



2024



# ERCOT MONTHLY

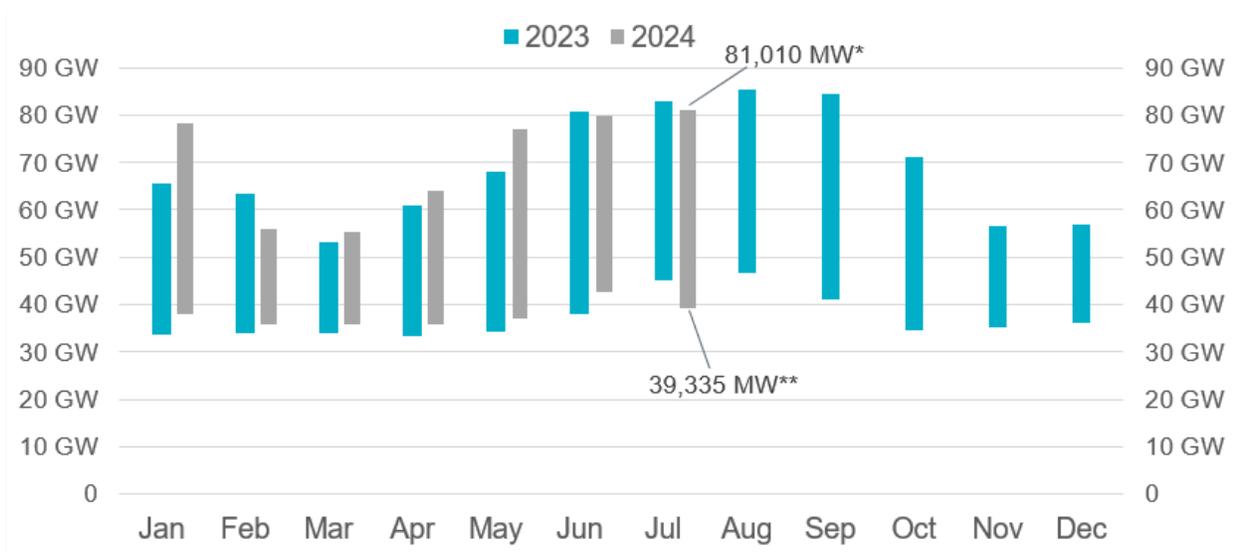
Issued August 2024

# July 2024 Look Back

## GRID OVERVIEW

### July Peak Demand

The July peak demand of 81,010 MW was 1,954 MW lower than the 2023 July peak demand of 82,964 MW, which remains the July record.



\*Based on the maximum net system hourly value from the 2024 July Demand and Energy report.

\*\*Based on the minimum net system 15-minute interval value from the 2024 July Demand and Energy report.

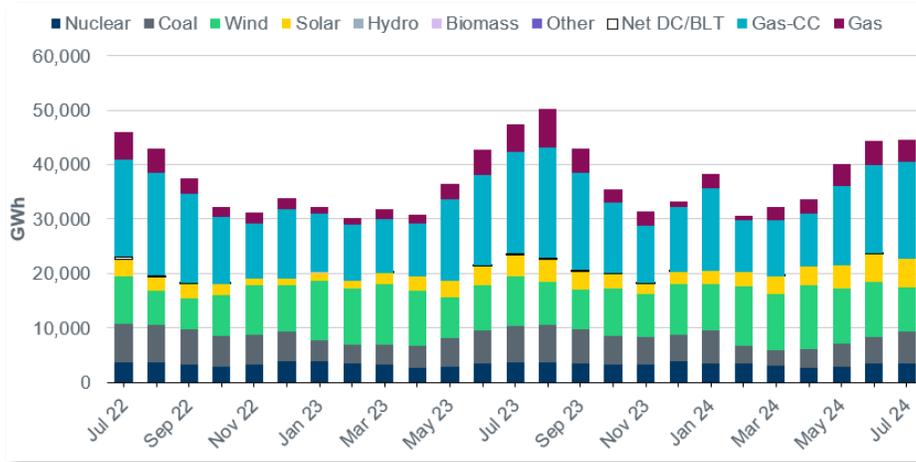
Data for latest two months is based on preliminary settlements.

