Managing system reliability during the spring and fall seasons

Generator and transmission owners typically perform maintenance that takes their assets out of service during "off peak" months when weather is generally mild (March – mid-May; October – November). This allows outages to happen when electric demand is lower to prepare for the summer and winter seasons when electric demand is typically higher.

How tight grid conditions can happen during spring and fall

Mild temperatures in the spring and fall mean electric demand is generally lower, but high temperatures or a strong cold front can cause electric demand to increase. This variability means electric grid capacity can be temporarily tight if a high demand day occurs when one or a combination of the following occurs: there are significant maintenance outages, renewable energy production is low and/or there is extreme weather. If this occurs, ERCOT has tools and procedures in place to maintain system reliability, including requests for energy conservation and emergency operations that can include instructing utilities to implement rotating and/or extended controlled outages as a last resort.

Developing scenarios for every season

To provide an early look at expected generation availability for upcoming seasons, ERCOT releases a Seasonal Assessment of Resource Adequacy (SARA). This assessment uses historical outage data and generator status (as reported by generation owners) to set expectations for peak demand periods each season. It also considers other potential outcomes due to more intense conditions, such as extreme low wind and solar output, higher-than-normal thermal generation outages and severe weather.

The SARA is constantly evolving to incorporate new data and factor it into projections for future years. For example, the February 2021 winter storm's impact on planned and forced outages will be a consideration in 2022. Expected new generation such as the significant increase in utility-scale solar resources is also included.

Wholesale electric market prices during fall and spring

Sometimes the wholesale energy market sees higher prices during "off peak" seasons. Higher prices are the energy market's response to low operating reserves. They encourage generators to make themselves available when system conditions are tight.

If operating reserves get low enough, a market tool known as the Operating Reserve Demand Curve (ORDC) automatically drives prices higher to prompt generators and other market participants to produce more electricity in real time. It is an addition or "adder" to the price and is determined by the size of the risk to customers. The ORDC mechanism can be used at any time of the year to incentivize additional generation.

Most residential customers in ERCOT are on "fixed rate plans," which shield them from the potential high prices that market participants may experience in the wholesale market.

Wholesale market outcomes are continuously reviewed and discussed by policy makers, especially during times of low energy reserves.

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