Questions and Answers About the Large Load Interconnection Process

This document describes in question-and-answer format the process for interconnecting a large load to the ERCOT transmission system (Large Load Interconnection Process), from initiating an interconnection request through to energization and ongoing operations. It also explains some of the reasons that an entity seeking to interconnect to the ERCOT transmission system may be delayed or otherwise unable to energize its full load on its requested energization date.

Unless otherwise noted, capitalized terms have the meaning defined in the ERCOT Protocols or Planning Guide.

This question-and-answer document is provided solely for informational purposes. In the event of any conflict with the ERCOT Protocols or Planning Guide, those authorities would govern over this document.

Overview
Q: What is the purpose of the Large Load Interconnection Process?
A: The Large Load Interconnection Process facilitates the reliable and orderly interconnection of large loads—i.e., customers with a peak demand of 75 MW or more at a single site. Each request to interconnect a large load is studied to identify potential system limitations using North American Electric Reliability Corporation (NERC) Reliability Standards, ERCOT Protocols, ERCOT Planning and Operating Guides, Transmission Service Provider (TSP) criteria, and other appropriate standards. It also determines what transmission facilities or operational limits are needed to avoid potential violations of operating standards.
Q: How has the Large Load Interconnection Process in ERCOT evolved over time?
A: In March 2022, ERCOT issued Market Notice W-A032522-01, Interim Large Load Interconnection Process, informing Market Participants that it was implementing an interim interconnection process for large load customers requesting to interconnect within two years or less. Prior to this, each Transmission Service Provider (TSP) conducted a decentralized interconnection process for any large loads proposing to connect in its area.

The interim process was needed to centrally address an increase in requests to interconnect large loads on accelerated timelines. The interim process has applied to both stand-alone large load customers and those co-locating with existing or planned generation.

In 2024, ERCOT worked closely with stakeholders to formalize the Large Load Interconnection Process through Planning Guide Revision Request 115 (PGRR115), which created new Section 9 of the Planning Guide. The Planning Guide revisions, along with several related changes to the ERCOT Protocols, were approved by the Public Utility Commission of Texas (Texas PUC) in May 2025.

On November 25, 2025, ERCOT issued Market Notice M-A052125-02, Partial Implementation Details of NPRR1234/PGRR115, Interconnection Requirements for Large Loads and Modeling Standards for Loads 25 MW or Greater, informing all Market Participants that the requirements in PGRR115 would be effective on December 15, 2025. This question-and-answer document outlines how the interim process has worked and how implementation of Section 9 and other revisions in PGRR115 will change the process going forward. Upon implementation of PGRR115, large loads that have already begun the Large Load Interconnection Process will, in general, be required to comply with the remaining steps in the PGRR115 process but will not generally be required to complete any new PGRR115 requirements that would apply to an earlier stage of the interconnection process.

During the 2025 legislative session, the Texas Legislature passed Texas Senate Bill 6, which includes a series of directives for the Texas PUC and ERCOT relating to large loads. Several of these directives will have an impact on the Large Load Interconnection Process. For example, the Texas PUC is required to establish interconnection standards for large load customers. The Texas PUC has initiated several rulemaking projects to implement Texas Senate Bill 6. An overview of those rulemaking efforts can be found here.

Texas Senate Bill 6 also requires an operator of any existing generation resource that enters into a net metering arrangement with a new large load customer to request an ERCOT review of the arrangements and obtain approval from the Texas PUC (Net Metering Review). For more information about the Net Metering Review, please see Market Notice M-B090225-01,

List of Stand-Alone Generation Resources Subject to PURA Section 39.169
Net Metering Review and Notice Form for Initiating ERCOT Impact Study.

Q: Where can I find the Large Load Interconnection Process rules and other relevant information?

A: The rules for the Large Load Interconnection Process can primarily be found in Section 9 of the Planning Guide. However, some requirements are in other sections of the Planning Guide. From time to time, ERCOT provides clarifications or notifications relevant to large load through Market Notices. ERCOT also has a stakeholder working group dedicated to collaboratively addressing large load issues, the Large Load Working Group (LLWG), and a Large Load Integration webpage with forms and other useful information.

