 Center in North Charleston.



Photo by Grace Beahm

The radio is a key piece of equipment for Engineer Eric Bolen of the Isle of Palms Fire Department. But too often those radios have let Bolen and his fellow firefighters down, with dropped transmissions and other problems.

Mount Pleasant police raced to their fellow officer's aid on the night of April 21, listening closely for Fink's exact location. But their police radios instead spit out a series of beeps, honks, whistles and distorted garble, according to officer statements.

This wasn't the first time Charleston County's digital radio system, a vital lifeline, let down emergency personnel who depend on it. Over the past two years, various public safety officials have described the radio network as substandard, unacceptably dangerous and worse.

The \$17.5 million system, which went online in 2007, was designed to place the county on the cutting edge of emergency communications.

The system has experienced problems from the start. But after an expansion in 2008, it became plagued with lost transmissions, strange noises, volume issues and gaps in service that have placed police, firefighters and civilians in jeopardy on several occasions, according to documents obtained by The Post and Courier.

After numerous complaints, Charleston County is prepared to spend about \$12 million to have Motorola upgrade the system and add more radio towers in the hope of overcoming bugs and interference. On Tuesday, County Council is expected to decide on the proposed remedy.

A third phase of work, also expected to cost millions, will be discussed in the coming budget year.

Similar problems have dogged digital radio systems from California to New York in recent years -- at times with tragic results. In April 2008, for example, two Ohio firefighters died in a house fire after repeatedly making mayday calls that fellow firefighters never received.

Those on the Charleston County system so far have avoided such a loss, but there have been close calls.

Fink, for instance, escaped serious injury after two bystanders came to his aid in subduing the suspect. Other troubling incidents include:

--A January 2009 blaze on James Island in which radio transmissions degenerated into

robotic noises while firefighters fought flames inside a home.

--A September episode in which Mount Pleasant police officers couldn't communicate with one another while trying to arrest a home-invasion suspect.

--A May 2009 incident in which Isle of Palms firefighters were delayed responding to two swimmers in distress because their radios didn't pick up the calls from dispatchers.

Problems have surfaced throughout the county but are most acute in East Cooper and coastal communities. Isle of Palms alone has documented dozens of instances in which firefighters and police couldn't communicate on rescue missions, medical calls and at fire scenes. Frustrations have mounted as problems persist.

In a pair of June 2009 e-mails, Isle of Palms City Administrator Linda Lovvorn Tucker pleaded with county officials to make the system's repair a top priority before "the unreliable communication" ended in a tragedy.

"It is only a matter of time before this radio problem costs someone their life," she wrote. "The bottom line of this situation is that it will certainly cost less for the county to FIX the problem than it will to settle the lawsuit that is sure to come."

### **'Unreliable at best'**

County officials insist that they consider the issue a priority and are diligently working on a solution. Problems with the system were unexpected, and it took time to diagnose the problem and come up with the proper fix, Deputy County Administrator Walt Smalls said.

Just how unexpected the problems are is debatable, since the county was warned by Motorola when it put the system in that the network needed more towers, according to company documents.

Nevertheless, Smalls said: "We are committed to making sure this thing works."

The county turned to Motorola in 2005 to create a state-of-the-art digital radio network to replace an aging analog system that dated to 1991. The old six-tower system was outdated, its software obsolete and spare parts hard to find. The new system, county officials said, offered more dependable technology that mirrored the standard adopted by the federal government.

Some 53 public agencies with 5,500 radios depend on the system -- everyone from North Charleston police to The Citadel. All purchased new radios for the conversion and agreed to pay monthly user fees to the county on the premise that the new system would offer as good or better coverage than they had before. Instead, some officials said, the move proved to be a step backward.

The system went operational in May 2007 with the sheriff's office, emergency medical services and other county agencies. Service problems became a serious issue after the remaining agencies came on board in the latter half of 2008.

The problems are documented in hundreds of pages of e-mails, letters, reports and other

documents obtained by The Post and Courier. The documents show that for some communities, radio disruption has been an occasional nuisance. For others, it is a daily nightmare.

Hardest hit appear to be Isle of Palms, Mount Pleasant, Awendaw, Folly Beach, the Hollywood area and Sullivan's Island. Some communities began keeping logs and sharing information about their radio problems, documenting numerous instances of missed calls, radio silence, bizarre interference and other issues.

Isle of Palms Fire Chief Ann Graham alone sent scores of e-mails to county radio officials alerting them to communication breakdowns she and others had experienced.

Take the Dewees Island fire alarm that Isle of Palms firefighters boated to in the midst of a dangerous lightning storm in July 2009, never hearing the call from dispatchers cancelling the response.

Or consider another incident that month in which Graham had trouble requesting help for a woman whose throat was swelling from an allergic reaction. Or note the March 2009 incident in which an island public works employee had to drive himself to get help in the midst of a heart attack after his calls for aid went unheard.

Graham and other emergency officials also noted that the radios had difficulty penetrating buildings -- even small homes -- and were less effective inside structures than the old analog radios. They, like firefighters around the nation, were also learning that digital radios had trouble discerning between human voices and other noises at fire scenes such as chainsaws and breathing apparatus.

Those problems have prompted some cities, such as Phoenix, Ariz., to return to the old analog communications when fighting fires.

As early as January 2009, Awendaw Fire Chief Mike Rakoske voiced his worries with the system in a letter to Bill Tunick, the county's director of radio operations and telecommunications.

"The firefighters and I rely on the radio as our life link," he wrote. "The current radio configuration makes the radio system unreliable at best and a major safety concern for me and everyone else on the system."

