

Edison's Power Lines Were Under Strain 14 Hours Before Eaton Fire

New data suggests there were faults on Southern California Edison's transmission lines early on Jan. 7 before the fire started that evening.

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By Ivan Penn and Blacki Migliozi

Ivan Penn reported from Los Angeles, and Blacki Migliozi from New York.

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About 14 hours before the Eaton fire started on Jan. 7 on the hills above Altadena and Pasadena, Calif., power lines in the area had signs of being under strain from intensifying winds.

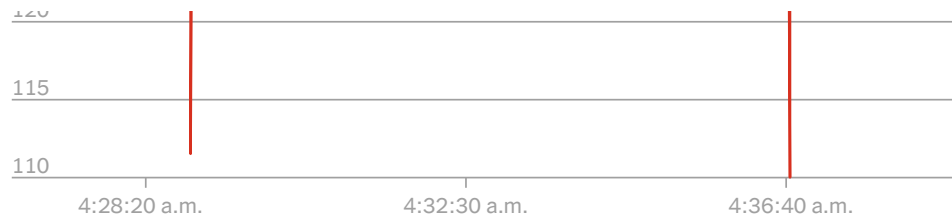
New data from a company that maintains electrical sensors suggests that the transmission network of Southern California Edison was stressed long before the most severe winds bore down on the Los Angeles region, adding to growing criticism that the electric utility did not do enough to prevent the blaze. Edison is already under review as the possible cause of the Eaton fire, which killed 17 people and destroyed more than 9,400 buildings.

The data comes from Whisker Labs, a technology company in Maryland, and suggests there were faults, or electrical malfunctions, on Edison's transmission lines at 4:28 a.m. and 4:36 a.m. on the day of the fire. Wind speeds at the time were sustained at 60 miles per hour, with gusts as high as 79 m.p.h. — strong enough for engineers to consider cutting power.

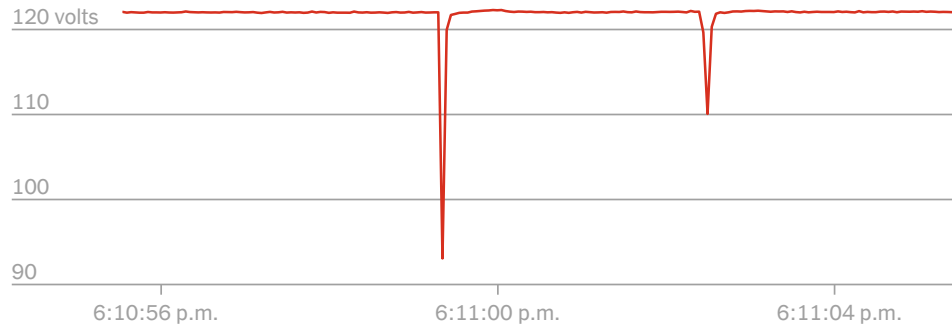
Later in the day, Whisker identified two faults just minutes before the fire started, at about 6:11 p.m., on the transmission network near Eaton Canyon, where fire investigators have said the Eaton Fire began. Those faults matched flashes on the transmission lines recorded by a video camera at a nearby Arco gas station.

Voltage readings 14 hours before start of fire



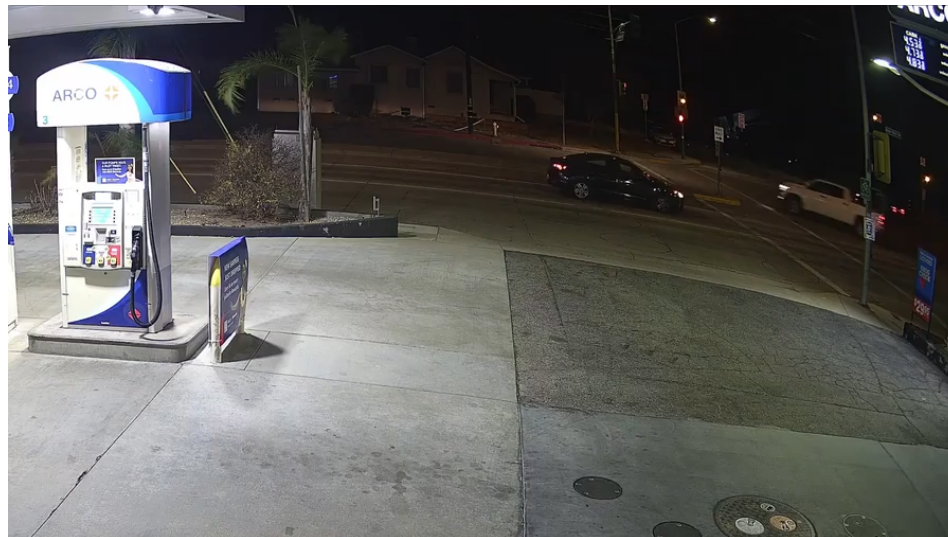


Voltage readings at **start of fire**



6:10:55 p.m.