Q: How does ERCOT define a large load?

A: The ERCOT Protocols define a "Large Load" as one or more facilities at a single site with an aggregate peak demand greater than or equal to 75 MW behind one or more common points of interconnection or service delivery points.

Q: How does a large load customer know if it is subject to the Large Load Interconnection Process?

A: The interim process has applied to: (1) new large loads not co-located with a Generation Resource with total demand within the next two years of 75 MW or greater; (2) existing loads not co-located with a Generation Resource increasing total demand by 75 MW or greater within the next two years; (3) new loads co-located with a Generation Resource with total demand within the next two years of 20 MW or greater; and (4) existing loads co-located with a Generation Resource increasing total demand by 20 MW or greater within the next two years.

PGRR115 Policy: New Planning Guide Section 9.2.1 addresses the applicability of the Large Load Interconnection Process. It eliminates the exemption for large loads interconnecting beyond the next two years, does not distinguish between loads that are co-located and not co-located with Generation Resources or Energy Storage Resources, and does not apply to loads under 75 MW.

Specifically, Section 9.2.1 states that the Large Load Interconnection Process applies to (1) a new Large Load; (2) modification of any existing load facility that increases the aggregate peak demand of the facility by 75 MW or more; or (3) modification of an existing large load that changes or adds a point of interconnection or service delivery point to a different electrical bus on a different electrical circuit.

Q: What does it mean for a large load customer to net with an existing or new Generation Resource or Energy Storage Resource?

A: A net metering arrangement involves a load and Generation Resource or Energy Storage Resource interconnecting at the same point and "netting" the load's power consumption against the Resource's power production for financial settlement purposes, in accordance with Protocols Section 10.3.2.3.

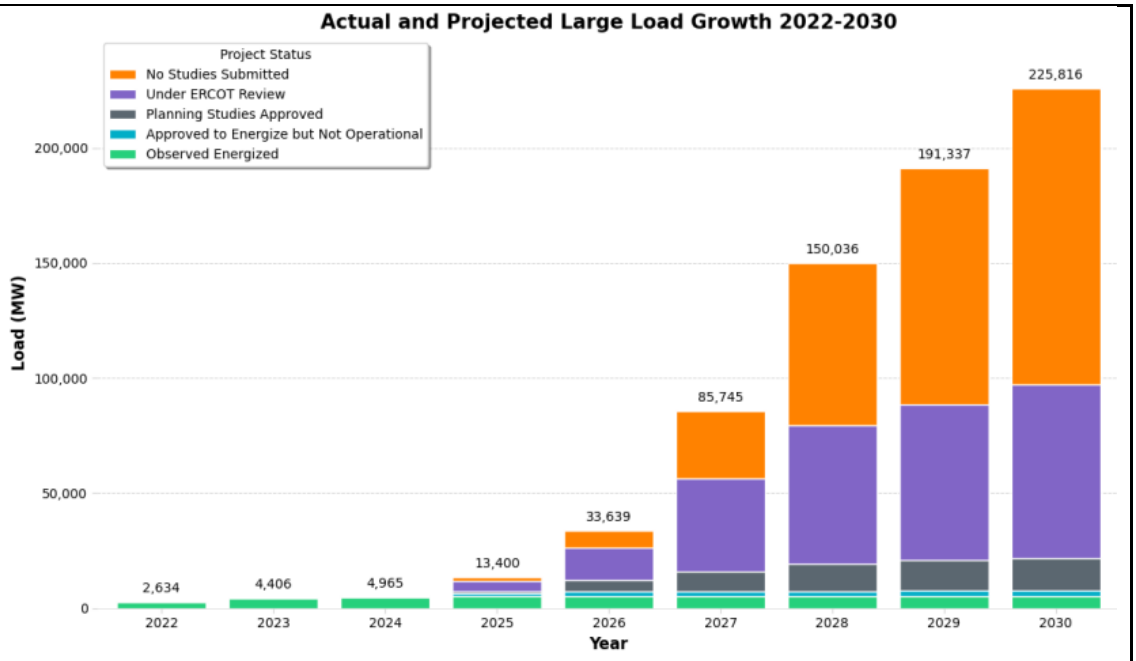
Q: Are there different rules if a large load customer intends to net with an existing or planned generator?