### Recent July Peaks

- 2023 peak demand: 82,964 in the 4-5 p.m. hour on July 31
- 2022 peak demand: 80,148 in the 4-5 p.m. hour on July 20
- 2021 peak demand: 73,145 MW in the 4-5 p.m. hour on July 26
- 2020 peak demand: 74,344 MW in the 5-6 p.m. hour on July 13
- View ERCOT's [peak demand records](#).

## MONTHLY ENERGY GENERATION MIX

The monthly energy generation increased by 6.1% year-over-year to 44,545 GWh in July 2024, compared to 47,429 GWh in July 2023. The chart below shows the generation type powering the grid each month.



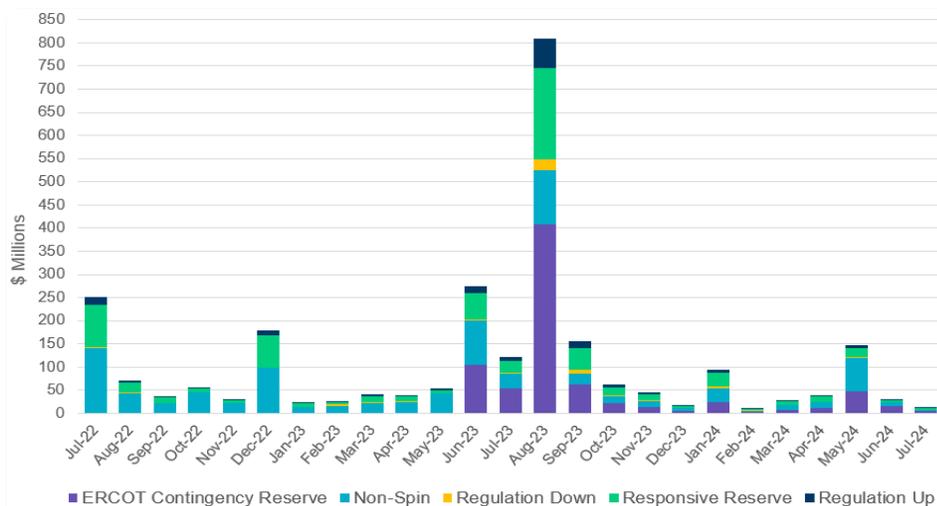
Data for the last two months is based on preliminary settlements.

## Solar and Wind Records

- Four new solar generation records were set in July:
  - 19,489 MW July 2 at 1:55 p.m. Penetration at record time was 24.36%.
  - 19,507 MW July 15 at 1:17 p.m. Penetration at record time was 26.72%.
  - 20,034 MW July 16 at 1:21 p.m. Penetration at record time was 26.61%.
  - 20,484 MW July 31 at 2:31 p.m. penetration at record time was 26.06%.
- A new renewable generation record of 38,846 MW was set at 1:19 p.m. on July 30. Renewable penetration at that time was 51.63%.

