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## **Power outage questions probed**

## Shut-off of Otay Mesa plant remains unclear

By Onell R. Soto, UNION-TRIBUNE STAFF WRITER

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## **OVERVIEW**

**Background:** SDG&E was ordered to cut power to 20 percent of its customers early Thursday to prevent an out-of-control blackout that could have darkened the West Coast.

What's new: SDG&E said it ordered the shutdown of the biggest power plant running at the time at the request of the state's grid operators.

The future: State grid operators say they're investigating what happened and will report the results publicly.

The basic reason for the intentional blackout of 291,000 homes and businesses Thursday morning appears simple enough — there wasn't enough power being generated in San Diego.

Less clear is why the biggest plant running at the time, in Otay Mesa, was ordered to shut down a half-hour earlier.

That shutdown led to a lack of locally generated power, which led to the blackout.

San Diego Gas & Electric Co. said the California Independent System Operator ordered the plant shut down. The ISO wouldn't say why, or even whether it did schedule the plant to go down.

The ISO manages the grid on behalf of the utilities and is supposed to make sure the system is operated reliably by scheduling when particular power plants run.

Spokesman Gregg Fishman said the ISO is still looking into the situation and it's too early to draw conclusions.

"When we are satisfied we know and understand the details, we will make that determination public," he said.

Engineers at the Western Electricity Coordinating Council will look at the conclusions from SDG&E and the ISO. The organization is charged by the federal government with making sure power flows reliably across the West, plus parts of Mexico and Canada.

The blackout has risen to an "event" requiring a closer look, said spokeswoman Rachel Sherrad. Last year, there were just 11 such events in the West.

In addition to the engineers, who secretly recommend ways the grid can be better run, there are also officials who look at whether its rules have been violated. Such violations can result in federal fines.

The interactions between SDG&E and the ISO will be key to understanding what happened, said Michael Shames, who heads UCAN, the Utility Consumers' Action Network.

"Until we find out what exactly transpired between the two entities, we can't really know what happened and whether it can be avoided again," he said.

He said he'll be pushing for a formal, public investigation.

"What I'm hearing so far is mind-numbingly, laugh-out-loud incompetence," he said.

If conclusions are premature, a timeline isn't.

On Wednesday afternoon, as it does every afternoon, SDG&E received scheduling orders from the ISO as to which plants that it owns or contracts with would run and when.

The orders are based on forecasts of power demand plus which power plants must run — nuclear plants, for instance, can't easily be shut down — which plants don't have to run, but are available, plus what it will cost to run the plants, said Michael Niggli, SDG&E's chief operating officer.

To make sure rates are as low as possible, the ISO has a computer program that is supposed to determine the cheapest way to get power to Californians without burning up the grid.

The orders SDG&E received Wednesday indicated that the Otay Mesa plant, the newest and most efficient in the county, was to shut down at midnight. The reason, Niggli said, was money — the ISO must have figured it was cheaper to get the power elsewhere.

The big Palomar plant in Escondido and South Bay in Chula Vista were also down, according to the ISO's Web site. The San Onofre Nuclear Generating Station — which sends 20 percent of its power to SDG&E — was operating at one-quarter capacity, and only one unit at the Encina Power Station in Carlsbad was idling, with orders that it remain on reserve standby power.

The engineers at SDG&E in charge of purchasing power didn't know South Bay was down, Niggli said, because that plant doesn't have an SDG&E contract, but sells power directly through the ISO.

So, at midnight, the Otay Mesa plant, owned by Calpine Corp. and running under contract to SDG&E, shut down, taking 600 megawatts off the grid.

"It wasn't unplanned," Calpine spokeswoman Norma Dunn said. "It wasn't maintenance. They just wanted us to go offline."

At that point, less than 25 percent of the power made in San Diego was being made locally, which is against operating regulations because it could cause the system to become unstable, and start an uncontrolled chain of plant shutdowns.

Immediately, the ISO ordered Otay Mesa back online. But the plant, which has turbines powered by natural gas and steam, couldn't turn back on without violating air pollution laws. It would be nearly two hours before it would power up, Dunn said.

The ISO started ordering other plants around the county to start powering up. The idling unit at Encina sped up, putting 300 megawatts online. But it would take a little while for enough power to be made locally.

So the ISO gave SDG&E the order to shed 310 megawatts. In other words, cut people off. Cities from the Mexican border to Orange County lost power.

Peaker plants — less efficient units designed to power up quickly to deal with high-energy days in the middle of summer — powered up around the county, and about 45 minutes later, the lights came back on everywhere.

Then, when Otay Mesa was back, the peakers went off.

Most San Diegans slept through it, only to wake up to blinking alarm clocks.

For people who keep track of such things, however, the incident was astonishing.

"The notion that either ISO or SDG&E would power down Palomar and Otay at the same time is mind-blowingly stupid and in violation of CAISO rules," Shames said. "To do so while (San Onofre) and South Bay are constrained is outrageously reckless."

Rules for running an electricity grid call for redundancies — generally the system has to have enough backup power to be able to take the loss of its biggest power plant or transmission line plus 5 percent, said Robert McCullough, a utility consultant in Portland, Ore.

San Diego has just two connections to the rest of the grid, so managing supply and demand here is easier than elsewhere, he said.

"The hypothesis that comes up ... is somebody entered the wrong number into the computer," he said.

Onell Soto: (619) 293-1280; onell.soto@uniontrib.com

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