Managing system reliability during off-peak seasons

Although summer has officially ended, September 2019 ranks as one of the hottest on record for the state of Texas, and October is off to a warm start as well. The result has been higher-than-normal electric demand at a time when generation resources are beginning to come off-line for much needed maintenance after being pushed to their limits all summer. Transmission equipment is also being taken out of service for maintenance and upgrades to serve growing electric demands.

Generators and wires companies typically perform maintenance on their fleet during the spring and fall seasons when electric demand is generally lower. This means a higher number of equipment outages between March and May and again between October and November.

Tight conditions during spring and fall seasons

Although electric demand is lower in the spring and fall, lingering high temperatures or a strong cold front can result in fairly high demand on the ERCOT system. If a high demand day occurs when there are a significant number of outages on the system and renewable resource output is low, then grid conditions may be tight.

Additionally, the weather tends to fluctuate more during the spring and fall, resulting in a significant amount of variability on the electric system due to changing demand and wind output. With fewer options for grid operators to request additional generation or move power across transmission lines, this variation may result in temporary tight grid conditions. If this occurs, ERCOT has the tools and procedures in place to maintain system reliability.

While consumers should be aware of these types of situations, ERCOT's fall Seasonal Assessment of Resource Adequacy (SARA) shows there will be sufficient generation to meet the demand on the electric system across a wide range of scenarios.

What drives high prices in ERCOT?

Wholesale energy prices increase during tight grid conditions, as the market works to respond to the situation and maintain system reliability. ERCOT's wholesale energy market experienced high prices in August and in September, even reaching a maximum of $9,000/MWh on several occasions. These high prices were the energy market's response to low operating reserves on the electric system.

Wholesale electricity prices have adders in the real-time energy market that increase prices automatically as available operating reserves decrease. The higher prices are designed to encourage generators to make themselves available when system conditions are tight.

If ERCOT's operating reserves get low enough, then a market tool known as the Operating Reserve Demand Curve (ORDC) is used to drive prices higher, creating an even more attractive wholesale energy price for generators and other market participants who are able to respond to the reserve shortage. The size of the ORDC price adder is determined by the increasing risk that a rotating outage could occur.

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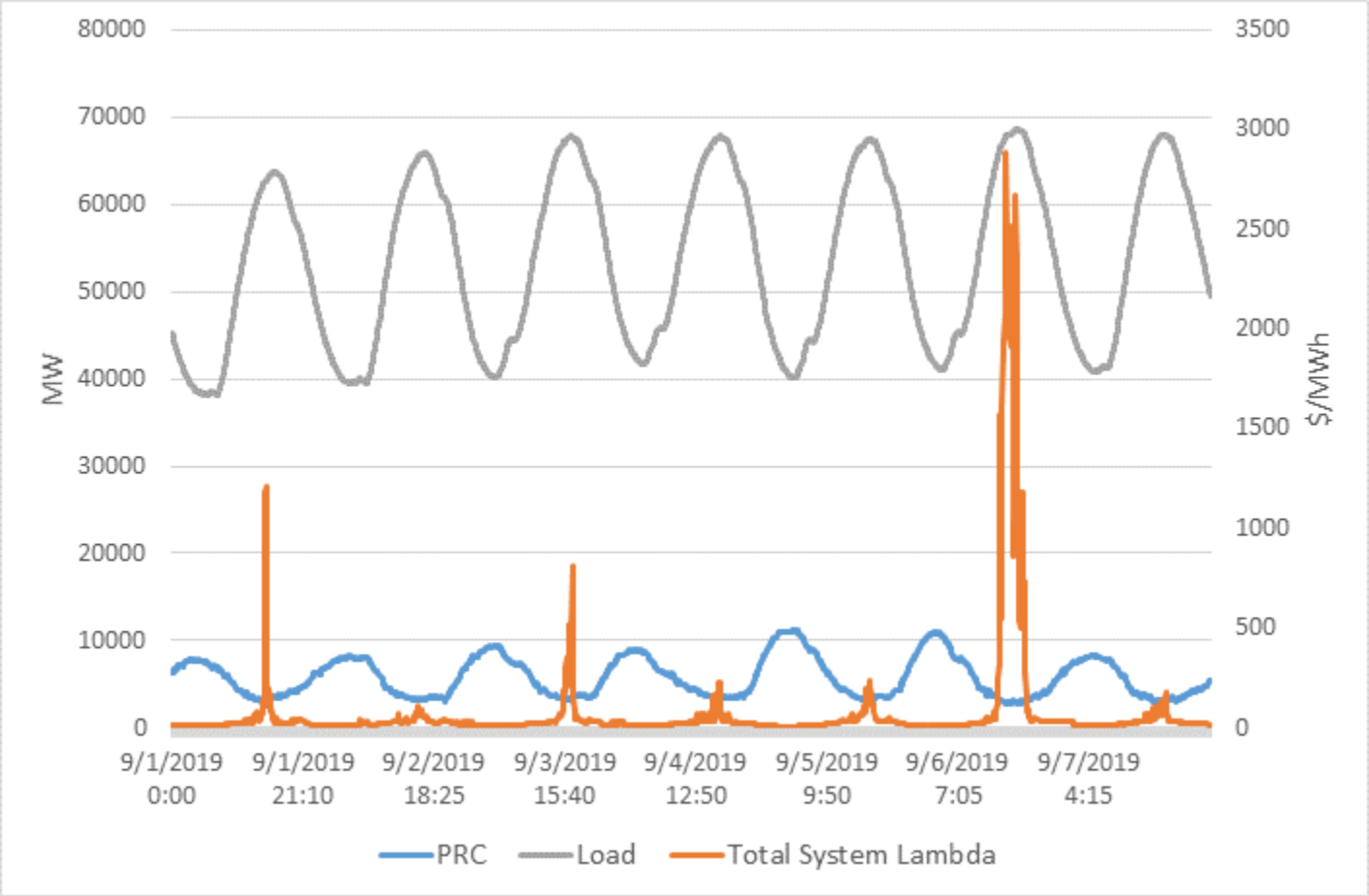
Wholesale energy prices relative to load and available operating reserves, Sept. 1-7



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