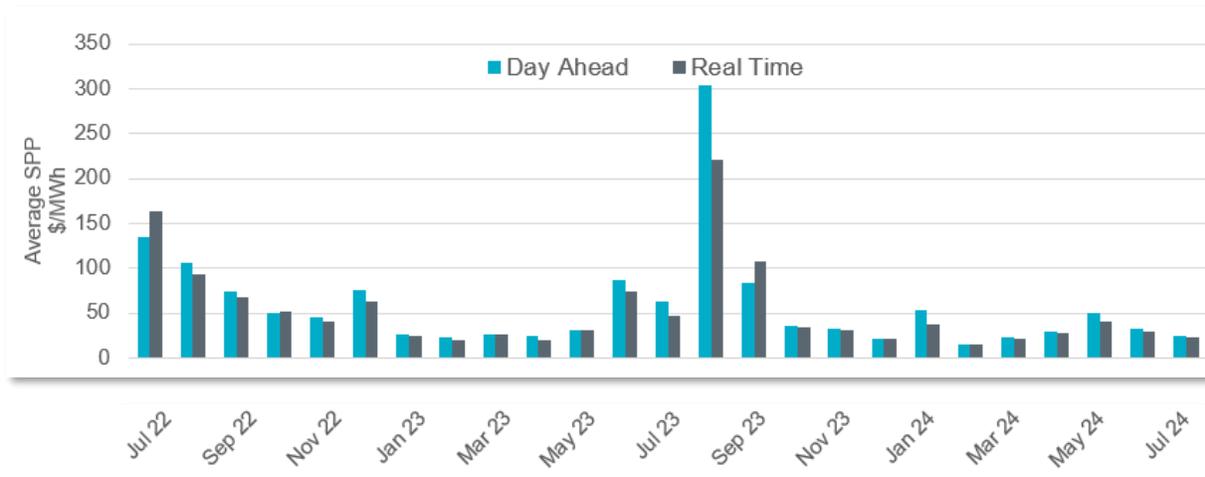
## ANCILLARY SERVICES

ERCOT uses [Ancillary Services \(AS\)](#) to balance the next day's supply and demand of electricity on the grid and mitigate Real-Time operational issues. Real-Time AS deployment is viewable on our [dashboards](#). **ERCOT procured \$13 million in Ancillary Services for grid reliability in July 2024.**



## WHOLESALE PRICES

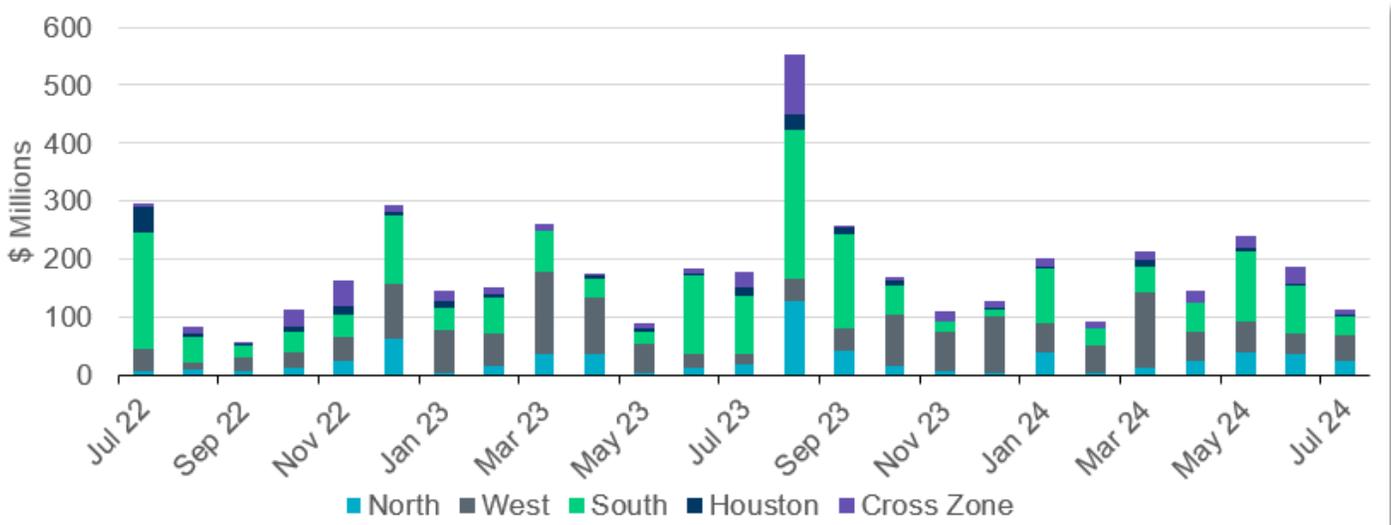
Average energy prices in the Day-Ahead and Real-Time Market for July were generally mild.



