

Breakdown Pulls Power Plug - High-voltage line sags in the heat; thousands affected

By MICHAEL G. MOONEY

mmooney@modbee.com

Last updated: August 30, 2007 04:53:46 AM

THE MODESTO BEE

A high-voltage power line shared by the Modesto and Turlock irrigation districts sagged in the heat and touched an almond tree Wednesday afternoon, triggering scattered power failures over portions of three counties.

That combined with an almost simultaneous problem at the Modesto Irrigation District's Parker substation, where two circuit breakers shut down, leaving thousands of area homes and businesses baking in the midafternoon heat.

Turlock Irrigation District spokes- woman Michelle Reimers said district operators and the utility's En- ergy Management System immediately began reducing the electricity load to stabilize the system and prevent cascading blackouts throughout the district.

As many as 23,000 MID customers were without power at midafternoon Wednesday, said spokeswoman Kate Hora, when the temperature had reached 100 degrees en route to a high of 105.

It was not clear how many TID customers were affected.

Power failures also were reported in portions of Turlock, Ceres, Delhi and Hilmar, as well as Oakdale, Ripon and rural locations in western Stanislaus County.

Hora said the problem at the Parker substation made a bad situation worse. The combination of problems, Hora said, put the system into a safety mode -- randomly shutting down parts of the system to keep the bulk of it operating. The problems created an imbalance, and to prevent surges and blackouts, the system randomly shuts down some circuits. That helps to restore load balance in the same way a home's circuit breaker works.

Hora called it a "double contingency."

"It's a fancy way of saying that two bad things happen at the same time," she said. "The bad part is it shut down 20 percent of our system.

The good part is it kept 80 percent going. That is a good thing."

Reimers said circuit breakers on the TID line opened automatically to isolate the problem until it could be found and repaired.

The trouble began at 1:55 p.m. when the aluminum high-voltage power line stretched and sagged in the heat. The 230-kilovolt line caused the tree it hit to explode, officials said, which caused the line to short-circuit.

The line brings electricity from the Westley switching station and into the TID's Walnut Energy Center.

About the same time, according to Hora, the problems at the Parker substation occurred. She said it was not clear whether the two incidents were related.

In Modesto, Hora said, the power was out for about 50 minutes. By 2:45 p.m., she said, electricity had been restored to most customers.

Costco on Pelandale Road, Salida Middle School and the intersection at Briggsmore Avenue, Orangeburg Road and Sisk Avenue were among the areas affected in Modesto.

In Turlock, said TID Assistant General Manager Steve Boyd, the power returned by 3:30 p.m. The electric load being carried by the line, according to Boyd, apparently was not a factor in causing it to sag.

Areas affected there included California State University, Stanislaus, Pitman High School and Dairy Farmers of America, where workers mixed cheese by hand until the power was restored.

An isolated power failure was reported in Ceres, said Boyd, and two more were reported in the Hilmar-Delhi area.

There were power failures reported by the Merced Irrigation District apparently unrelated to the TID and the MID problems.

The high-voltage 230-kilovolt line provides power to the MID and the TID. After years of delay, the MID is preparing to build a second 230-kilovolt line. MID officials say the new line is needed to ensure that the area has enough power to meet peak demand.

One kilovolt is equal to 1,000 volts. When you plug in a coffee maker at home, it uses a standard 120-volt line.

A 230-kilovolt line is capable of carrying 233 megawatts, or about one-third the size of the all-time electric peak recorded by the MID during the summer of 2006.

At 4 p.m. Wednesday, the TID reached an annual high for power consumption at 601 megawatts. The MID peak was 672 megawatts, also a high for the year.

When the Westley line problem happened, Boyd said, the system was running at 560 megawatts. The load at the MID was 615 megawatts.

Despite the relatively quick restoration of power Wednesday, Hora said, business owners and residents should try to conserve electricity, especially from 4 to 8 p.m., when demand is highest.

Late Wednesday afternoon, the state's electricity grid manager declared a minor power emergency as the state's operating energy reserve dipped below 7 percent.

The declaration of the Stage 1 emergency is the least worrisome of three steps preceding rolling blackouts, in which power is cut to certain regions to avoid a systemwide crash.

Announcement of the Stage 1 emergency triggered conservation efforts by state agencies and a general call for California's 37 million residents to turn down air conditioners and restrict the use of heavy appliances.

Bee staff writer Michael R. Shea, Merced Sun-Star reporter Doane Yawger and The Associated Press contributed to this report.