Item 11.1: Update on ERCOT Interim Process for Net Metering Arrangement Study Details (PURA § 39.169)

Pablo Vegas
President and Chief Executive Officer

Woody Rickerson
Senior Vice President and Chief Operations Officer

Chad V. Seely
Senior Vice President, Regulatory Policy, General Counsel, Chief Compliance Officer, and Corporate Secretary

Board of Directors Meeting

September 22-23, 2025

Purpose

- Describes ERCOT's interim process for studying the reliability impacts of net metering arrangements, as required by SB 6.

For Information Only

- No action is requested; for discussion only

Key Takeaways

- SB 6 requires ERCOT to study the reliability impacts of large load additions at existing generation sites and to submit its study and any recommendations to PUC.
- ERCOT will use its existing Large Load study process for transmission security analysis.
- ERCOT will evaluate resource adequacy impacts of co-located load additions but will recommend that PUC require these loads to curtail in advance of other firm loads, consistent with SB 6.

ercot
Your Power. Our Promise.

TAYLOR
2705 West Lake Dr.
Taylor, Texas 76574
T: 512-248-3000
F: 512-225-7079

AUSTIN
8000 Metropolis Dr.
Bldg. E, Suite 100
Austin, Texas 78744
T: 512-225-7000
F: 512-225-7079

ercot.com

September 18, 2025

Public Utility Commission of Texas
Chairman Thomas J. Gleeson
Commissioner Kathleen Jackson
Commissioner Courtney K. Hjaltman
1701 N. Congress Avenue
Austin, TX 78711

Re: PUC Project No. 58479, *Rulemaking for Net Metering Arrangements Involving a Large Load Co-Located with an Existing Generation Resource Under PURA § 39.169* – Presentation Regarding ERCOT Studies of Proposed Net Metering Arrangements

Dear Chairman and Commissioners:

The attached presentation provides additional updated detail regarding the proposed scope of ERCOT's studies of the reliability impacts of net metering arrangements that will be performed while the rule addressing these studies is being developed. Consistent with the study scope described in Commission Staff's recommended proposal for publication of 16 TAC § 25.205 in Project No. 58479, ERCOT's studies will evaluate impacts of such arrangements on transmission security, resource adequacy, and the stranding or underutilization of existing transmission facilities.

ERCOT representatives will be available at today's open meeting to discuss this presentation.

Respectfully,

/s/ Chad V. Seely
Chad V. Seely
SVP Regulatory Policy, General Counsel, and
Chief Compliance Officer
chad.seely@ercot.com

ERCOT Net Metering Arrangement Study Details – Interim Process for PURA § 39.169

Chad V. Seely
Senior Vice President, Regulatory Policy, General Counsel, and Chief Compliance Officer

Dan Woodfin
Vice President, System Operations

Nathan Bigbee
Chief Regulatory Counsel

PUC Open Meeting

September 18, 2025

Background – ERCOT Review of Net Metering Arrangements

Senate Bill (SB) 6 created new PURA § 39.169 to provide for coordinated ERCOT and PUC review of net metering arrangements involving Large Load customers and existing generation.

- Requires a power generation company, municipally owned utility, or electric cooperative to submit a notice to ERCOT "before implementing a net metering arrangement between an operating facility registered with ERCOT as **a stand-alone generation resource as of September 1, 2025**, **and a new large load customer**." (§ 39.169(a))
- Requires ERCOT to "**study the system impacts** of a proposed net metering arrangement and removal of generation" and to "submit the results to the commission **with any associated recommendation**." (§ 39.169(d))
- Requires that the PUC "**approve, deny, or impose reasonable conditions** on the proposed net metering arrangement as necessary to maintain system reliability, **including transmission security and resource adequacy impacts**." (§ 39.169(d))
- Requires a mandatory condition for dispatchable capacity – "**must require** a generation resource that makes **dispatchable capacity available** to the ERCOT power region **before implementation** of a net metering arrangement under this section **to make at least that amount of dispatchable capacity available** to the ERCOT power region **after the implementation** of the arrangement at the direction of the independent organization **in advance of an anticipated emergency condition**." (§ 39.169(d))
- Conditions **may** include: (§ 39.169(d))
  1. requiring **customer to curtail** during certain events,
  2. requiring the generation resource **to make capacity available** during certain events, or
  3. requiring customers to be "**held harmless for stranded or underutilized transmission assets**."