\*Averages are weighted by Real-Time Market Load.

## TRANSMISSION CONGESTION COSTS

Total Real-Time congestion rent decreased in July compared to June with the highest congestion rent in the South and West Zones.

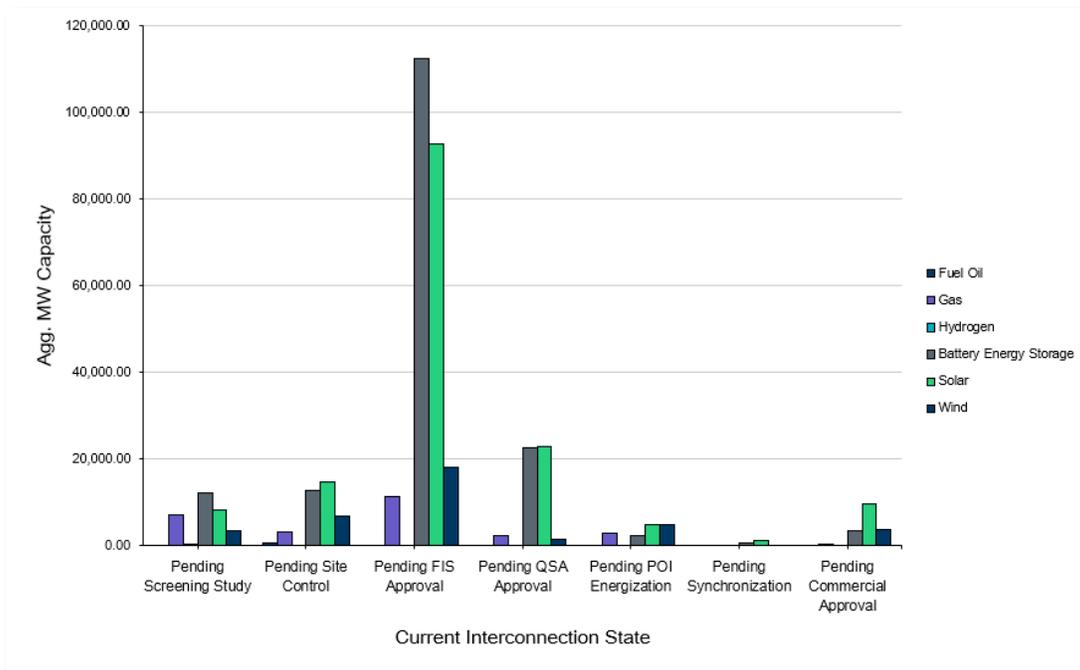


\*Averages are weighted by Real-Time Market Load.

\*\*Security Constrained Economic Dispatch (SCED) is the Real-Time market evaluation of offers to produce a least-cost dispatch of online resources. SCED calculates Locational Marginal Prices (LMPs) using a two-step methodology that applies mitigation to resolve non-competitive constraints. More information is on our [website](#).

