

ERCOT Transmission Planning Assessments

Assessing near-term transmission system needs

ERCOT recently released two transmission planning reports as part of its responsibility, mandated by the Texas Legislature, to continually study the electric transmission system and identify improvements needed to support future reliability and efficiency. The ERCOT system serves about 75 percent of Texas geographically and about 90 percent of the energy used in the state.

- The [Report on Existing and Potential Constraints and Needs](#), released annually, identifies existing and potential constraints that present reliability concerns or may lead to increased costs for consumers. Transmission constraints lead to congestion, which can prevent the most efficient dispatch of generation. This report includes a summary of the [ERCOT Regional Transmission Plan](#), which focuses on meeting system needs within a six-year planning horizon.
- The [Long-Term System Assessment \(LTSA\)](#), released in December of even-numbered years, evaluates the potential needs of the ERCOT high-voltage (345 kilovolt) system 10-15 years into the future, providing a scenario-based view of long-term needs. The LTSA identifies upgrades that provide benefits across a range of possible future scenarios and provides a longer-term view that can inform and improve the shorter-term Regional Transmission Plan.

Looking at near-term needs and plans

The 2016 Report on Existing and Potential Constraints and Needs provides an assessment of the need for increased transmission for the next six years (2017 through 2022). The Regional Transmission Plan has identified more than 50 projects (including 38 identified in previous studies) that are needed to support system reliability. The Transmission Service Providers in ERCOT, which are responsible for building and maintaining the transmission system, are expected to complete \$5.75 billion in new transmission improvement projects by the end of 2022.

Key areas and projects featured in this report include the following:

Houston: Load growth, combined with retiring generation resources in the area, have contributed to making the path that imports power into Houston from the north the most significant constraint on the ERCOT system for the second year in a row. Congestion rent on these lines topped \$64 million in 2016. The need to increase import capacity to Houston has been identified in Long-Term System Assessments since 2006, and the 345-kV Houston Import Project, endorsed by the ERCOT Board in 2014, is scheduled for completion by summer 2018. Improvements also are underway to address the second most significant constraint, which is associated with a substation south of Houston.

(Continued on back)

Lower Rio Grande Valley: Recent improvements, totaling about \$1.3 billion, helped ERCOT serve record-high demand in summer 2016. The ERCOT Board in 2016 endorsed additional improvements, which are underway, and ERCOT continues to focus closely on this growing area's electricity needs.

Panhandle: New wind generation development continues, and interest in new grid-scale solar and storage facilities has emerged in this region at the outer edge of the ERCOT grid. The Panhandle region already has an export limit in place to help maintain reliable operation. Some ongoing improvements are expected to be in service by 2018. ERCOT is studying a proposal to further increase capacity to export power from the Panhandle.

Denton: Construction-related outages have contributed to high congestion in this area, and ongoing improvements are expected to be completed before summer 2018.

West Texas: Peak demand in the Far West weather zone has grown faster in the past seven years than the system as a whole, due primarily to oil and gas development in that area. While congestion has decreased following completion of a number of recent transmission improvements and a slowdown in drilling activity, a recent ERCOT study indicated the need for continued improvements to support expected growth in the Permian Basin area.

Projected needs: The 2016 Report on Existing and Potential Constraints and Needs also identifies emerging developments and other possible changes that could affect system needs in the planning horizon. These include possible generation resource retirements, particularly those supporting the Dallas-Fort Worth area; system impacts due to solar generation development in far West Texas; potential needs associated with the proposed integration of Lubbock Power and Light and additional load from Rayburn Electric Cooperative; and the proposed addition of new DC Ties to the system.

ERCOT will continue to monitor these and other emerging issues and work with stakeholders to determine their impact in future studies.

Top 15 Congested Constraints

