

Critics are skeptical of leaders' trust in Texas' power reserves
By Morgan O'Hanlon DALLAS MORNING NEWS

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State leaders are touting the grid's increased "summer reserve margin," or generating capacity exceeding demand.

Enel Green Power's Roadrunner solar farm in Upton County in West Texas is the state's largest operational solar project.

AUSTIN — With critics questioning whether legislation signed to reorganize the Electric Reliability Council of Texas' leadership and overhaul the state's electric grid is sufficient, state officials contend there's another reason to be optimistic there will be enough power to meet demand through a long hot summer.

The state's "summer reserve margin," or generating capacity exceeding demand, is higher than last summer and should help avoid the blackouts that plagued Texas during February's winter storm and set in motion the legislation to address the crisis.

"If you look at the reports that are out regarding summer capacity that they feel very comfortable and that we'll be able to meet the demands of summer," said Sen. Kelly Hancock, R-North Richland Hills.

In its summer forecast for grid conditions, ERCOT calculated that this summer's reserve margin — the amount of capacity that exceeds demand — would be 15.7 percent. The bigger the margin, the bigger the cushion of supply is likely to be. The reserve margin is larger than last year's, and Warren Lasher, ERCOT's senior director of system planning, has previously said that it will continue to grow, largely thanks to new renewable generation joining the grid.

Flawed assumptions

State leaders have touted this summer's increased power reserve margin as a reason to relax in the face of high summer demand, but experts say last week's generation outages are evidence the reserve margin isn't the safety net state leaders hope it to be.

Jim Boyle, a veteran utilities lawyer and consumer advocate who was the first head of the Office of Public Utility Counsel, explained that the calculation of reserve margin relies on several assumptions, several of which did not hold true last week, when ER-COT called on Texas to conserve energy to avoid forced outages.

The first assumption was that, on average, only 5 percent of thermal generation — which includes nuclear, natural gas and coal-powered plants — would be down during outages. But 15 percent of the state's thermal generation capacity was out last week, largely driven by unplanned repairs and maintenance, and by a fire at the Comanche Peak power plant that led to an outage of one of the plant's two units. The plant is owned by Irving-based company Vistra Corp. and located 60 miles southwest of Dallas. When both units are operating under normal conditions, they produce enough energy to power 1.15 million homes.

Boyle said 95 percent capacity is far too optimistic for a thermal fleet as old as Texas', in which nearly one-third of plants are more than 40 years old.

"We have a lot of plants that are antique — they're almost dinosaurs," he said. "And that's one reason that they have forced outages. We've got some very ancient coal plants, and we've got some very ancient gas plants that soon will be retired. We've got to work on our reserves."

Wind also underperformed last week. ERCOT's calculation of the reserve margin allows for variability in wind output between 19 percent and 61 percent of total generation capacity, but last week it was only producing 10 percent of total capacity.

"Winds were incredibly stagnant, so stagnant that Dallas had its worst smog day since 2007," said Daniel Cohan, an atmospheric scientist at Rice University. "During some hours, wind output fell even below ERCOT's worst case scenario."

ERCOT has long been tight-lipped about such generation outages, withholding specific information for 60 days. But at least for this summer, that policy is about to change.

The Public Utility Commission, which oversees the grid manager, on Thursday gave ERCOT three days from a conservation notice to release information about generators that are offline during power shortages. The order, which lasts until Sept. 30 and was backdated to June 1, would add some facts to assumptions made in the wake of the power shortage.

One assumption that did hold true was the output of solar generation. Solar was operating at about its forecasted output of 80 percent last week.

Lowering demand

Use of the grid's voluntary load reduction resources — namely, asking customers to reduce their personal power consumption by raising thermostats, turning off lights and delaying loads of laundry — brought demand to below 70,000 megawatts on the afternoon of June 14, when the conservation notice was issued. That day's peak demand was still about 7,000 megawatts less than ERCOT's forecasted peak demand for the summer.

In a tweet, Cohan explained, “Trouble comes when slow winds and power plant outages coincide. We can’t make winds blow faster, but companies can better maintain their thermal plants. Recent outages suggest we can’t expect 95 percent performance from aging plants.”

Additionally, the summer reserve margin isn’t as high as it is in other grid regions throughout the United States.

Boyle said the target for the state’s reserve margin needs to be higher. He remembers that when the Texas energy market was regulated, OPUC aimed for a 20 percent reserve margin.

But he added that the problem is bigger than that, and pressure on boosting those reserves could be alleviated through better interconnections to other U.S. grids.

“If we were interconnected in a robust way with other grids, then the wind and solar wouldn’t be as intermittent,” Boyle explained. “Generally speaking, you would find some other area of the country where the wind was blowing, or the sun was shining.”