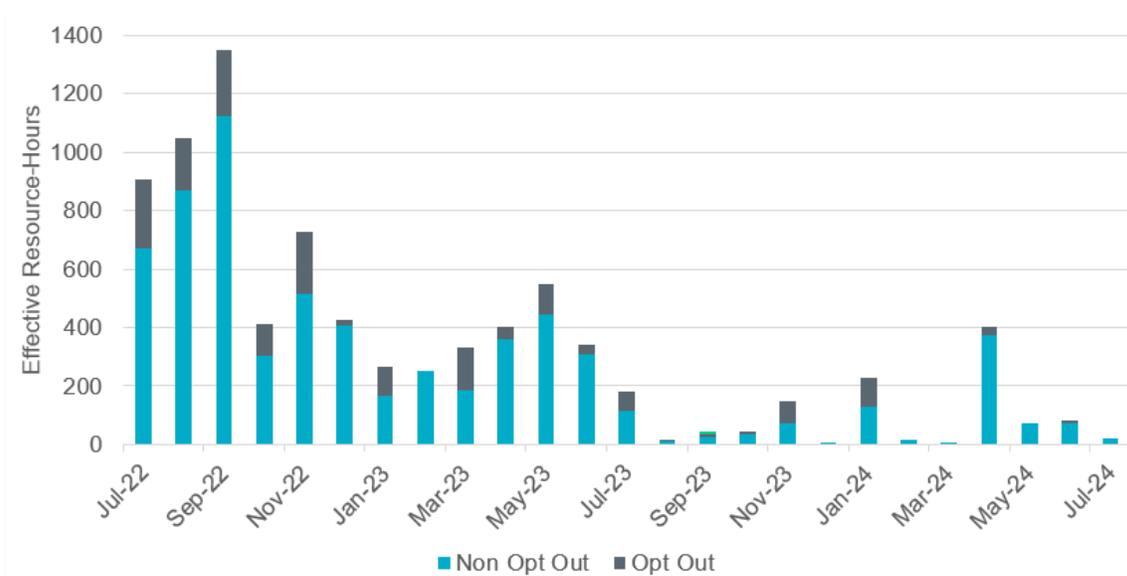
## GENERATION INTERCONNECTION QUEUE BY FUEL TYPE BY STAGE

As of July 31, ERCOT was tracking 1,858 active generation interconnection requests totaling 365 GW. This includes 154 GW of solar, 34 GW of wind, 152 GW of battery, and 22 GW of gas projects. Likely, not all projects will be built, but it shows where market interest lies at this time.



## RELIABILITY UNIT COMMITMENT

Reliability Unit Commitment (RUC) activity for July included three Resources committed due to capacity or congestion.



“Effective Resource-Hours” excludes any period during a Reliability Unit Commitment hour when the RUC-committed Resource was starting up, shutting down, off-line, or otherwise not available for dispatch by SCED.

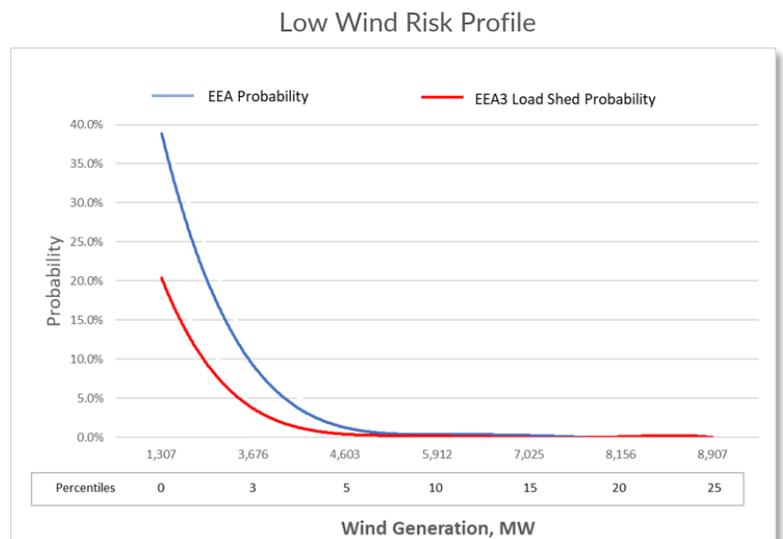
# September Outlook

## September Monthly Outlook for Resource Adequacy (MORA) Scenarios

Under typical grid conditions, probabilistic modeling results indicate a low risk of ERCOT having to declare an Energy Emergency Alert (EEA), with hourly probabilities peaking at less than 1% for Hour Ending 9 p.m. Central Daylight Savings Time (CDT). Reserve shortage risks are the highest during the evening hours — Hour Ending 8 p.m. through 10 p.m. CDT — when daily loads are typically near their highest levels and solar production is ramping down. The model accounts for the risk of coastal wind curtailment needed to avoid overloads on lines that make up the South Texas export interface. (Please note, the MORA probabilistic assessment is not intended to forecast expected grid conditions or predict specific capacity reserve outcomes.) The full September MORA is available in [PDF](#) and [Excel](#) form.

