

# Couldn't there have been a better choice?

## Dead Air, Garbled Transmissions Trouble Washington State Troopers

By: Austin Jenkins, KPLU.org – News for Seattle and the Northwest

Dead air, garbled transmissions and poor reception are just some of the problems with the Washington State Patrol's new state-of-the-art radio system. The \$40 million conversion to digital technology is behind schedule, and having technical problems.

For most of us, our smartphones have become our figurative lifelines. For state troopers, their literal lifeline is still the two-way radio. When the radio doesn't work that's a problem. We first reported on doubts about this project in March of 2012.

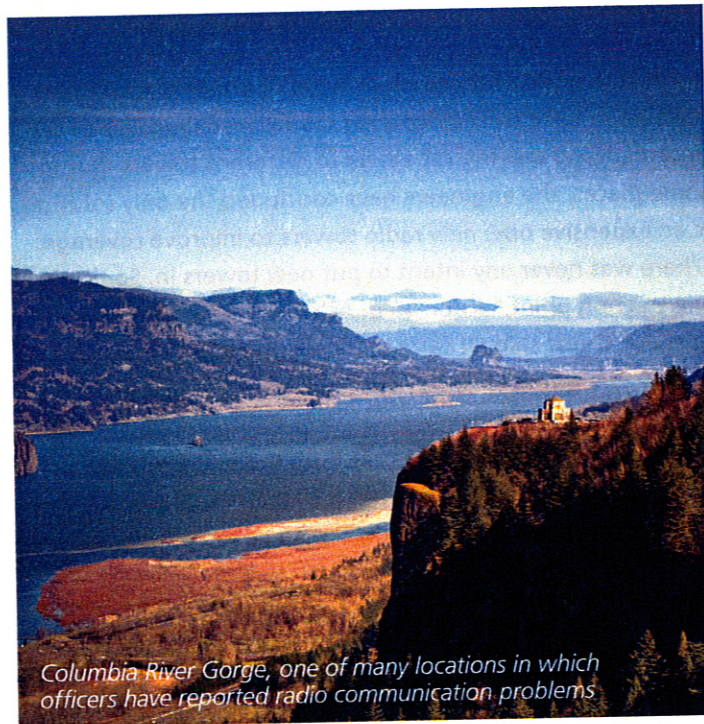
### Garbled Messages Not Good Enough

There's a lot of garbled transmission with WSP's new digital radio system, and it's making some troopers a bit testy. One unnamed trooper was working in the Columbia River Gorge last August when she couldn't understand a report of an erratically driven truck. "Well, eastbound Hood River, car hauler, that's all I got. But I guess that's good enough for radio," the trooper responded. "Good enough" is not what the State Patrol had in mind back in 2011 when the Washington Legislature voted to approve \$40 million to fund a contract with Motorola Solutions.

### Dead Air and Compromised Safety

Motorola's job was to convert the State Patrol's old analog two-way radio system to a new digital one by Jan. 1, 2013. This move was part of an FCC requirement to free up space on the radio spectrum — what is called narrowbanding. Going digital was supposed to ensure that when the frequencies got divided, the quality didn't degrade. Well, it hasn't quite worked out that way.

No radio system is perfect, but this new radio system is the subject of many complaints from troopers. And the project is now slated to be completed two and a half years late, and the state has had to get two waivers from the FCC for missed deadlines.



*Columbia River Gorge, one of many locations in which officers have reported radio communication problems*

"What we learned is this is a very complex, technically advanced system," said Marty Knorr, deputy director of the State Patrol bureau responsible for overseeing the radio project. Knorr inherited this transition when he took the job six months ago. He says think of digital communications as a data stream that has to be decoded and converted from ones and zeroes into a human voice. "And if anything throws off that data stream and it's not aligned or in order, what comes out at the other end is either garbled — you get parts of things, but it's unintelligible, or, and this is totally different from our old system, you'll get complete dead silence," he said.

In the police business, dead air is a scary thing. The problems with the system peaked last year when the State Patrol switched from analog to digital in the patrol district that includes Tacoma. Knorr says it was so bad that officer safety was compromised. "We rolled it out and it was not effective. And we turned it off in two days and we went back to the old system," he said.



## New Towers Needed

So far, WSP has converted three of its eight districts statewide to the new digital radio system: Vancouver, Yakima and Spokane. Over the last year, troopers working in those areas have submitted nearly 300 reports of problems with their radios, including garbled transmissions and dead spots.

Knorr says some of those issues were operator error. Others have been fixed by recalibrating radios, installing better car antennas and moving repeaters to different towers. But in some places, the engineers have concluded the only solution is an expensive one: new radio towers to improve coverage. "There was never any intent to put new towers in. So that's the starting point," Knorr said. Asked whether that was a mistake, Knorr said, "I can't say. Knowing what we know now, we're going to need new towers."

Knorr says a new tower can cost from the hundreds of thousands of dollars to more than \$1 million. That's not part of the contract with Motorola.

---

"...[troopers] have submitted nearly 300 reports of problems with their radios, including garbled transmissions and dead spots."

---

## Program Was 'Half-Baked'

Bad news about the narrowbanding project is just now filtering back to state lawmakers. Rep. Reuven Carlyle, D-Seattle, isn't surprised the new system has run into static. "There's no question that when this program was rolled out, that it was half-baked," Carlyle said.

In 2011, Carlyle unsuccessfully tried to block funding of the project until an independent technical review could be conducted. "This was sold to the Legislature as the right package, the right design and the right technical solution. And if they show up and want a substantial departure from that plan that we funded with deep reservations, it's going to be more than difficult. It's going to be a heavy, heavy lift," he said.

The State Patrol says it's not yet asking for more money for new towers. A spokesman for Motorola Solutions says the company is working closely with the Patrol to ensure the new radio system works as it's designed to.

The troopers union declined to comment. But in a phone conversation with me, the head of the union said the digital radio system has yet to work as well as the old analog one did. Still, the Patrol stands by its decision to contract with Motorola, and says in the long run the new system has features that will make troopers on the road safer, not less safe.



Tacoma, Washington