

## **LA County portion of LA-RICS public-safety LTE network halted for two weeks, as deadline looms**

Urgent Communications By Donny Jackson

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Los Angeles County's board of supervisors last week decided to halt construction of controversial public-safety [LTE](#) towers near fire stations and other county-owned property for at least two weeks, when the board can revisit the matter. With a Sept. 30 funding deadline looming for the project, a county official said he believes the project still could be finished on time but further delays could undermine the public-safety broadband initiative.

During the county board's meeting on Tuesday, a firefighters union led a protest against the installation of LTE cell sites near fire stations that were being deployed as part of the Los Angeles Regional Interoperable Communications System (LA-RICS) broadband network. LA County supervisors voted to halt the installation of cell sites that are of concern to the firefighters and nearby residents, according to Scott Edson, commander in the sheriff's technology and support division for LA County—a leading participant in the LA-RICS joint powers authority (JPA).

"Because of the protest, they put that vote [to approve the LA-RICS sites in the county] off for two weeks," Edson said during an interview with [IWCE's Urgent Communications](#). "Their statements were basically: 'Please discontinue any construction at county sites for which the fire department is concerned or that the public is concerned, and the public can be concerned for health or aesthetics. But continue to move forward anywhere else, because we want this project to move forward, although we want to re-evaluate how we handle and where we build, in relation to fire stations and aesthetics.'"

Being constructed by [Motorola Solutions](#), the LA-RICS broadband initiative is by far the largest public-safety LTE project in the country, and the system eventually supposed to provide early "lessons learned" for [FirstNet](#) and eventually be integrated into FirstNet's nationwide public-safety broadband network.

Edson said he remains optimistic that the LA-RICS public-safety LTE project will be completed, citing its importance to the safety of firefighters, other first responders and the citizens they are sworn to protect.

“I don’t think the project is going to be killed by this, because there is just too much value in what we’re building,” Edson said. “It doesn’t make sense to throw it away.”

Most of the LA-RICS public-safety LTE system is being funded by \$154.6 million in Broadband Technology Opportunities Program (BTOP) grants that are administered by the [National Telecommunications and Information Administration](#) (NTIA). Under the terms of those grants, LA-RICS must spend the BTOP funds for the public-safety LTE network by Sept. 30 or return any unused funds.

This reality also was addressed by the LA County board of supervisors, according to Edson.

“They asked that LA-RICS do a little better job of marketing and getting out into the community, and that they draft a letter to NTIA to see if they can get an extension on the BTOP grant,” he said.

LA-RICS Executive Director Patrick Mallon said [during an IWCE session earlier this month](#) that he has heard politicians express the belief that an extension to the BTOP grant could be secured. Indeed, NTIA has extended the BTOP deadline before, but that primarily was attributable to the fact that [NTIA froze progress on public-safety LTE projects after Congress created FirstNet](#).

Mallon said his discussions with federal officials indicate that there is “not a chance in hell” that NTIA would provide another deadline extension for LA-RICS to use the BTOP grant funds.

Multiple attempts by *IWCE’s Urgent Communications* to speak with Mallon during the past week for this article were unsuccessful.

LA-RICS originally was awarded the BTOP grants to deploy a public-safety [LTE](#) network in 2009, as part of the federal stimulus package that Congress approved that year.

Also in 2009, the [FCC](#) established a “shot clock” for local entities that was designed to ensure that applications for tower site to support a broadband wireless were addressed in a timely manner. One stipulation included in the [FCC order](#) was a clarification that health concerns associated with RF emissions could not be used as a reason to deny the network operator the ability to install the site, if the emissions were within the FCC’s limits.

But a firefighters’ union has been outspoken in expressing its concerns about the effects of radio-frequency (RF) emissions from the LA-RICS LTE sites, referring to them as “toxic towers” in numerous places on its [web site](#) . In addition, the union has been running [radio spots](#) and [video advertisements](#) that indicate the RF emissions from the LTE cell sites can cause cancer, ALS, Alzheimer’s and Parkinson’s disease to firefighters and/or nearby residents.

“Basically, the firefighters’ union is concerned about health,” Edson said. “Pat Mallon’s team and Motorola have done the RF modeling. They don’t see any health concerns, and they think it’s well below the FCC minimums [for RF emissions], but the firefighters aren’t satisfied with that—they have their own expert. So, just like in any criminal case, we have our expert that says one thing, and they have their expert that says something different.

“I think the bottom line is that the fire department says, ‘We’re sleeping right below those [planned LTE towers], and that’s why we have a concern.’”

During the [IWCE](#) session, Mallon said the LA-RICS LTE towers are expected to emit “about 6” microwatts of RF energy into the fire station, which is less than 2% of the emissions allowed by the FCC. But the technical consultant hired by the firefighter unions has noted that the FCC does not have qualified medical experts on its staff and claims that people should not be exposed to more than “0.01 microwatts per square centimeter—50,000 times lower than the FCC requires,” Mallon said.

Mallon noted that RF emissions from a microwave oven in use is 8 times greater than from the proposed cell tower—and putting a cell phone to a person’s ear during a conversation generates 38.5 times the RF exposure.

Thus far, only LA County firefighters have expressed health concerns about the LA-RICS LTE sites being installed near fire stations; city of Los Angeles firefighters have not complained about the sites located near their fire stations, multiple LA-area sources said during interviews with *IWCE's Urgent Communications*.