Footage from the Arco gas station



Note: Voltage readings are from homes near Eaton Canyon. All times are Pacific. • Source: Whisker Labs

Southern California Edison, which supplies power to several communities near Eaton Canyon, including Altadena, did not cut power to the transmission lines despite the early morning faults. Nor did the utility cut power on the transmission lines after the second set of faults in the evening when winds reached 100 m.p.h.

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"They're very similar," Bob Marshall, co-founder and chief executive of Whisker Labs, said of the morning and evening faults. "We believe they are in the same area. They are definitely transmission faults."

Mr. Marshall said his company informed Edison of its latest findings, which it identified after the firm's experts analyzed more data. Whisker Labs operates sensors in homes to help predict and prevent residential fires.

Critics of the utility contend that the massive faults, which were so strong that sensors as far away as Portland, Ore., and Salt Lake City registered them, suggest that Edison should have cut power to the transmission lines as weather conditions worsened.

"I think we have a great picture of what happened," said Robert McCullough, principal of McCullough Research in Portland, Ore., which has been reviewing data and information about Edison, including from Whisker Labs, at The New York Times's request. "Too many people didn't respond quickly enough," he added.

Although investigators have not determined a cause of the Eaton fire, residents and local governments have filed lawsuits against Edison, contending that the utility's equipment ignited one of the worst wildfires in California history. In its lawsuit against Edison, Los Angeles County cited the gas station video as evidence. The video was first reported by The Times.

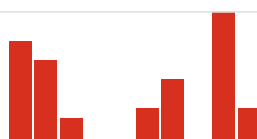
Kathleen Dunleavy, an Edison spokeswoman, said the decision to cut power was based on many factors, including wind speed and wildfire threat in a particular area. Electrical faults alone would not warrant a decision to cut power, she said. But the National Weather Service had issued red flag fire warnings leading up to Jan. 7 for Southern California, noting extreme weather conditions coupled with dry vegetation.

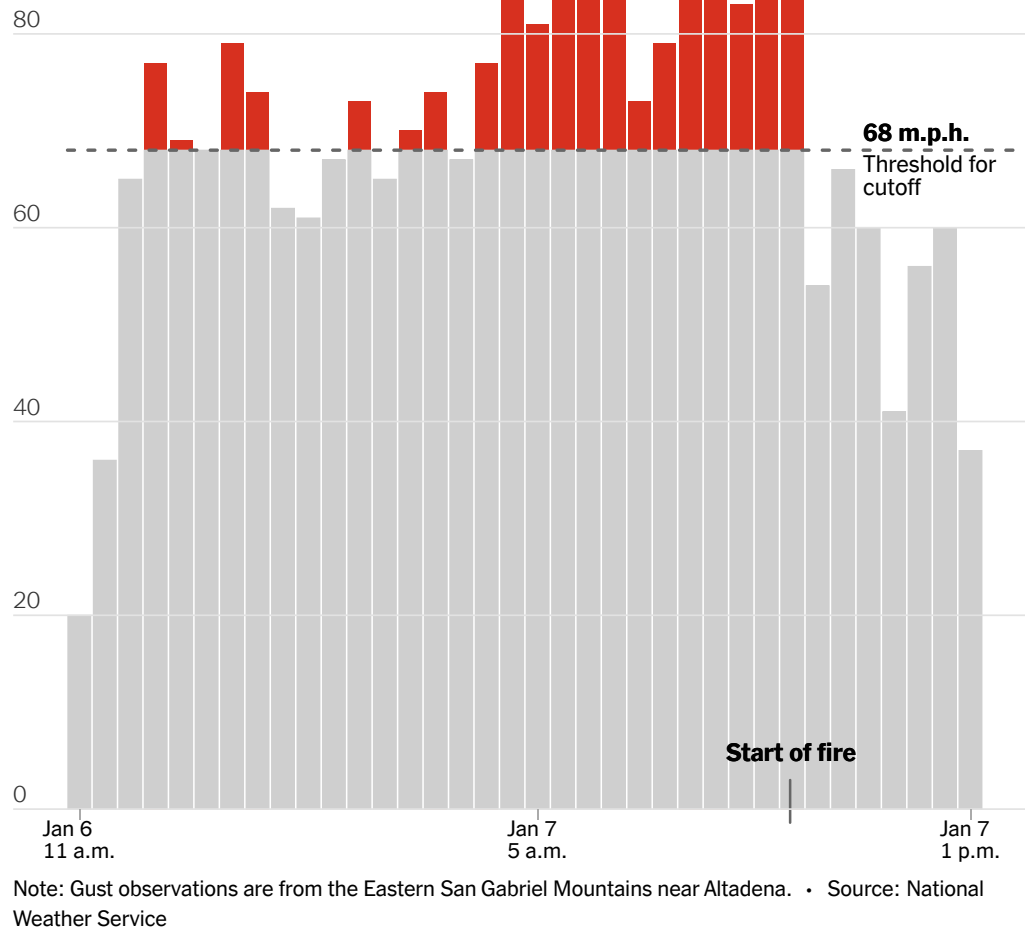
Under Edison's guidelines, engineers should consider cutting power to transmission lines when winds are between 68 and 90 miles per hour. Ms. Dunleavy said the conditions did not warrant cutting electricity to power lines, known as public safety power shut-offs, a step utilities consider as a last resort in wildfire prevention.

