California utilities are embracing technology to stop fires. Is it enough?

J.D. Morris  |  March 22, 2019  |  Updated: March 22, 2019 4 a.m.

Sacramento — With the start of the next wildfire season getting closer each day, California’s utility sector is racing to upgrade its technological capabilities. The goal: making power lines less likely to cause more disasters.

Utilities are looking to artificial intelligence, expanding the use of fire watching cameras, and improving their ability to monitor for extremely dry and windy weather conditions. They’re also trying to learn from the power companies and experts who are already ahead of the curve — but with climate change, it may not
be enough to stem the fiery tide.

Those were among the key themes that emerged as hundreds of utility representatives, academics, tech experts and others converged at California State University Sacramento on Wednesday and Thursday for the first wildfire technology summit convened by the California Public Utilities Commission.

While the worst recent wildfires have been blamed on San Francisco’s Pacific Gas and Electric Co., some of the most prominent voices at the conference came from Southern California.

San Diego Gas & Electric underwent a major push to enhance its technology and wildfire prevention efforts after a series of major wildfires in 2007, Caroline Winn, the utility’s chief operating officer, said in a speech Wednesday. The fires, she said, were a “game changer” for the company.

It wasn’t easy to be the first California utility to take drastic steps such as intentionally turning off power lines when weather conditions threaten to spark wildfires, Winn said.

“We were making decisions at a time when people thought that we were wrong,” she said. “We knew deep down that we owe it to our customers, we owe it to our families and we owe it to our communities to do what’s right and be a safe operator of the power grid. ... We took that tragedy, and we turned it into action.”
Winn said her company plans to “strategically” bury more power lines underground in high-risk fire areas and use an algorithm that can detect a fault on a line and turn it off before it hits the ground. The utility also plans to use artificial intelligence to marshal “tens of millions of data points” that help it respond to risky fire conditions, she said.

One of the steps the San Diego utility has already taken in recent years is using a network of high-definition, pan-tilt-zoom cameras that watch for new fires and help first responders react appropriately when they occur.

The camera program, which originated in the Lake Tahoe area, is now a critical tool in the response to wildland blazes around San Diego, said Graham Kent, the director of the University of Nevada Reno’s Nevada Seismological Laboratory. Kent’s lab runs the camera program, called AlertWildfire, in partnership with other universities.

“It’s kind of like a ballet,” Kent said at the conference. “And what San Diego County has learned how to do is do that dance better than anybody.”

After the devastating October 2017 wildfires that tore through Wine Country and
other Northern California regions, North Bay officials followed San Diego’s lead and began building out a fire network of their own. The cameras started to roll out last year and have now spread to a network of 16 in the greater North Bay area, some of which were funded by PG&E.

PG&E, which filed for bankruptcy in January because of its looming liability from 2017 and 2018 wildfires, views the cameras as an important part of its fire prevention strategy in the future.

The company intends to install 600 cameras throughout its 70,000-square-mile service area by 2022. A PG&E spokesman said the company will soon have 30 fire watching cameras in the area it serves, which spans from Eureka to Bakersfield.

PG&E is also planning to put about 1,300 new weather stations in place by 2022 and has 215 of them up and running now.

Sumeet Singh, the vice president in charge of PG&E’s community wildfire safety program, said on a panel Thursday that further technological advancements are needed as California utilities try to lessen the fire risk caused by their equipment in a changing climate.

Singh said some of that work will require utilities to share more data with each other, a step they have historically been reluctant to take. He said the companies should look to the nuclear power sector, which he held up as a model for assessing risks in its equipment.

“They didn’t get there overnight,” Singh said. “One of the ways they got there was by sharing the data, methodology, and doing it for the collective good of a safer industry. That’s really the opportunity we have.”

Technological improvements are badly needed because California regulators are already doing everything they can think of to prevent power lines from starting fires, said Elizaveta Malashenko, deputy executive director of safety and enforcement policy for the utilities commission.

“As the last two years have shown, it’s just not enough,” Malashenko said at the conference Thursday. “We’re getting to this point where we as humans just cannot process the amount of information necessary to get us to the next stage of knowing what to do and how to address it.”
Utilities nationwide are also employing more conventional means to make their equipment safer and more resilient. Florida Power & Light is spending $100 million over the next three years to put more of its power lines underground, according to Manuel Miranda, the utility’s senior vice president of power delivery.
A fire monitoring camera tracks conditions atop a hill overlooking Mount St. Helena at the Pepperwood Preserve in Santa Rosa.
Photo: Carlos Avila Gonzalez / The Chronicle

“We know it works during hurricanes, and I imagine it works really well here
during the fires — or not causing fires,” Miranda said at the conference.

At the same time, utilities must also develop more of an ability to “predict and get ahead of failures before they occur,” he said.

Adding to the urgency is the fact that experts say climate change is poised to increase the severity of droughts and elongate California’s natural fire season even further, thereby worsening wildland infernos no matter what.

“Even if we do all the good work that we’re trying to do to arrest climate change in parts of the world, we’re still going to have this kind of activity,” said Thom Porter, director of the California Department of Forestry and Fire Protection. “And the likelihood that 2018 is the worst fire season in recorded history in California — it’s likely that that’s going to change, too.”

*J.D. Morris is a San Francisco Chronicle staff writer. Email: jd.morris@sfchronicle.com Twitter: @thejdmorris*