

ENERGY WARNING!

Why Texas Could See Power Shortages This Summer

By Alan Lamme

In the summer of 2018, Texas electricity rates skyrocketed in wholesale and retail markets due to low reserve margins, hot weather and operating reserves. Now that winter is in the rear view mirror and the calendar is knocking on the door of the 2019 summer, it looks as if the Lone Star State will see a repeat performance in climbing power prices as all of these issues will play a sizeable role in driving up Texas electricity rates during the hottest time of the year.

Virtually all Texas electricity consumers, including nearly all businesses, are in for a big sticker shock when it comes to electricity contracts that are up for renewal this year. In fact, some Retail Electricity Providers (REPs) have increased their rates by as much 100% over the course of the last year and most business rates have jumped by as much as 50% to 60%. So what is driving this meteoric rise in electricity prices?

There's no doubt that a term that energy consumers will hear a lot about this summer is "reserve margin." Reserve margin is the difference between the amount of power generation capacity that is available throughout

the State of Texas, versus the amount of power demand that is expected.

To ensure system reliability, the Electricity Reliability Council of Texas (ERCOT) likes to maintain a 13.7% reserve margin, or 13.7% more generation capacity than they think the State will use. This allows for the impact of hotter-than-expected temperatures, which would spike demand.

In March 2019, ERCOT announced that the reserve margin for this summer is projected to be 7.4%. ERCOT expects record electricity use this summer and an increased chance of energy alerts, which is where they deploy additional generation assets and demand response.

According to ERCOT: "Prior to each season, we consider a range of potential risks to determine whether there will be sufficient capacity to meet the expected peak load forecast," said ERCOT President and CEO, Bill Magness. "In all of the scenarios studied, we identified a potential need to call an energy alert at various times this summer."

In 2018, the Texas energy market had a similar scenario. In December 2017, the projection for summer 2018 was a reserve margin of 8%. Market

forces being what they are, increased demand and lower reserves led to a 25% increase in the number of instances wholesale electricity prices were higher during June to August 2018, compared to the same months of 2017. Retail energy prices began dropping by mid-August 2018, based on milder-than-expected weather in the fall and winter. However, an elongated winter season has exacerbated the supply-demand balance once again.

Bottom line? It's going to be a tight electricity market in Texas in 2019. ERCOT projects that the peak load forecast (total anticipated usage at the highest level of demand) for summer 2019 is expected to be 74,853 megawatts (MW). That's even higher than the all-time system-wide peak demand record of 73,473 MW set July 19, 2018 between 4 p.m. and 5 p.m. And, this summer projection assumes "normal" summer conditions using data from 2006 through 2017.

Scarcity Will Drive Texas Electricity Prices Up During the Summer of 2019

In addition to tight reserve margins, a change in the market announced January 17, 2019 will also serve to drive

prices up. The loss-of-load probability used in determining the Operating Reserve Demand Curve (ORDC) will increase in both 2019 and 2020.

The ORDC is a mechanism to ensure that generators are compensated to increase supply when reserves get tighter. First implemented in 2014, the ORDC is meant to ensure power prices accurately reflect shortage conditions. The ORDC automatically increases the price of power as reserves get tighter. This serves as a financial incentive for power generators to turn on additional generation assets.

What's the impact of an increase in the Texas ORDC? The increase in the ORDC may increase wholesale power costs by nearly \$80 million over two years, according to ERCOT. The Texas Public Policy Foundation (TPPF), a conservative think tank in Austin, projects that the boost in the ORDC could be several hundred million dollars in increased costs. The result? The TPPF projects the ORDC changes could bring a 13% increase in electricity costs, which will be passed directly on to consumers.

Since REPs know the ORDC will be higher this year, they need to plan ahead to cover this possible cost. Retailers across the State are adjusting

their pricing models to incorporate this expected cost increase. ERCOT expects to implement the ORDC price changes in April 2019. In a nutshell, the ORDC changes will drive Texas electricity prices up this summer.

How Does Long-Range Weather Forecasts Impact Texas Electric Prices?

Commercial electricity usage is fairly predictable based on the type of business. Residential usage is the most volatile type of usage and is tied to weather. Over 50% of the usage in the typical home is tied to heating and cooling costs. That usage peaks in the afternoon between 3 p.m. and 7 p.m., when everyone arrives home from work and cranks up the air conditioning.

On a moderate day, residential electricity is only 25% of the total ERCOT load. But what about on a scorching hot day? That jumps to almost 50% (and in some cases, more) of the total usage. That unpredictable nature of residential electricity tends to drive residential prices up during the summer months.

For now, the National Oceanographic and Atmospheric Administration (NOAA) is expecting hotter than average temperature projections for the summer 2019 through Texas and

the Gulf Coast states. Keep in mind that 2018 was the third hottest summer on record in the Lone Star State.

What Is Driving Electricity Demand in Texas?

The ORDC is designed to incent investment in additional power generation resources. But, new power plant resources take time, money and permitting. In the meantime, three things are driving electricity demand in Texas:

❶ **Power Production.** We've all heard the saying, "It takes money to make money." Well, it takes power to make power. Significant oil and gas developments in far West Texas continue to drive electricity demand.