A: Yes. A new large load that would participate in a net metering arrangement with a <u>new</u> Generation Resource or Energy Storage Resource must be evaluated through the Large Load Interconnection Process, while the associated Generation Resource or Energy Storage Resource must go through the Generator Interconnection or Modification Process.

If the net metering arrangement involves an <u>existing</u> "stand-alone" Generation Resource or Energy Storage Resource (i.e., one that was modeled in ERCOT's systems as of September 1, 2025), the interconnecting large load customer must follow the Large Load Interconnection Process, and the existing Generation Resource or Energy Storage Resource and the interconnecting large load customer must also obtain approval through the Net Metering Review process described above before the load can be energized.

Q: Can you explain the different project status categories in ERCOT's "Actual and Projected Large Load Growth" chart?

A: ERCOT publishes a chart each month showing the growth in large load over time. The following example is the most recent version published on November 18, 2025:



The chart groups projects into five categories according to project status. The categories are explained as follows:

No Studies Submitted: This group includes all large load projects for which no Large Load Interconnection Study (LLIS) has been submitted to ERCOT by the TSP responsible for studying the project (see "TSP Reliability Studies" section below). Developers of large load projects that have just recently requested a LLIS or for which a LLIS is currently underway will be in this category. This category includes the majority of large loads that are currently in the interconnection process.

Under ERCOT Review: This category corresponds to those large load projects for which an LLIS has been submitted to ERCOT by the TSP responsible for studying the project. ERCOT must review each LLIS study submitted by a TSP. This process may take a few days to many weeks, depending on the complexity of the studies and the need to obtain additional information from the TSP that conducted the study. ERCOT must often wait for TSPs to respond to questions during this period regarding the TSP's study methods and assumptions and the characteristics of the load. Just because the project is pending under ERCOT review does not mean that the length of the ERCOT review period is entirely attributable to ERCOT's actions. The quantity of large loads in the "Under ERCOT Review" category is second only to the loads in the "No Studies Submitted" category.

Planning Studies Approved: Once all concerns raised during ERCOT's review of the LLIS have been resolved to ERCOT's satisfaction, ERCOT will approve the studies and communicate the results of the study to the TSP responsible for interconnecting the customer. This approval gives the customer material information it needs to decide whether to sign an interconnection agreement and proceed with the development of project.

Approved to Energize But Not Operational: When the developer of a large load project has completed construction of the project, it may seek approval from ERCOT to energize the project. If ERCOT determines that the load has completed all steps required to energize, it may grant the request. The conditions for energization are addressed in the section titled "Approval to Energize," below. This is the smallest share (currently < 1%) of loads in the chart because loads that have received approval to energize typically do not delay energization for extended periods.

Observed Energized: This category includes all large loads tracked by ERCOT since 2022 that have received approval by ERCOT to energize and that have been observed to be energized at some point. As of November 18, 2025, ERCOT had identified 5,302 MW of large loads in this category, which constitutes approximately 2% of the total load in ERCOT's large load interconnection process.

Initiation of the Interconnection Process

Q: How does a customer who wants to interconnect a large load initiate the Large Load Interconnection Process?

A: Under the interim process, a customer interconnecting a large load would submit an interconnection request to the appropriate TSP. Each TSP has its own process for interconnecting large load customers, but the customer could expect the TSP to request detailed information about the planned large load, including the customer's requested peak demand and requested energization date/in-service date, and collect a fee for processing the request. After the TSP was satisfied that it had the information it required, it would notify ERCOT of the interconnection request. ERCOT would then assign the large load customer a unique Large Load Interconnection identifier (LLI-#) and a kickoff meeting would be scheduled.