Transmission Security Analysis

- The **current** Large Load Interconnection process requires transmission studies be completed by the interconnecting Transmission Service Provider (TSP).
  - ERCOT collaborates with the TSP to develop the study scope.
  - ERCOT reviews the TSP studies.
- If the TSP studies do not address all scenarios/conditions because of significant system changes (e.g., topology, load, and generation updates), ERCOT **may** request additional information and perform one or more of the following to address any reliability gaps:
  - Steady-state analysis under peak and/or off-peak load conditions if ERCOT determines that there are significant system changes in the study area from the conditions studied in the Large Load Interconnection study
  - Stability analysis under peak and/or off-peak load conditions if ERCOT determines such analysis is necessary
  - Steady-state analysis under no solar conditions to identify potential impacts resulting from the net metering arrangement
  - ERCOT will select the study case based on the expected net metering arrangement timeline subject to case availability.
  - The study will be based on current NERC Reliability Standards and ERCOT Planning criteria.

Key Takeaway: Under the current process, ERCOT reviews the Large Load Interconnection study performed by the TSP to determine whether ERCOT needs additional information and analysis based upon significant system changes.

Resource Adequacy – What analysis will ERCOT conduct?

- Analysis consists of **a before-and-after capacity reserve margin evaluation** using the latest Capacity, Demand and Reserves (CDR) Report.
  - Start with the most current public CDR as the base line.
  - Based on the Large Load's load shape and commissioning plan provided, add to the CDR's existing hourly load forecasts the incremental load impact from the net metering arrangement (assumes no curtailment of load at peak).
    - Reserve margin impacts over the next five years will be reported for both the forecasted Peak Load hour and Peak Net Load hour in line with the CDR reserve margin reporting requirements.
  - Calculate the margin changes.
  - Chart the incremental reserve margin changes by year, season, and hour.

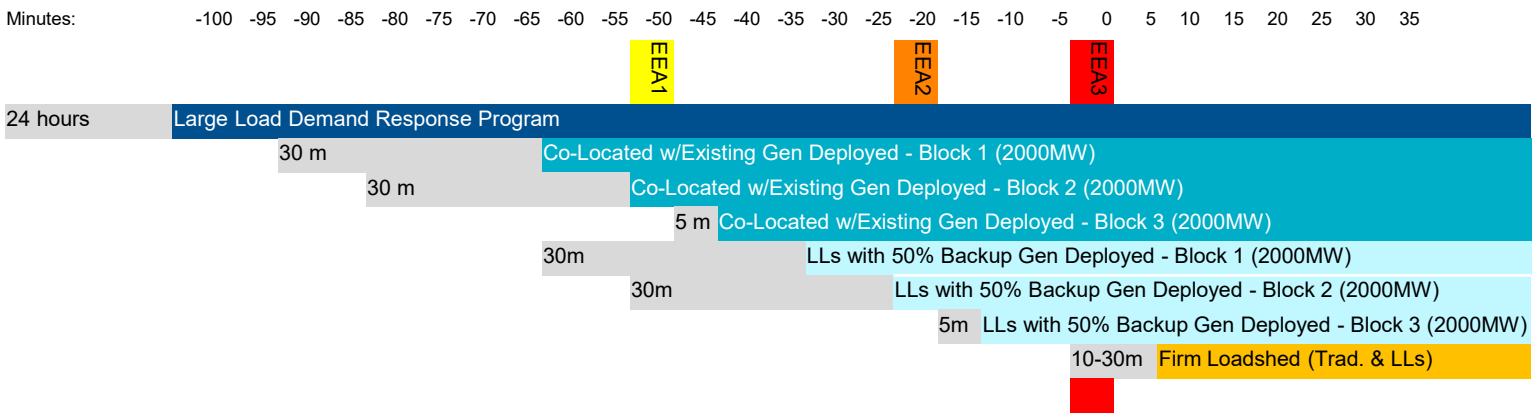
Key Takeaway: This analysis will provide a high-level snapshot of the impact of the Large Load addition on reserve margins under both peak load and peak scarcity conditions.

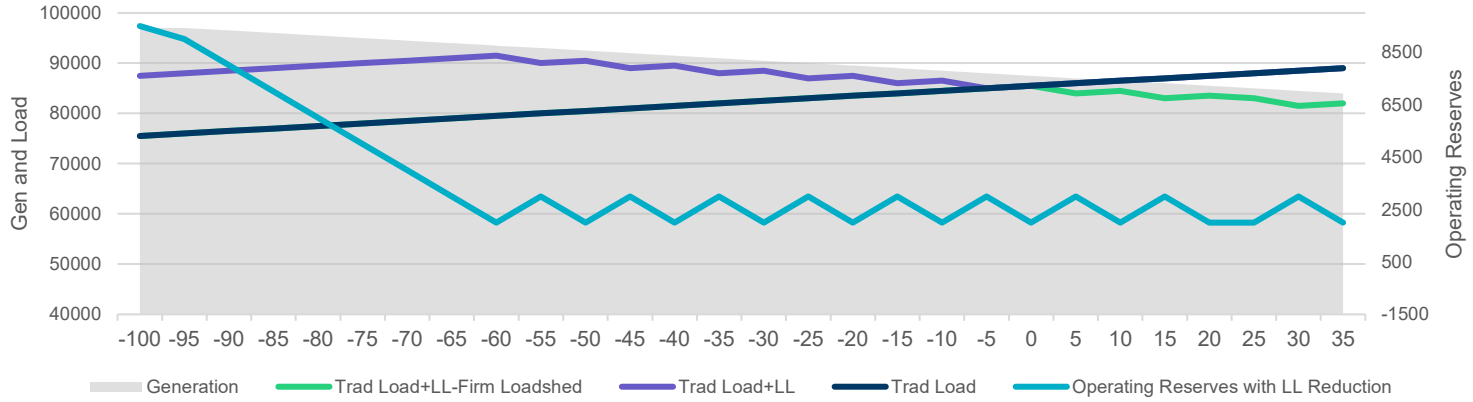
Resource Adequacy – How will ERCOT address "an anticipated emergency condition"?

