



Electric Reliability Council of Texas

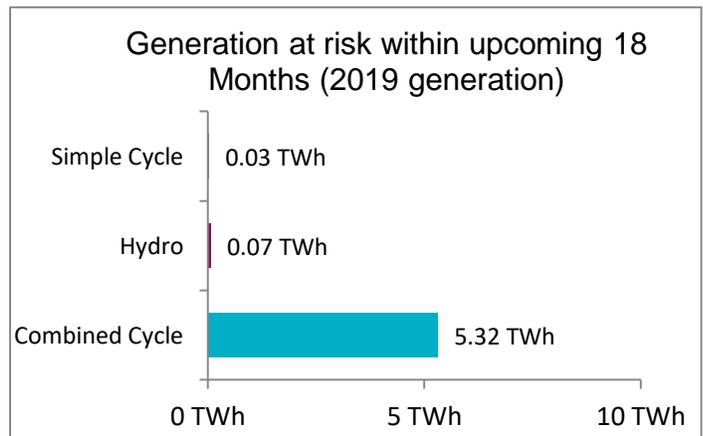
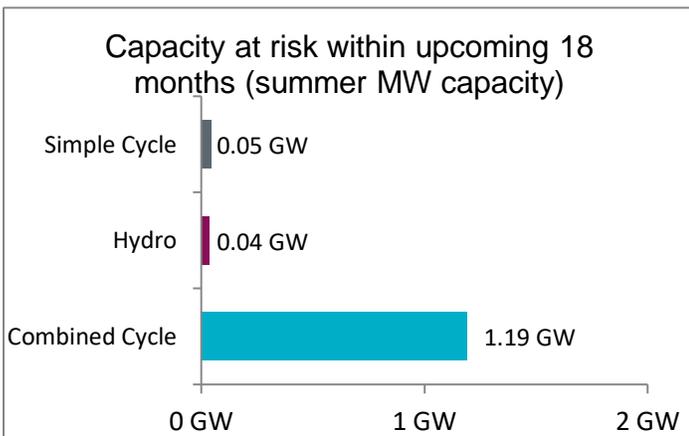
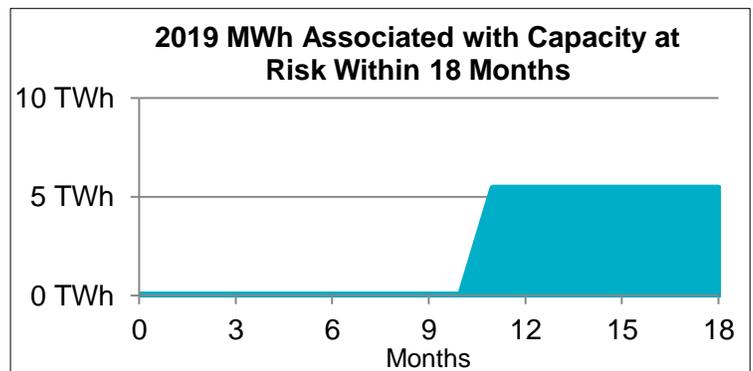
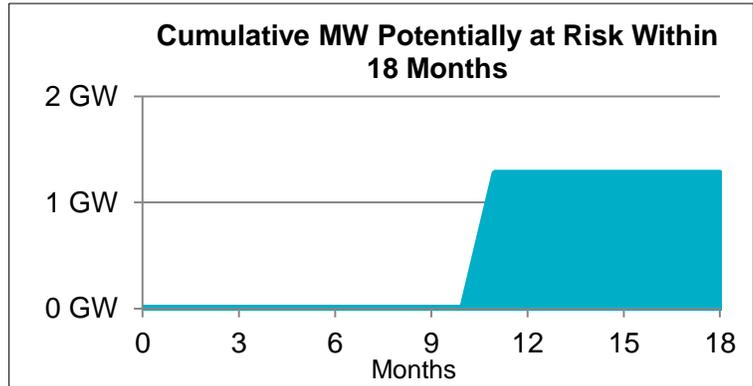
ERCOT Drought Risk Analysis: October 2020

This report summarizes the results of ERCOT's drought risk prediction model for October 2020. This analysis identifies potential drought-related impacts to generation availability in the region based on a current snapshot of system conditions, and is not intended to be an exact prediction of future generator outages. ERCOT uses the results of this analysis as a signal to initiate coordination with owners of potentially affected generation capacity. The current predictions indicate that no capacity is expected to become at risk within the next six months.

ERCOT estimates the amount of capacity and generation potentially at risk of losing water supplies within the next 18 months based on current reservoir levels and historical withdrawals under drought conditions. Generation or capacity "at risk" refers to generation resources with water supplies that are at or approaching low levels (i.e., level of intake).