PGRR115 Policy (December 15, 2025 Implementation): Planning Guide Section 9.2.2 generally maintains the interim process but provides greater detail about the information that an interconnecting large load customer must provide to the TSP, including providing a preliminary Load Commissioning Plan. A Load Commissioning Plan specifies the load increments and timeline by which the interconnecting large load customer intends to reach peak Demand. Section 9.2.2 also requires the interconnecting large load customer, or the TSP on its behalf, to pay ERCOT an application fee separate from any fees that the TSP collects. The requirement to pay this fee is expected to be implemented next year.

Q: What happens if the interconnecting large load customer makes a material change to its project?

A: Under the interim process, the TSP was required to notify ERCOT of a material change in the project information provided by the customer, which could trigger the need for a full or partial re-study.

PGRR115 Policy: Planning Guide Section 9.2.3 continues to require the TSP to notify ERCOT of any material changes in the project information. Material changes may necessitate full or partial re-studies. Such changes would include, but are not limited to, the following:

- Changing the type of load (e.g., data center to hydrogen electrolyzer) or the mix of motor and power electronic load from what was studied.
- Changing the interconnection timeline significantly (especially if the customer is proposing to energize the load faster than what was studied).
- Proposing to change the Service Delivery Point or Point of Interconnection.
- Changing control systems that might materially impact the dynamic response of the site.

TSP Reliability Studies

Q: What is the purpose of the kickoff meeting?

A: Under the interim process, the purpose of the kickoff meeting was to allow the TSP, ERCOT, and any affected TSPs to identify the required reliability

studies, define the study area, and identify the appropriate cases to use. ERCOT would provide the TSP conducting the study a list of other interconnecting large load customer loads that were required to be included in the reliability studies ("must-study" loads) and a list of any "may-study" loads that are expected to become must-study loads.

PGRR115 Policy: Planning Guide Section 9.3.2 continues to require the kickoff meeting. It assigns the TSP responsibility for preparing, with input from ERCOT and other affected TSPs, the preliminary scope of work and, after opportunities for comments, a final study scope. The study scope identifies the necessary reliability studies (collectively referred to as the Large Load Interconnection Study, or LLIS), base cases, study assumptions, and scenarios used in the studies. ERCOT will continue to provide a list of must-study and may-study loads. The distinction between must-study and may-study loads and the criteria for each are discussed in greater detail below. The final study scope is subject to ERCOT approval.

Q: May the large load customer participate in the kickoff meeting?

A: The large load customer is invited to the meeting but is not required to attend. In the event the customer elects to attend, all individuals associated with the customer will be asked to leave during discussion of any confidential information or ERCOT Critical Energy Infrastructure Information.

Q: What types of reliability studies are required?

A: Under the interim process, the required reliability studies were performed by the TSP, with ERCOT giving input on the study scope and reviewing the study results. Required studies included (1) a steady-state analysis and (2) dynamic and transient stability studies under both normal and contingency conditions. In addition, a Subsynchronous Oscillation study (SSO study) was sometimes required. An interconnecting large load project could proceed through the interconnection process while the SSO study was in progress, but the study had to be completed before the TSP could request approval to energize the large load customer.

PGRR115 Policy: Planning Guide Section 9.3.1 continues to require a set of reliability studies performed by the TSP. These include the same studies required under the interim process, with the addition of a system protection (short-circuit) analysis. Each type of study is defined in Section 9.3. If the

large load customer is co-locating with a Generation Resource or Energy Storage Resource, then an updated Reactive study also will be required.

As was true under the interim process, if the large load customer is participating in a net metering arrangement with an existing Generator Resource or Energy Storage Resource, then it must undergo a Net Metering Review under Texas Senate Bill 6 and obtain the Texas PUC's approval.

Q: What happens after the studies are completed?