"We did not meet the P.S.P.S. threshold, based on wind speed and fire threat," Ms. Dunleavy said.

But wind speeds registered above the utility's threshold multiple times that day, government data shows. Gusts in the East San Gabriel Mountains in the Altadena area exceeded 68 m.p.h. at least 20 times between 2 p.m. on Jan. 6 and 1 a.m. on Jan. 8, according to a Times analysis of National Weather Service data.

100 m.p.h. winds





The utility did have faults on transmission lines at the times Whisker Labs recorded on the morning of Jan. 7, but Ms. Dunleavy said that the faults early in the day were not related to the lines in Eaton Canyon. She acknowledged that the utility had been speaking with Whisker Labs about its findings.

“These two faults did not occur on any line that traverses the canyon,” Ms. Dunleavy said. “They’re not relevant for any line in Eaton Canyon.”

Initially, the utility made similar statements about the faults Whisker Labs recorded around 6:11 p.m. But the gas station video showed the faults coincided with the flashes on transmission lines in the Altadena area, and Edison told state regulators that seeing the visual evidence prompted the utility to expand its own investigation into the cause of the fire.

Edison did cut power before the fire began to three low voltage circuits that serve the Kinneloa Mesa community on the opposite side of Eaton Canyon from Altadena. But none of the high voltage transmission lines in Eaton Canyon nor the low voltage lines in Altadena were shut off as the wind speeds picked up and the fire started.

On Monday, Edison began physical and video inspections and testing of electrical equipment in Eaton Canyon in the area where fire investigators said the Eaton fire started. The utility said this phase of field testing would last several weeks, followed by lab and engineering analysis, as part

of the investigation into the cause of the blaze.

“We owe it to the public here, and I’ve said from the very beginning I want to make sure we’re being fully transparent here,” said Pedro Pizarro, president and chief executive of Edison International, the parent company of Southern California Edison.

The Eaton fire was one of several wildfires that started in the Los Angeles area on Jan. 7. They include the Palisades fire that destroyed much of the coastal community of Pacific Palisades, and the Hurst fire, which began north of the Eaton fire.

Edison has told state regulators that its equipment may be involved in the cause of the Hurst fire. Three large faults were identified on the transmission network near Hurst before that fire began, Whisker data shows.

Joey K. Lee contributed reporting.

Ivan Penn is a reporter based in Los Angeles and covers the energy industry. His work has included reporting on clean energy, failures in the electric grid and the economics of utility services. [More about Ivan Penn](#)

Blacki Migliozi is a data journalist on the Graphics team at The Times, where he has reported on the climate crisis, environmental crimes, the spread of coronavirus, police brutality and elections. [More about Blacki Migliozi](#)