Hour Ending (CDT)	Chance of Normal System Conditions Probability of CAFOR being above 3,000 MW	EMERGENCY LEVEL	
		Chance of an Energy Emergency Alert Probability of CAFOR being less than 2,500 MW	Chance of Ordering Controlled Outages Probability of CAFOR being less than 1,500 MW
1 a.m.	100.00%	0.00%	0.00%
2 a.m.	100.00%	0.00%	0.00%
3 a.m.	100.00%	0.00%	0.00%
4 a.m.	100.00%	0.00%	0.00%
5 a.m.	100.00%	0.00%	0.00%
6 a.m.	100.00%	0.00%	0.00%
7 a.m.	100.00%	0.00%	0.00%
8 a.m.	100.00%	0.00%	0.00%
9 a.m.	100.00%	0.00%	0.00%
10 a.m.	100.00%	0.00%	0.00%
11 a.m.	100.00%	0.00%	0.00%
12 p.m.	100.00%	0.00%	0.00%
1 p.m.	100.00%	0.00%	0.00%
2 p.m.	100.00%	0.00%	0.00%
3 p.m.	100.00%	0.00%	0.00%
4 p.m.	99.99%	0.00%	0.00%
5 p.m.	99.99%	0.00%	0.00%
6 p.m.	100.00%	0.00%	0.00%
7 p.m.	100.00%	0.00%	0.00%
8 p.m.	99.50%	0.02%	0.00%
9 p.m.	96.76%	0.68%	0.27%
10 p.m.	99.40%	0.07%	0.02%
11 p.m.	99.94%	0.00%	0.00%
12 a.m.	100.00%	0.00%	0.00%

Note: Probabilities are not additive.



# Additional Items of Note

## Update on EPA Rule Impacting Power Plant Operations

In April, the Environmental Protection Agency (EPA), under the federal Clean Air Act, finalized new revisions to its Mercury and Air Toxics Standards (MATS) rule. Texas and other states challenged the EPA revisions to the rule; but on June 14, the DC Circuit denied the stay (or pause to the case) requested by those states. The case will now proceed to briefing on the merits. A decision on the merits of the case should be reached before the rule's required compliance date in July 2027.

The EPA believes that the three units in the ERCOT Region that will need to upgrade controls to comply with the new requirements are limited to Oak Grove, Martin Lake, and San Miguel. ERCOT will continue to work with state offices to assist as needed with the litigation.

## Market Reforms Update

### Performance Credit Mechanism (PCM)

On August 21, ERCOT filed Energy and Environmental Economics' (E3) *PCM Design Strawman White Paper* with the Public Utility Commission of Texas (PUCT) to provide a proposed design for the PCM by selecting a "default" option for each of 37 design parameters. This represented the culmination of several months of design and analysis by ERCOT and its consultant, E3, in coordination with staff of the Public Utility Commission of Texas (PUCT). ERCOT and E3 presented an initial PCM design in February 2024 in the *PCM Design Parameters Options Memorandum*, which was modified in the *Strawman White Paper* to address stakeholder feedback.

On August 23, PUCT staff filed a *Final Recommendation on the Design Parameters* agreeing with certain ERCOT's and E3's design proposals and differing on others. The Commission approved staff's [recommendations for the PCM framework](#). Commission staff will now work with ERCOT and the IMM on the cost-benefit analyses to be performed, which is then expected to be completed and presented to the PUCT and the Texas Legislature by the end of 2024.