❷ **Population Growth.** According to the U.S. Census, more people moved to Texas than any other state between July 1, 2017 and July 1, 2018. In that time period, the State gained 380,000 people, equivalent to the City of Cleveland, Ohio. All those people add to the State's power usage.

❸ **Business Growth.** Texas is ranked #1 in job growth by Forbes Magazine. Over 10% of U.S. Manufacturing occurs in Texas. Businesses need power. High demand for a limited resource will drive Texas electricity prices up this summer.

Impressive Growth in Texas Means More Infrastructure and Transmission Costs

It only makes sense that the larger the population grows in Texas; the more money has to be spent to increase the size of the power grid and overall power infrastructure. Therefore, "transmission" costs are rising big time. Transmission is the cost of getting power from the power plants to electrical substations located near population centers. Along the way, some electricity is lost, known as transmission losses or marginal line losses.

The farther power has to travel to get to the population center, the higher the line losses. Therefore, there are more transmission line losses in sending electricity from a wind generation asset in West Texas to a metropolitan area such as Dallas, compared to a power plant just 20 miles from downtown. To encourage development of wind energy in the western part of Texas, regulators spread the cost of these transmission losses equally among all market participants.

Natural Gas Is Still Top Dog in Texas Electricity Generation

Natural gas is expected to generate over 50% of Texas electricity in 2019. Because of this, natural gas prices drive Texas electricity prices. If hot weather increases electricity demand this summer, demand for natural gas to power these plants will increase. That will drive natural gas prices up accordingly. It should be noted that Texas has two new multi-billion-dollar Liquid Natural Gas (LNG) "export" facilities that will be ramping up this summer, which will only further complicate the supply-demand balance for natural gas and natural gas prices as they relate to power prices in the Lone Star State.

Renewable energy resources are expected to grow in 2019, generating 25% of Texas power needs between wind and solar resources. Power must be consumed when it's generated, which has made wind resources less dependable and curtailed production. Investment in transmission lines has helped reduce that issue. Utility-scale batteries have dropped in price in the last two

years and will play an increasing role in helping Texas tap into these renewable resources. Batteries can store the power as it's generated, then release it to the grid when power prices spike.

ERCOT Will Ask for Consumers' Help This Summer to Manage Demand

Based on the low reserve margin this summer, ERCOT is likely to activate their "Emergency Response Service," which relies heavily on demand response. In a demand response program, commercial customers receive an incentive for reducing their usage. They do this by powering down certain assets or switching their operations to back-up generators.

ERCOT may ask the general public to reduce consumption by issuing an Energy Emergency Alert via broadcast media. The ERCOT Energy Emergency Alert System has several levels:

Conservation Alert: ERCOT may call upon consumers to take steps to conserve power. Users can help by turning their thermostats up 2-5 degrees between 3 p.m. and 7 p.m.

Power Watch: Conservation needed. ERCOT calls on all available power supplies and some demand response resources.

Power Warning: Conservation is critical with a risk of rotating outages. Power operators shut down large commercial/industrial resources that have agreed to be interrupted in the case of an emergency.

Power Emergency: Rotating outages are in progress. Conservation is critical—if demand response is not sufficient to decrease load, ERCOT moves to a Power Emergency and instructs utilities to reduce demand by dropping load through rotating outages (i.e., rolling blackouts) to help prevent the risk of a statewide blackout. The last time ERCOT declared a power emergency was in February 2011.

Longer-Term Fixed-Rate Electricity Contracts Still Offer the Best Value

So how can a business mitigate higher electricity costs? Having an energy professional that knows the market is a definite plus. ERCOT has released its projections of peak load

and generation assets for the next five years. As noted above, reserve margin is expected to be low in 2019. However, ERCOT expects some additional generation assets to be built in upcoming years. This will increase the reserve margin for late 2020 to 2022. As such, REPs may be able to buy power cheaper for future years than they can for current years, which makes longer-term plans like 36 or 60 months more affordable.

Avoid Market-Based "Variable" Rates During the Peak of the Summer Season

A "variable" rate is essentially a month-to-month rate for electricity and is typically the highest rate offered by providers. If a fixed-rate contract has expired without being renewed, it usually moves to a variable-rate plan. These plans are based on market prices, which can change every month, usually with no limits as to their variability. Also, there are "index rates" that are tied to the market clearing price of energy or the locational marginal price of energy. These rates reflect the price for energy on the open market. Consumers who "ride the wave" paying wholesale grid prices may enjoy lower prices in the winter but could experience a major blowout during the summer months. Index rates are for "gamblers," and it's usually not worth the risk for a Texas business that is attempting to improve their bottom line on electric utility expenses.

For Texas businesses, it's recommended that business owners work with a trusted energy advisor that can help navigate the mine fields of the very complex power markets. After all, when it comes to business utility costs, electricity is usually the highest expense, therefore, seeking out help to understand it all can be a very wise business decision. **N**

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