A: The TSP sends the studies to ERCOT for review and comment. After ERCOT receives the final reports, it confirms the amount of load that can be served reliably by the large load customer's requested energization date. If the studies show that transmission upgrades are necessary for the full requested load to reliably interconnect, the TSP and interconnecting large load customer update the Load Commissioning Plan based on the date those upgrades are expected to be energized.

PGRR115 Policy: Planning Guide Section 9.4 sets out a study review process that incorporates time limits that may result in an interconnecting large load customer's project being removed from the interconnection process if the customer does not meet required milestones.

The lead TSP submits a preliminary study report for each study or a combined preliminary report to ERCOT and other directly affected TSPs. ERCOT has ten Business Days to review the preliminary study report and provide any questions, comments, or proposed revisions to the lead TSP. ERCOT may extend this review period an additional 20 Business Days by notifying the lead and directly affected TSPs in writing. Directly affected TSPs also may provide questions, comments, and proposed revisions.

The TSP then prepares a final study report that incorporates ERCOT's and the directly affected TSPs' feedback. ERCOT has ten Business Days after receiving the final study report to (1) determine whether system upgrades recommended to support the full requested load amount specified in the initial Load Commission Plan are sufficient; (2) grant conditional approval to interconnect in accordance with the schedule in the final Load Commissioning Plan; and (3) communicate the completed studies and resulting Load Commissioning Plan to the TSP and directly affected TSPs.

Q: Does ERCOT's approval of the final studies guarantee the large load customer approval to energize?
A: No, there are additional steps described below that must be completed before a large load customer is authorized to energize.
Q: Is it possible that the studies would need to be redone?
A: Yes, sometimes re-studies are necessary. A common reason re-studies are needed is that another large load customer in the same area becomes a "must-study" load while the interconnecting large load customer's studies are being conducted or under review. While ERCOT and TSPs take steps to minimize the need for re-studies, they are often unavoidable due to the large number of large load projects currently requesting interconnection. Due to the large size of these proposed loads (many requests are 1 GW or more), the inclusion or omission of even a single large load from another load's study can significantly change study outcomes. This must be accounted for to ensure a large load customer can reliably interconnect. This situation is likely to occur in areas where several large load customers are seeking to interconnect.
Q: How does a load become a "must-study" load?
A: Under the interim large-load interconnection process, a stand-alone large load became a "must-study" load for purposes of studies of other nearby large loads once ERCOT approved that load's steady state studies and the customer had executed an interconnection agreement with the TSP. For a large load that would be co-located with a Generation Resource or Energy Storage Resource, the load became a "must-study" load when ERCOT approved the load's steady state studies and the Standard Generator Interconnection Agreement (SGIA) for the co-located Generation Resource or Energy Storage Resource had been modified to reflect the service of the load or else the customer had executed an interconnection agreement or other equivalent agreement reflecting a commitment to take service from the TDSP with the retail service obligation. **PGRR115 Policy:** Under the new PGRR 115 process, these criteria are more robust. Specifically, under Section 9.3.4.1 of the ERCOT Planning Guide, to be a "must-study" load, a large load must have a completed LLIS—not just the steady state study—and must have met the requirements in

Section 9.5 (see "Approval to Energize," below), which generally include executing all required agreements, giving notice to proceed with construction of all required interconnection facilities, and paying all required financial security.

Section 9.3.4.1 also provides that the lead TSP for a LLIS "may include" in the studies other "Substantiated Load." Substantiated Load is defined in ERCOT Protocols to include loads that have been substantiated by evidence such as an interconnection agreement, an independent third-party load forecast, or a letter from a TSP officer attesting to that load.

Execution of Agreements and Network Operations Model Additions

Q: What happens after the Large Load Interconnection Studies are final and approved by ERCOT?

A: Under the interim process, the interconnecting large load customer and TSP would execute the necessary binding agreements, such as an interconnection agreement.

PGRR115 Policy: As noted above, Planning Guide Section 9.5 sets out the steps that must be completed prior to ERCOT allowing initial energization. (The requirements are described in the following "Approval to Energize" section of this document.) Planning Guide Section 9.4(9) requires that the interconnecting large load customer meet the relevant requirements in section 9.5 within 180 days. If the interconnecting large load customer has not met the requirements within 180 days, then ERCOT may notify the TSP that the project is subject to cancellation. If the TSP does not provide a project status update within 30 days, ERCOT may consider the project canceled.