### Reliability Standard

At the June 13 Open Meeting, the PUCT approved a Proposal for Publication (PFP) proposing new rule 16 Texas Administrative Code § 25.508 to establish a reliability standard for the ERCOT Region. The PFP followed a four-phase Reliability Standard Study performed by ERCOT using Astrape Consulting's Strategic Energy & Risk Valuation Model (SERVM) to assess the future state of the ERCOT bulk power system and provide options for a reliability standard. The PFP recommended a reliability standard with three criteria for measuring future loss of load events on the ERCOT bulk power system (standard does not apply to outages that occur at the distribution voltage level). The criteria in the standard provide limits on how frequently a loss of load event can occur, how long an event can last, and how many MWs of load can be without power for each loss of load event.

After receiving stakeholder comments on the PFP, PUCT staff filed a Proposal for Adoption (PFA) on August 24, making certain modifications to the proposed rule. At the August 29 Open Meeting, the PUCT approved the PFA for a new rule (16 TAC §25.508) that will establish a reliability standard in the ERCOT Region, with magnitude, frequency, and duration. ERCOT staff will now work with Transmission Service Providers to gather information on the amount of load that can be safely rotated to effectuate the magnitude metric.

### **Value of Lost Load (VOLL)**

The PUCT directed ERCOT to survey electricity customers in Texas to determine customers' costs that could result from a power interruption. The survey has been widely used nationally and was created by the U.S. Dept. of Energy's Lawrence Berkeley National Laboratory (LBNL).

On August 22, ERCOT filed The Brattle Group's *VOLL Study Final Report*, which presented the results of the VOLL Study. The VOLL Study consisted of two parts: a literature review of 11 VOLL studies performed in recent years predominantly in North America, followed by a survey of retail customers throughout the ERCOT Region. A survey is considered the most accurate means to determine VOLL; however, no such survey had been conducted in the ERCOT Region to date. To conduct the VOLL survey, Brattle adapted survey instruments designed by LBNL for their Interruption Cost Estimate (ICE) 2.0 survey initiative to be able to incorporate the VOLL survey into LBNL's national ICE Calculator. Brattle presented the results of the VOLL survey in the form of VOLL on a megawatt hour (MWh) of unserved energy basis both by outage duration and by customer class. This resulted in an ERCOT Region-wide VOLL for a one-hour outage of \$35,685 per MWh.

In its filing of the *VOLL Study Final Report*, ERCOT recommended that the PUCT adopt a region-wide VOLL of approximately \$35,000 per MWh to be used for planning purposes, such as consideration of a reliability standard and the cost-benefit analysis of the PCM. At the August 29 Open Meeting, the PUCT voted to approve a VOLL of \$35,000/MWh for planning purposes. The VOLL adopted will not be used for market pricing purposes. The PUCT has an [FAQ page](#) on their website for more information.

### **Legislative Update**

On July 29, the [Senate Special Committee on Hurricane and Tropical Storm Preparedness, Recovery, and Electricity](#) convened in response to Hurricane Beryl. The Committee focused on electric utilities companies' response, communication, and restoration efforts. Committee members also discussed the regulatory framework governing electric utilities in Texas.

On July 31, members of the ERCOT Executive Team testified before the [House Committee on State Affairs](#). ERCOT President and CEO Pablo Vegas provided the Committee with an update on ERCOT's experience with storm preparedness relevant to planning, training, preparation, and execution. ERCOT Sr. Vice President and Chief Operating Officer Woody Rickerson further provided the Committee with a legislative implementation update on various bills passed during the 88<sup>th</sup> Legislative Session, including HB 1500, HB 2555, SB 1699, and SB 2627.

ERCOT continues to implement the various legislative provisions from previous legislative sessions. A full listing of the of legislative provisions currently undergoing the implementation process can be found in the most recent edition of the [ERCOT Legislative Status Report](#).