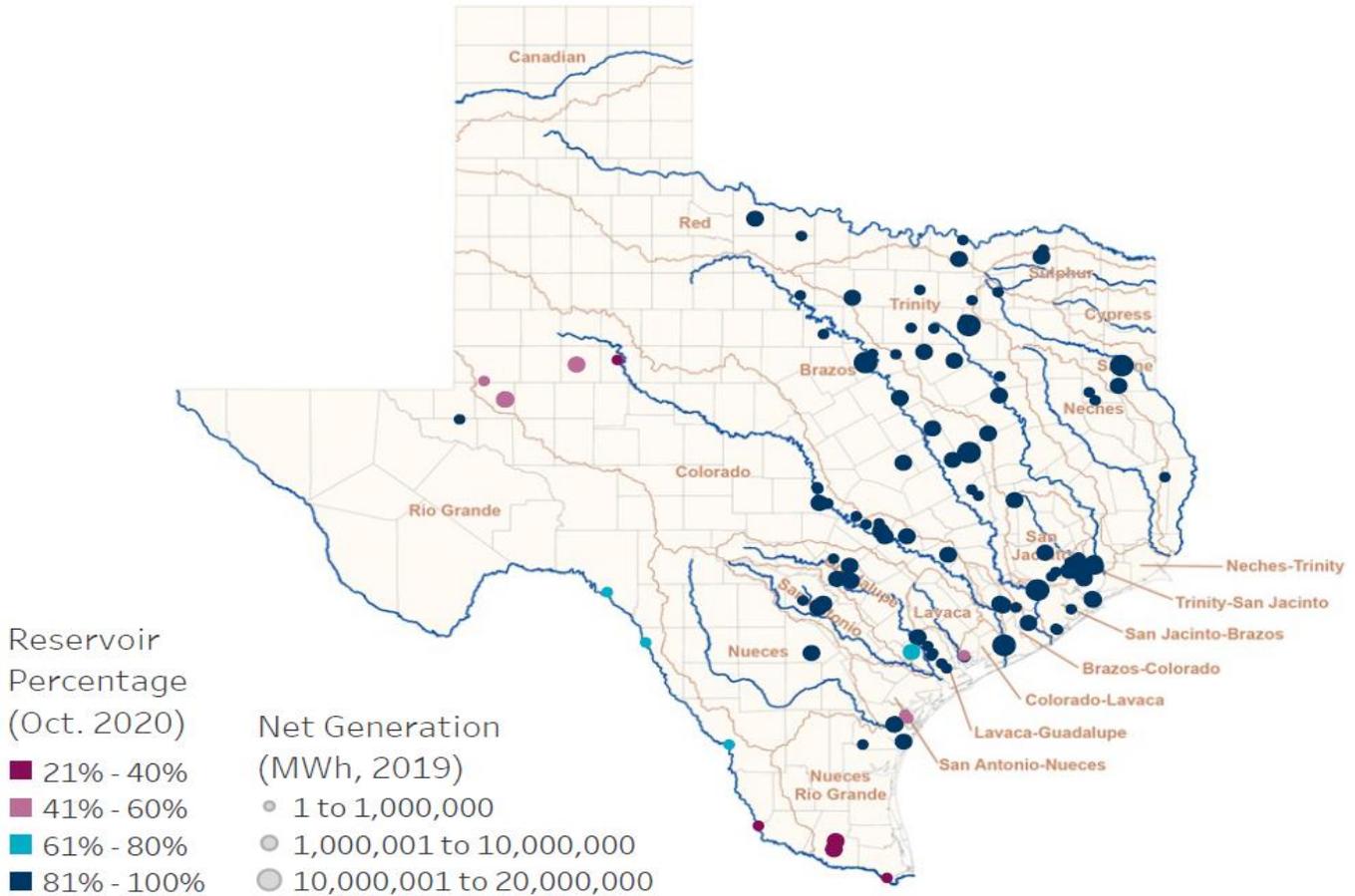
When water supply becomes "severely at-risk" (at risk within 6 months), the generator can still withdraw water for cooling water and other purposes. However, this is a trigger point at which the owner of the resource should evaluate mitigation options. In some cases mitigation is not possible due to customer demand, financial, or operational constraints. In these cases a second trigger point would occur when the water supply reaches the intake level and becomes non-operational.

Generation technology type impacts the amount of water a unit uses in the generation process and for cooling. Simple cycle power generation units generally have a much lower water consumption compared to other technologies. These generation units are included in ERCOT's drought risk analysis because there is some risk of drought-related outage. However, this risk is lower for simple cycle units than for other generating technologies. Depending on the unit configuration and operating characteristics, simple cycle units may continue to operate even once reservoirs or groundwater aquifers reach low water levels.



The map below shows the current reservoir or groundwater storage available in the primary reservoirs from which generating resources in the ERCOT region withdraw water.* Each dot on the map corresponds to a generating site, sized according to the amount of energy (MWh) provided to the grid annually in 2019, and colored according to the amount of storage currently available in the reservoir or aquifer.

Reservoir Storage as of October 1, 2020



*Ocean water sources are assumed to be at 100% of available storage.

Additional information about ERCOT's drought risk analysis methodology and related reports can be found at

<http://www.ercot.com/gridinfo/resource>

Recent methodology enhancements (as of Nov 2019 update)

(1) A weather forecast based on temperature and precipitation outlooks has been added to the drought model. The forecast (provided by the ERCOT Load Forecasting department) covers the upcoming 3 months and is used to adjust the water level drought probability curves in the drought tool. The Dry Conditions forecast was used in the October 2020 update.

(2) The monitoring of water discharge temperatures at coal and nuclear plants has also been added to the drought model to project the risk of thermal generation outages due to high lake temperatures in the 3 to 18 month horizon. Although temperature limits have not caused a shutdown of a generating facility in the ERCOT region, generators filed TCEQ waivers to increase the temperature limits during the 2011-2014 drought.