

Western and friends keep the lights on in California

by **Dave Christy**

On Sept. 18, California was on the verge of rolling blackouts.

Quick work by Western, the Bureau of Reclamation and Western customers helped keep the lights on in the Golden State.

A California Independent System Operator news release singled out Western for providing the extra resources that avoided the blackouts.

"The ISO would like to thank those who assisted in ensuring the grid remains reliable, particularly the Western Area Power Administration, whose timely delivery of emergency power on Monday helped the ISO avoid a Stage 3 emergency," the release said.

In responding to the energy emergency in California, Western was able to carry out an August presidential directive for the power

marketing administrations to take all possible measures to maximize power imports into California under emergency conditions.

Even with Western's help, the Dow Jones News Service reported that if demand in California had risen just 150-MW more, a Stage 3 emergency with its rolling blackouts would have been called. The same source reported that blackouts would cost Silicon Valley companies \$75 million a day.

Emergency conditions were declared by the CAISO to trigger the emergency clause associated with the Glen Canyon Operating Criteria between Western and Reclamation. This allowed Western to deviate from the "environmental steady flow" release regime below Glen Canyon and provide emergency assistance to the CAISO.

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A day in the life: alert!



11 a.m. The California Independent System Operator calls a Stage 1 alert requesting conservation as operating reserves drop below 7 percent. Many respond to cut their loads, including the California Grocers Association and state and Federal agencies. Dot.com businesses in Silicon Valley turn off lights and turn down air conditioners to reduce loads.



1 p.m. The CAISO goes to a Stage 2 alert as reserves fall below 5 percent. Interruptible loads are tapped. Requests for emergency assistance go out over the Western Systems Coordinating Council messaging system. California municipalities and Central Valley Project powerplants are called on to provide as much additional energy as possible. Nonfirm energy exports to adjacent control areas are cut to zero.

The CAISO projects that, despite its best efforts, operating reserves will fall below 1.5 percent during the peak hours, triggering a Stage 3 energy emergency that requires shedding firm load.

Meanwhile, Western's merchant sales group in Montrose is monitoring the situation in California. While they control power sales from the 1,300-MW

capacity Glen Canyon powerplant, the summer-long low-flow study on the downstream environment is still in progress—limiting Glen Canyon's generation to about 325-MW and river flow to about 8,000 cubic feet per second. To meet Colorado River Storage Project customer needs, Western's marketers have already made seasonal purchases of about 500 MW of capacity. Without violating the low flow study by ramping up Glen Canyon, they have no spare resource to sell.



2 p.m. With the likelihood of rolling blackouts to prevent a major system breakup imminent, the Bureau of Reclamation and Western provide another 330 MW at Glen Canyon and 100 MW from Parker-Davis powerplants. Emergency releases at Glen Canyon allowed under the Operating Criteria double the river flows. Western marketing staff at Montrose arrange for delivery into California's transmission system by exchanging power from Glen Canyon with energy that can be delivered to the California ISO.



6 p.m. With rolling blackouts averted, releases from Glen Canyon are ramped down by 1,500 cubic feet per second as required by the Record of Decision on the Glen Canyon Dam Environmental Impact Statement. Low flows are back on track before midnight.

“Through displacement transactions and wheeling arrangements, Western increased releases from Glen Canyon powerplant and made 330 MW available to the CAISO for five hours,” said **Jeff Ackerman**, CRSP Energy Management and Marketing Office manager.



*SN Dispatcher **Francois Montoute** helps the CAISO “keep the lights on” during one of more than 36 energy alerts in California this summer. (Photo by **Dave Christy**)*

experiments, which avoided an estimated 20-MW of load, according to **Fred LeBlanc**, SN operations manager.

Although the Sept. 18 assistance may have been the most visible, Western supported CAISO throughout the summer. Every day Western identifies CVP spinning reserve and excess energy the CAISO could call on for the following day, said **Bill Wasil**, SN assistant

The Parker-Davis Project lent support with an additional 100-MW each hour for five hours,” he added.

The Central Valley Project provided 636-MW of emergency power on peak. Lawrence Livermore National Laboratory shed 6-MW of firm load and NASA-Ames postponed wind tunnel

chief dispatcher. “The ISO has the right to call on the excess above the spinning reserve or the entire amount,” he said.

The CAISO has called on resources numerous times. As of Sept. 20, it had declared 27 Stage 1 and 12 Stage 2 alerts, and had called on CVP resources for most of them. Western and Reclamation dispatchers have worked closely together to provide a quick response. “During some alerts, the CAISO said they needed the resources immediately,” said **Francois Montoute**, an SN dispatcher. “It’s made life interesting,” he added.

Each day, Reclamation plans CVP water releases for the following day and Western calculates total generation based on those releases. Since Pacific Gas & Electric Co. integrates CVP power with its own resources, PG&E develops an hourly schedule based on that total generation.

When the CAISO sees the need for CVP resources, PG&E relays the request to Western dispatchers, who pass it on to Reclamation dispatchers. Reclamation staff consider system constraints such as water levels in the regulating reservoirs below the dams and generators’ availability, and adjust releases based on the ISO request. This revised schedule is provided back to the ISO through Western and PG&E, and the extra generation typically is brought up in less than an hour.

(Christy is a public affairs specialist at SN.) ✍