Previously, Mallon said that [the target date for completing field work on the LA-RICS LTE project was Aug. 15](#), so all administrative aspects associated with the BTOP grants could be finished by the Sept. 30 date. With this in mind, Edson said he still believes the LA-RICS LTE project is viable.

“We believe we have at least a couple-week cushion,” Edson said. “If it goes beyond that, it’s going to be risky.”

Edson said one piece of good news for the project is that LA-RICS can continue to deploy LTE sites in locations where no complaints have been raised by firefighters or residents, which allow the project to progress while the issues surrounding the county-related sites are addressed. However, given the tight BTOP deadline and the fact that almost 50% of the 177 sites in the LA-RICS network are on county property, a lengthy delay would be problematic.

“We anticipate that we will not get [a BTOP extension], so it will come to some point where somebody’s going to have to decide whose engineers are correct and either continue the buildout or—for safety purposes—move them [the proposed sites]. If we have to move them, that significantly delays the project, which puts the federal funds at risk.

“The bottom line is that, if we can show over the next few weeks ... that it’s truly safe—like the sheriff believes, like the fire chief believes, like Motorola believes, like our engineers believe—we hope we can get over this hurdle and get these sites built.”

At the same time as LA-RICS is building the public-safety 700 MHz [LTE](#) system on [FirstNet](#)’s Band 14 broadband spectrum, it also has contracted with [Motorola Solutions](#) to build a [P25](#) land-mobile-radio (LMR) system on 700 MHz public-safety narrowband spectrum.

Although P25 systems operate at much greater power levels than an LTE system, firefighters and residents have not expressed the same RF-emissions concerns that they have with the public-safety LTE sites, Edson said.

“No one’s complaining about that [LMR network],” Edson said. “But that build is coming behind [the proposed deployment sites for] LTE. And that build is going to make use of a lot of existing hilltops and not so much the parking lot of a fire station, a sheriff’s station or a police department. We might have receiver sites at those kind of locations, but as far as the transmitter sites, they are not going to be nearly as prevalent. They will be more where we currently have existing sites.”

At the moment, the focus for county officials and other members of the LA-RICS JPA is to allay fears among firefighters and residents that LTE cell sites are unsafe, as well as address concerns about the way the sites appear, Edson said.

“I’m comfortable—and I believe the sheriff is comfortable—that the technology is safe,” Edson said. “The bottom line is that we’re going to have to prove to the firefighters and prove to the public that they’re safe. So, the next issue that we’ll need to address is aesthetics.

“I believe, and the sheriff believes, that we’ll be able to convince the public and the firefighters that these are safe. We’ll resume and continue to build out—with public support, because of the value that the network brings—and then we’ll just have to ensure a better communication and discussion to the area that we’re going to be building this about the aesthetics. It might cost us a little more, but ultimately we feel pretty confident that we’re going to get there.”

Getting beyond this controversy is critical, because the public-safety LTE network is needed in the LA region for several reasons, Edson said. Commercial wireless carriers have blanketed the area with cell coverage and bandwidth capacity, but getting permission to deploy additional sites is almost impossible. As a result, when a public-safety incident occurs, first responders that try to utilize a commercial system are stuck trying to compete with the hoards of general-public users that also seek access to the network.

In addition to operating on a network dedicated to public safety, the LA-RICS sites are designed to be hardened to withstand weather-related and other physical circumstances that many commercial sites are not built to handle, Edson said.

“So, when there’s a train crash in Chatsworth, which we had years ago and those kinds of situations that happen, you get all of law enforcement and fire showing up, you get the media showing up, and you get the public showing up,” Edson said. “As you know, that fills up the cell site, and we [public-safety officials] can’t get access.

“Having these LTE cell sites on our Band 14 [spectrum] makes it private for us, and they are public-safety grade. So, when that large earthquake occurs or that train crash happens, we will be able to communicate, while everybody else is disconnected.”

Although most public-safety LTE systems in the country are focused almost exclusively on broadband data, a key component of the LA-RICS LTE system is to provide voice over LTE from the outset. Mallon has said that this is needed, because Los Angeles is one of several metropolitan areas that are scheduled to lose their rights to operate on T-Band spectrum in the 470-512 MHz range in 2021.

LA-RICS is building the 700 MHz P25 network and hopes to migrate many current T-Band LMR operations to the new LMR system, but there are not available channels in that spectrum swath to replace the voice capacity lost via the T-Band mandate, Mallon has said. To help address the problem, LA-RICS plans to offload voice traffic that is not mission critical to its LTE network and reserve the P25 network for mission-critical-voice operations initially, he has said.

Meanwhile, the standards body overseeing LTE technology has taken steps to address public safety’s communications needs. Current plans call for an [LTE standard that supports mission-critical voice to be released next spring](#)

“More than half of the law-enforcement agencies in LA County, including the sheriff’s department, is [on] T-Band,” Edson said. “LA-RICS is the savior for that. We’ll be starting out with a lot of UHF and as much 700 [MHz spectrum] as we can get our hands on. Between now and [the T-Band deadline in] 2021, we’ll be looking for more 700 [MHz spectrum] and reducing

the UHF footprint.

“Everyone thinks that we can get to mission-critical voice over LTE sometime down the road and get rid of some of these other radio system. So, ultimately, those LTE towers are going to be even more important to be public-safety grade, because—at some point—we’ll be doing some voice operations on them.”

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