## Highlights from the August 20 Board of Directors Meeting

- The ERCOT Board voted to approve the Oncor Temple Area Regional Planning Group (RPG) Project, a \$272.6 million, Tier 1 project with an expected in-service date of December 2028. The project will support ERCOT reliability requirements through the construction of new infrastructure along with improvements to transmission lines and configurations. It is intended to address thermal overloads on 18 miles of 138-kV transmission lines, two 345/138-kV transformers, and 31 voltage violations in Bell County in the North Central Weather Zone. The Oncor Temple Area RPG Project will require PUCT approval of a CCN before construction can commence for the new 138-kV lines.
- The ERCOT Board approved seven revisions to the ERCOT Nodal Protocols along with two revisions to the Verifiable Cost Manual and revisions to the Nodal Operating Guide, Planning Guide, and Other Binding Documents. These approvals included [NOGRR245, Inverter-Based Resource \(IBR\) Ride-Through Requirements](#), which would establish new voltage and frequency ride-through requirements for IBRs and wind-powered generation resources consistent with new Institute of Electrical and Electronics Engineers (IEEE) Interconnection and Interoperability Standards. ERCOT has worked extensively with stakeholders since the proposed revisions were originally introduced in January 2023 to balance reliability and implementation concerns. The ERCOT Board has requested that work continue to address the remaining details of the exemption process related to the new standards in NOGRR245 through a Board Priority Revision Request that would be considered at its February 2025 meeting.

These revisions are now pending final approval at the PUCT for consideration at the September 26, 2024, Open Meeting. Information regarding recently approved rules and the revision request process is available on the [Market Rules section](#) of ERCOT.com.

- The ERCOT Board held an educational session on “Thermal Generation Development in ERCOT.” The [presentation](#) was intended to facilitate discussion on incentives for thermal generation development in the context of a broader market design framework. The session focused on the current state of generator development, factors improving the outlook for development, factors impairing the outlook for development, and market design evaluation.
- The ERCOT Board’s Technology and Security Committee received an “Introduction to Grid Enhancing Technologies” overview from Anna Lafoyiannis, Deputy Program Manager & Co-Lead GET SET at Electric Power Research Institute (EPRI). The [presentation](#) continues a series of invited emerging technology speakers at the committee meeting and focused on how advanced technologies can increase the capacity, efficiency, reliability, and safety of existing transmission lines.
- Keith Collins, ERCOT’s Vice President of Commercial Operations, provided a response to the IMM 2023 State of the Market Report for the ERCOT Electricity Markets at the ERCOT Board’s Reliability and Markets Committee. The [presentation](#) provided an overview where alignment exists between ERCOT and the IMM while highlighting recommendations where there are different levels of agreement and further discussion, evaluation, or prioritization are warranted. Specific consideration was provided regarding the IMM’s key concerns with the Real-Time Co-optimization (RTC) project and different impacts to RTC design and implementation timelines. ERCOT will work with stakeholders to continue to evaluate, discuss, and prioritize IMM recommendations as appropriate.

# Upcoming Activities

## BOARD OF DIRECTORS MEETINGS\*

ERCOT [Board of Directors](#) meetings are live streamed on [ercot.com](#), where you can also find links, additional information, agendas, and supporting documents.

October 10

December 3

## RELIABILITY & MARKETS (R&M) COMMITTEE MEETINGS\*

ERCOT [Reliability & Markets \(R&M\)](#) meetings are live streamed on [ercot.com](#), where you can also find links, additional information, agendas, and supporting documents.

October 9

December 2

## TECHNICAL ADVISORY COMMITTEE (TAC) MEETINGS\*

ERCOT [Technical Advisory Committee \(TAC\)](#) meetings are live streamed on [ercot.com](#), where you can also find links, additional information, agendas, and supporting documents.

September 25

October 30

November 20

ERCOT has additional working groups and committees.

\*Meetings dates are subject to change, so please check the meetings [page](#) for the latest information and for more on the various groups, committees, dates, agendas, and meeting materials.