- All Large Loads seeking a net metering arrangement with existing generation may be required to curtail when needed to address "an anticipated emergency condition."
- New information requirement for Large Loads in a net metering arrangement:
  - **Load curtailment duration (the amount of time between ERCOT instruction and when the Large Load is fully curtailed)**
  - **Load shape information (hourly load profile)**
- All other required data is already obtained through existing registration and Large Load Interconnection processes.
- Load curtailment duration will determine when the Large Load would be curtailed as part of ERCOT's operational procedures.
  - Slow-responding capability (e.g., 60 minutes, 30 minutes) would need to be deployed before an Energy Emergency Alert (EEA) and would likely be deployed more often
  - Fast-responding capability (e.g., 5 minutes) can be deployed inside of an EEA

Key Takeaway: Load curtailment duration will determine whether a Large Load in a net metering arrangement with existing generation will be curtailed in anticipation of an EEA or during an EEA.

ERCOT Control Room – Large Load Curtailment Example (SB6)





- "Traditional" load growing and generation declining, resulting in reserves dropping to a level that would result in load shed at t=0
  - Additional 12 GW of Large Load (6000 MW of LLs in the ">50% backup generation" and 6000 MW in the "co-located with existing generation" categories)
- LLs blocks are created to avoid a frequency disturbance. This example assumes:
  - 2000 MW per block and 10 mins between each block for frequency recovery
  - The lead time between ERCOT instruction and when the LLs are reduced for each block is illustrated by the gray bars, and the blocks with the shorter lead times will be deployed later
- LL reductions would maintain the operating reserves (turquoise line) above the level for which firm load shed is required until t=0
  - At t=0, all LLs in these categories would have been reduced and EEA3 (firm load shed) would be required if needed
- EEA3 is defined, but EEA1 and EEA2 may be defined by the actions that need to take place; the definition of when EEA1 and EEA2 are declared does not affect the timing of the load shed

Key Takeaway: With more Large Loads (75 MW and greater) connecting to the ERCOT Region, ERCOT Operations will adjust its deployment tools to account for SB 6 requirements that incorporate various load curtailment capabilities to mitigate risk of EEA3.

Resource Adequacy – How will ERCOT know "available" capacity of the generation and capability of the Large Load?

- Potential for curtailment instruction creates need for greater visibility of MW curtailment capability both in real-time and in near future.

- Protocols already require Generation Resource to communicate maximum possible output—High Sustained Limit (HSL)—through real-time telemetry and Current Operating Plan (COP). (Protocols §§ 3.9.1(5)(c), 6.5.5.2(2))

- For net metering arrangements, telemetered status for gross load will be needed to give ERCOT operators full visibility of Large Load's availability to curtail.

Key Takeaway: Telemetry of gross load will give ERCOT visibility to ensure that the Generation Resource makes the capacity available to SCED during emergency conditions.

Analysis of Stranded/Underutilized Transmission

- ERCOT proposes that its analysis:
  - Will use the same peak-load study case that was used for transmission security analysis based on the expected net metering arrangement timeline.
  - Will report before and after loading of relevant transmission equipment during peak conditions.
  - Will identify any equipment no longer utilized as a result of the net metering arrangement.

- Proposal for Publication includes language addressing this analysis.

Key Takeaway: ERCOT will use the transmission security study case to identify any stranded or underutilized equipment that results from the net metering arrangement.

No Changes to Compliance with Generation Resource Requirements

Generation Resources in net metering arrangements with Large Loads will still be required to comply with all previously applicable Protocol requirements, including requirements to:

- Submit outages into the ERCOT Outage Scheduler (Protocols § 3.1.6)
- Submit a Current Operating Plan (COP) for the Generation Resource (Protocols § 3.9)
- Provide telemetry for the Generation Resource (Protocols § 3.10.7.5)
- Provide reactive support at the Point of Interconnection (Protocols § 3.15)
- Provide system one-lines as required by ERCOT modeling (Protocols § 3.10.6)

Key Takeaway: Generation Resources entering into net metering arrangements will continue to have the same compliance requirements.