Under both the interim and new process, if the large load customer is participating in a net metering arrangement, the TSP must submit an ERCOT Polled-Settlement (EPS) Meter design that included the large load customer, and the Resource Entity will execute a new or amended Standard Generation Interconnection Agreement that reflects the addition of the large load customer. Additional agreements may be necessary in some cases.

Q: Why does a large load customer's load need to be added to ERCOT's Network Operations Model?

A: ERCOT's Network Operations Model is the tool that ERCOT operators use to monitor the reliability of the grid, and it is critical that all grid equipment, including large loads and their associated transmission facilities, are accurately represented in the model.

Q: When is the large load customer's load added to Network Operations Model?

A: Under the interim process, a TSP could request that a large load be added to the Network Operations Model after it had completed the LLIS and executed an interconnection agreement.

PGRR115 Policy: Under Planning Guide Section 6.6, a large load may be included in the Network Operations Model when ERCOT has communicated the completion of the LLIS and the TSP has provided the appropriate confirmation concerning an interconnection agreement in accordance with Section 9.5 (see "Approval to Energize," below).

Q: When does the TSP start construction of any transmission upgrades identified in the studies that are needed to interconnect the large load?

A: In general, the TSP will begin construction of the transmission facilities needed to interconnect the load after the necessary agreements are executed and the TSP receives necessary security and a notice to proceed with construction from the customer.

Approval to Energize

Q: What are the conditions for a large load customer to receive approval to energize?

A: In the interim process, the TSP and large load customer had to complete the following evaluations or studies prior to the TSP requesting approval to energize the large load customer:

- All Large Load Interconnection Studies

- Interim Ride-Through Evaluation, as described in ERCOT's June 23, 2025 Market Notice addressing voltage ride-through risks

- SSO study (if applicable, must be completed and any required mitigation must be in place)

- Texas Senate Bill 6 Net Metering Review completed (if required)

PGRR115 Policy: Planning Guide Sections 9.5 and 9.6 set out the requirements that must be met before ERCOT allows initial energization. In Section 9.5, there are two sets of requirements, one applicable to stand-alone large load customers and another applicable to large load customers co-locating with a Generation Resource Facility. In general, the TSP must confirm the following: all necessary agreements have been executed, the TSP has received a notice to proceed with construction of all required interconnection facilities and the financial security or payments to fund those facilities, and the interconnecting large load customer has confirmed it understands its obligation to update information and maintain consumption at the level specified in the Load Commissioning Plan.

Planning Guide Section 9.6 authorizes ERCOT to establish additional conditions that the interconnecting large load must meet before initial energization. The conditions outlined in Section 9.6(1) are: (1) inclusion of the large load in the Network Operations Model in accordance with Section 6.6, Modeling of Large Loads; (2) verification that all required telemetry is operational and accurate; (3) completion of the requirements of Planning Guide Section 5.3.5, ERCOT Quarterly Stability Assessment; (4) if required, completion and approval of all SSO studies, SSO Mitigation Plan, SSO Countermeasures, and SSO monitoring; and (5) submission of a current Load Commissioning Plan meeting the requirements of Planning Guide Section 9.2.4, Load Commissioning Plan.

The Interim Ride-Through Evaluation will also continue to be required, and for large load customers co-locating with existing Generation Resources or Energy Storage Resources, the SB6 Net Metering Review process will also continue to apply.

Q: What could delay energization?

A: The increase in the number of large loads and speed at which they are interconnecting is presenting new and unforeseen challenges to the electric grid. It is possible that a new reliability risk associated with large loads could be identified that requires additional study. For example, large electronic loads (LELs)—large consumers primarily using power electronics, such as data centers and cryptominers—have exhibited a tendency to trip during normal voltage excursions, presenting a risk to system stability. The recent growth in LELs has necessitated that ERCOT obtain additional information from these customers and propose new procedures to address these risks.

