

Published January 18th, 2023

## High tech helps bolster communications during emergencies

By Jennifer Wake



High tech helps bolster communications during emergencies Photo provided

One of the main lessons learned after the Oakland Hills fire in 1991 was the need for better communication between first responders and other agencies. For the past several years, John Cornell has been working on enhancing technology utilized by the Lafayette Police Department and other agencies and now works as the Emergency Services Coordinator.

During a Jan. 9 Lamorinda CERT presentation, Cornell outlined existing and emerging technologies that first responders can utilize during PG&E public safety power shutoffs and flooding disasters, such as the East Bay Regional Communications System, the County VHF Repeater Network, HAM/GMRS Repeaters, SMARS, Microwave Data Networks, Cellular Backups, and portable Repeaters. New emerging technologies include mobile satellite phones, mesh technology (AREDN), satellite-based cell phone towers, digital mobile radios and ECHOLink (internet based amateur radios).

"Lafayette acts as its own internet service provider - we don't sell it; it's strictly for public safety," Cornell said. "We can go out and put up a hot spot for the community to utilize." Cornell believes everyone needs to have a cell phone, and noted that texting is the most reliable form of communication. "You can text 9-1-1 now in Contra Costa County," he said. Lafayette PD has what it calls a COW (Cell on Wheels), which is a mobile platform deployed to areas to provide mobile cell service, and the newest addition which was developed in 2022 and spearheaded by AT&T is the Cell on Wings, a tethered drone that uses directional antennas that hang off of the belly to emit cell service from a satellite. "The drone can hover in the air beaming down phone service," Cornell said. "This would be used in a large-scale emergency, somewhere where an entire city is affected by cell phone outages. They can probably provide service to six city blocks of coverage. Public safety would have to request it from a provider. The response time is usually between four to six hours, approximately."

Of the emerging technologies, Cornell is excited about mesh networks, in which devices - or nodes - are linked together, branching off other devices or nodes and he believes Starlink - a satellite internet constellation operated by SpaceX - is an industry changing product. "It took a lot of work, but it is something that will be life-saving and next revolution to connectivity in places where you don't have it," he said. "Next year we're going to see a lot more improvement with it."

As for where we are now, Cornell said he feels very comfortable in Lamorinda in its ability to respond to a disaster. "We work directly with Moraga and Orinda police and fire departments," he said. "We're a power of three."

To view the entire presentation, visit <https://www.youtube.com/watch?v=00CYxjMPNX0>

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