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## Texas power grid faces summer having changed little from February freeze

Tim McLaughlin : 4-5 minutes : 6/24/2021

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An electrical substation is seen after winter weather caused electricity blackouts in Houston, Texas, U.S. February 20, 2021. REUTERS/Go Nakamura

June 24 (Reuters) - Texas's grid operator frightened residents last week when it said it had very little reserves to cover demand spiking as temperatures soared. This summer could produce more scary times.

In February, the Texas grid, run by the Electric Reliability Council of Texas (ERCOT), nearly collapsed from several days of frigid weather, exposing its vulnerabilities as weather grows more extreme and power demand rises.

ERCOT is already warning its 26 million customers to conserve energy, and experts say people should brace for rolling blackouts amid drought and extreme heat.

"It's not even that hot yet," said Dan Cohan, a civil and environmental engineering professor at Rice University in Houston.

Since February, the state passed some reforms to address the problems. However, ERCOT still relies on lopsided incentives, triggered only during a crisis, to get generators to produce more electricity.

"Texas relies on jackpot incentives," Cohan said. "The problem with that system is that power producers don't know how many jackpots will come. In the meantime, there's not much incentive for the generators to prepare for extreme weather."

Other large U.S. grids rely on a capacity market, which pays generators to be on standby and provide emergency power when electric demand surges.

ERCOT operates the grid on a thin margin of reserve capacity of about 16%, or half the cushion of other U.S. grids. Last week, ERCOT put customers on edge when it said generator outages spiked to 11,000 megawatts, compared with a typical level of about 3,600 megawatts for this time of year.

The grid is straining as Texas attracts more residents and new companies. U.S. Census data shows Texas's population - already second-largest only to California - rose by 16% in the last decade, more than all but three other states.

Bob Hall, a Republican Texas state senator, said the grid's operating problems have not been fixed. "If I were a business right now, as desirable as Texas is, if I'm dependent on a steady supply of electricity, I'd be very concerned about coming here right now," he said.

Texans got a taste of the extreme weather last week, when the heat reached into the triple-digits. To conserve power, ERCOT told consumers to raise their thermostats to 82 degrees Fahrenheit (27.8 C) while they sleep, after an elevated number of power suppliers went offline and caused outages.

ERCOT says an extreme weather scenario with peak demand, low output from solar and wind farms and a spike in generator outages would leave the grid with a capacity shortfall of about 15,000 megawatts.

ERCOT did not respond to Reuters requests for comment.

Analysts at McCullough Research note that power suppliers can receive up to \$9,000 per megawatt during a time of crisis. But those incentives can produce perverse outcomes.

For example, a South Texas nuclear power plant lost one of its two reactors after a five-foot section of uninsulated pipe seized up in February. The loss contributed to a shortage in power, but in an ironic

twist, the nuclear plant earned \$9 million an hour because scarcity pricing skyrocketed.

If the emergency had been averted, the plant would have been paid a more normal rate of only \$60,000 an hour, according to McCullough.

"This means that it may not be optimal to maintain and weatherize all equipment, if a minor problem that reduces generation by 50% can provide enormous profit potential," McCullough and his team of analysts said in a report this month.

At the peak of the February crisis, nearly 50% of the grid's installed generation capacity was unavailable, leaving more than 4 million Texans without power. The family of an 11-year-old boy sued ERCOT after he died in his sleep of hypothermia.

Daniel Brooks, vice president at the Electric Power Research Institute, said Texas has had no time to build new resources to address any extreme weather this year.

"You're playing with the hand you were dealt," Brooks said. "It's going to be a tight summer, no doubt."

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