Another risk is that new regulatory requirements impacting the interconnection or operation of large loads could be introduced. For example, the PUC is in the process of establishing new interconnection standards for large loads in Project No. 58481. That rulemaking could require changes to ERCOT's large load interconnection process and delay projects that must meet new requirements.

Q: How could ERCOT's efforts to address voltage and frequency ride-through risks impact the timing and operation of my project?

A: ERCOT has recently proposed voltage and frequency ride-through standards in Nodal Operating Guide Revision Request (NOGRR) 282. As proposed, these standards would apply to each large electronic load (LEL) as a condition for interconnection and continued operation. ERCOT has proposed a limited exemption from these requirements for LELs that received approval to energize on or before November 14, 2025 or that met certain significant development milestones by that date. All other LELs would be subject to the requirements as a condition of energization once those requirements are ultimately approved. Because this NOGRR has been designated a Board-Priority Revision Request, ERCOT anticipates that the NOGRR will be approved sometime in the first half of next year. Thus, developers of LELs may need to modify their project designs or implement other measures to ensure they can comply with the final standards that are ultimately approved.

In the interim period before these standards are approved, ERCOT has identified several additional steps that an LEL must take before proceeding

to energization. As noted in ERCOT's June 23, 2025 Market Notice M-B062325-01, Large Load Survey and Request for Information of Voltage Ride-Through Capabilities to Ensure Reliable Interconnection and Operation of Large Electronic Loads, an LEL seeking interconnection to the ERCOT System must submit the ERCOT Dynamic Working Group Large Load Survey to ERCOT. ERCOT and the interconnecting TDSP use that information to determine whether a change to the LEL's dynamic model is needed. If necessary, the LEL may be required to update its dynamic model to align with the information in the survey. If the LLIS stability study for the LEL has already been completed, then the interconnecting TDSP for the LEL must consider whether the information requires a re-study.

ERCOT will also conduct an interim assessment of LEL ride-through capability as a condition for each LEL's energization. In this assessment, ERCOT evaluates each modeled LEL under various voltage excursion conditions. If the model indicates the LEL will fail to ride through those simulated conditions, and that failure results in the violation of a System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL), ERCOT will allow the load to energize subject to curtailment once ERCOT has developed and implemented the necessary curtailment tools and control room procedures. If the LEL does not fail to ride through those simulated conditions, or if that failure does not result in an SOL or IROL violation, the LEL may proceed to energization immediately but could be subject to curtailment during certain conditions if more loads connect in the same area.

Q: What happens if the large load customer fails to achieve Initial Energization on a timely basis after its studies are completed?

A: Under the interim process, there was no requirement for a large load customer to energize by a particular date.

PGRR115 Policy: Under Planning Guide Section 9.4(10), if the interconnecting large load customer has not met the requirements to energize in Planning Guide Section 9.6(1) within 365 days of the requested Initial Energization date used for the LLIS study, then the lead TSP must provide an opinion to ERCOT on whether any re-studies are needed.

Q: Is a large load customer bound by the consumption limit in its Load Commissioning Plan?
A: Under the interim process, a large load customer could be subject to a limit on consumption as part of its energization schedule. ERCOT monitors the large load's consumption to ensure the large load customer remains within identified limits. **PGRR115 Policy:** New Planning Guide Section 9.2.2 requires each large load interconnection request to have a Load Commissioning Plan that reflects the proposed energization schedule. This plan must be updated by the TSP once the timeline needed to construct the required transmission upgrades identified in the LLIS has been determined. Under Planning Guide Section 9.6, the interconnecting TSP or applicable Resource Entity must notify ERCOT if it identifies that a large load customer has exceeded a demand limit established in the final studies and the Load Commissioning Plan. In addition, the applicable TSP must notify ERCOT when a transmission upgrade identified in a Load Commissioning Plan becomes operational and seek ERCOT's written approval before increasing the large load customer's demand.