Mount Pleasant Fire Chief Herb Williams wrote Tunick that same month expressing similar concerns. Reliable communications, he wrote, are as critical to firefighters as trucks, water and air. He urged the county to move quickly to remedy the situation. "We cannot afford to have hope as our strategy to solve this issue," Williams stated.

### **Problems linger**

Some difficulties were easily rectified. After transmission problems at the James Island fire in January 2009, county workers realigned the James Island Fire Department's antennas and adjusted other equipment. "That really seemed to take care of the problem for us," Fire Chief Chris Seabolt said.

Similarly, North Charleston police credited the county with working to boost the city's radio signal strength and solve transmission problems inside sprawling Northwoods Mall.

For others, however, solutions have been elusive.

East of the Cooper, the county checked radios for problems, upgraded software and spent \$100,000 to construct a tower on Six Mile Road to improve reception, officials said. Still, problems persisted and seemed to worsen in the warmer summer months, when radio communications from as far away as Jacksonville, Fla., would interfere with local transmissions, officials said.

Emergency personnel likened the phenomenon to a digital seizure, the audio equivalent to a digital television feed freezing up on screen. It struck without warning or predictability. The radios would function fine at a spot one day, then fail there the next. One person could have radio trouble while someone standing beside him did not.

To illustrate the problem, Mount Pleasant police Sgt. Marshall Evans sent a message to a colleague in which snippets of words were interrupted by long streams of distracting characters. "If you can't read this, try and understand the radio," he stated.

One Mount Pleasant firefighter suggested in an e-mail that local agencies would have a better chance communicating through the psychic friends network than using the county's system.

Frustrations grew after months passed without a solution. Local officials became more aggravated after they discovered documents from 2005 in which Motorola warned the county that more radio tower sites would be needed to achieve the same coverage with digital as it had with the analog system.

The same documents indicated that Motorola would not guarantee the radios would work in specific buildings.

Some local officials began to think the county was more interested in defending its faulty system than fixing it. The tension is clear in several e-mails, including a July 2009 exchange of e-mails concerning swimmers in distress on Sullivan's Island.

Graham notified county officials that a Sullivan's Island firefighter tried several times, without success, to alert others over the radio that a swimmer was missing in the water. Tunick responded with an e-mail stating that Graham's account was "incomplete and misleading." Tunick attached a communications log that appeared to show the firefighter's alerts did reach others.

Tucker, the Isle of Palms administrator, shot back an e-mail questioning why Tunick would think island officials were "making up problems."

"It seems your energies have now been directed to disputing the problems rather than correcting the problems," she wrote. "You need not spend time trying to discredit Chief Graham to me. It will not work. She has my utmost respect. You, sir, have yet to earn it."

### **A plan to fix**

Between June 18 and July 7, 2009, Motorola took more than 400 audio samples at 26 locations throughout the county to get a handle on the situation. They found "a significant amount of interference," particularly on Isle of Palms and western portions of the county. Among other things, the company proposed boosting the strength of the county's radio system to overcome the interference.

Motorola's three-phase plan seeks to do just that, by doubling the number of radio towers to 16. The first two phases of work, which County Council will consider Tuesday, would address critical problems in East Cooper and along the coast, from Isle of Palms down to Edisto Island. Those phases would take about a year and a half to complete, Tunick said.

Some details remain to be worked out, including a proposal to erect an 180-foot tower on the Isle of Palms. Island officials said the tower would violate local height restrictions and makes no sense on a barrier island subject to hurricanes. County officials said they will work with the city to find a solution.

The third phase of work, as yet unscheduled, would focus on outlying areas in the northwest and northeast portions of the county, such as Awendaw and McClellanville. Smalls and Tunick said they have no firm cost estimate for the third phase. Several public safety officials said they have been told the work could run \$6 million or more.

Smalls said the plan draws on the recommendations and needs of its users and it was endorsed by L.R. Kimball and Associates, a Pennsylvania-based consultant hired by the county for \$108,000 to review Motorola's proposed fix.

The county is considering spending up to \$360,000 to have Kimball oversee construction of the system as well. In addition, the latest contract puts the onus on Motorola to correct problems if its engineered solution doesn't work, Smalls said.

"I'm confident with it because Motorola has the liability," he said.

### **A shaky trust**

Some local officials are cautiously optimistic about the proposed fix, though frustrated that the county has not allowed them to see a copy of the consultant's report that supposedly supports the work. The county also denied The Post and Courier's request for a copy of the Kimball report, saying it "constitutes attorney work product prepared for the purpose of legal advice to Council."

Kimball officials declined to comment on their work. Motorola officials also declined comment on the project, saying they had been instructed to refer all questions about the upgrade project to the county.

"We are certainly optimistic," the Isle of Palms' Tucker said. "But we're also skeptical at this point because of what happened in the past."

County officials acknowledge that trust and patience is frayed in some quarters over the radio system. They urge local officials to reserve judgment until the new system is in place. "The proof is in the pudding," Tunick said. "And we are going to put out good pudding."

The proposal passed its first hurdle Thursday night when County Council's Finance Committee voted to recommend funding for the work.

Sheriff Al Cannon, Graham, Mount Pleasant Police Chief Harry Sewell and others showed up to the meeting to lend their support. The committee didn't ask for their input on the matter. The panel retreated behind closed doors for an hour, then approved the measure without debate.

The public safety crowd smiled at one another and filed out to their cars, hoping that this time, their trust in the county is well placed.

Staff writer **Andy Paras** contributed to this story. Reach **Glenn Smith** at 937-5556.

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