

PUBLIC



Batch Zero Interconnection Study Scope

July 21, 2026

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Agenda

Batch Zero Interconnection Study Deliverables and Timeline

Batch Zero Study Assumptions

Batch Zero Stability Screening

Stakeholder Engagement

Batch Zero Interconnection Study Deliverables

- A report summarizing the results of the Batch Zero Interconnection Study and, for each proposed Transmission Facility improvement, identifying the affected TSP(s)
- An updated Load Commissioning Plan (LCP) for each Large Load subject to study in the Batch Zero Interconnection Study that reflects the allocated peak Demand for each year of the study scope
- An estimate of the ILLE's financial security requirements for each proposed Transmission Facility improvement attributable to the ILLE's Large Load identified in the report. The financial security will be estimated in a manner consistent with P.U.C. Subst. R. 25.194

Batch Zero Interconnection Study Tentative Timeline

- Upon the conclusion of the ERCOT final Batch Zero eligibility validation on August 31, 2026, ERCOT will finalize and post the Batch Zero study cases for study year 2032 along with contingencies and initial violations
- TSPs have 60 days after the ERCOT case posting to submit any Transmission Facility improvements to ERCOT to address the identified reliability issues
- ERCOT will perform the steady-state analysis and stability screening, and provide the deliverables based on the Planning Guide requirements by April 9, 2027

September
1, 2026

- ERCOT to post the 2032 start cases, contingencies, and initial violations for the TSPs

October
31, 2026

- Deadline for TSPs to submit Transmission Facility improvements to ERCOT

April 9,
2027

- ERCOT to provide the Batch Zero Interconnection Study report with all the deliverables

Agenda

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Study Cases

- The following Steady State Working Group (SSWG) cases posted in November 2025 will be used as the start cases for the Batch Zero Interconnection Study
 - 25SSWG_2028_SUM1_U1_Pass_Final_11132025_Set3
 - 25SSWG_2029_SUM1_U1_Pass_Final_11132025_Set3
 - 25SSWG_2030_SUM1_U1_Pass_Final_11132025_Set3
 - 25SSWG_2031_SUM1_U1_Pass_Final_11132025_Set3
 - 25SSWG_2032_SUM1_U1_Pass_Final_11132025_Set3
- The following topology updates will be made to the start cases
 - SSWG off-cycle updates will be applied
 - Tier 1, 2, and 3 projects that haven't received RPG acceptance or ERCOT endorsement will be removed
 - Recently approved RPG projects will be added if not already in the start cases
 - Tier 4 projects associated with the LCPs of the Large Loads eligible as base load will be added
 - Model corrections
- The system conditions will be studied: Summer peak, no solar, and fall peak (for maintenance outage criteria only)

Contingencies & Criteria & Methodology

- The following contingencies defined in the NERC Reliability Standard TPL-001-5.1 and the ERCOT Planning Guide Section 4.1.1.2 will be studied
 - P0 (System Intact)
 - P1, P2-1, P7 (N-1 conditions)
 - P2-2, P2-3, P4.1 to P4.5, and P5 (EHV only)
 - P3-1: G-1 + N-1 (G-1: generation outages)
 - P6-2: X-1 + N-1 (X-1: 765/345-kV and 345/138-kV transformers only)
 - Loss of the Large Load
- Maintenance outage conditions as defined in the ERCOT Planning Guide Section 4.1.8 will also be studied
- The reliability criteria defined in the NERC Reliability Standard TPL-001-5.1 and the ERCOT Planning Guide Section 4 will be utilized in the study
- Full scope analysis will be performed for 2028, 2030, and 2032 and limited scope analysis will be performed for 2029 and 2031

Load Forecast

- The load forecast to be utilized in the Batch Zero Interconnection Study will consist of the following
 - ERCOT 90/10 load forecast
 - ERCOT electric vehicle charging load forecast
 - S&P Global Commodity Insights Permian Basin load forecast
 - Medium loads submitted by the TDSPs in the ERCOT 2026 RTP RFI process
 - Large Loads eligible for Batch Zero base load
 - Large Loads eligible for Batch Zero study load
- ERCOT will provide the load forecast numbers in future RPG meetings once the list of the Large Loads eligible for Batch Zero Interconnection Study is finalized

Generation

- All generators that have met the ERCOT Planning Guide Section 6.9(1) requirements will be added to the Batch Zero study cases
- Generators that have not met the ERCOT Planning Guide Section 6.9(1) requirements yet may be added to the study cases based on [PGRR127](#) to ensure that sufficient generation is available to meet the demand
- ERCOT will provide a summary of the generators added in each category in future RPG meetings

Base Load, PCLR, and WLPUN Treatment

- Base load will be modeled in the study cases based on the submitted LCP, which must be consistent with the modeling rules in the ERCOT Planning Guide Section 9.2.1.1(2)
- Base load will not be subject to the peak Demand allocation process
- Studied loads that elected PCLR status will be modeled the same way as other non-PCLR and non-WLPUN studied load
- WLPUN generation and Large Load will be modeled such that the modeled generator does not inject real or reactive power into the ERCOT System
- WLPUN generation will be turned off when the MW withdrawal limit and the peak Demand allocation are determined for WLPUN

Peak Demand Allocation

- Studied load will be subject to the peak Demand allocation process for study years 2028, 2029, 2030, and 2031
- Studied load may be subject to the peak Demand allocation process for study year 2032 if
 - Certain Transmission Facility improvements cannot be in service by 2032
 - Certain Transmission Facility improvements require additional studies and review
- WLPUN will also receive a MW Withdrawal limit besides the peak Demand allocation
- PowerWorld Security Constrained Optimal Power Flow (SCOPF) function will be used for the peak Demand allocation

Peak Demand Allocation Cont'd

- Peak Demand allocation for a studied load shall not decrease from one year to the next within the Batch Zero Interconnection Study scope. Where the amount of peak Demand that can be served reliably in a given year is less than the amount allocated in a prior year, ERCOT shall reduce the prior year's allocation to equal the lower amount
- ERCOT will follow the minimum load allocation requirements defined in the Planning Guide Section 9.3.2(7)
- ERCOT will not perform a reallocation after the minimum load allocation process

Estimate of the ILLE's Security Requirements

- As part of the Batch Zero Interconnection Study, ERCOT will provide an estimate of the ILLE's financial security requirements for each proposed Transmission Facility improvement attributable to the ILLE's Large Load identified in the report. Financial security will be estimated in a manner consistent with P.U.C. Subst. R. 25.194
- The estimate of the financial security requirements is only applicable to the studied load
- ERCOT will present more details on the methodology in future RPG meetings after the P.U.C. Subst. R. 25.194 rulemaking process is completed

Agenda

Updates since last Batch Readiness meeting

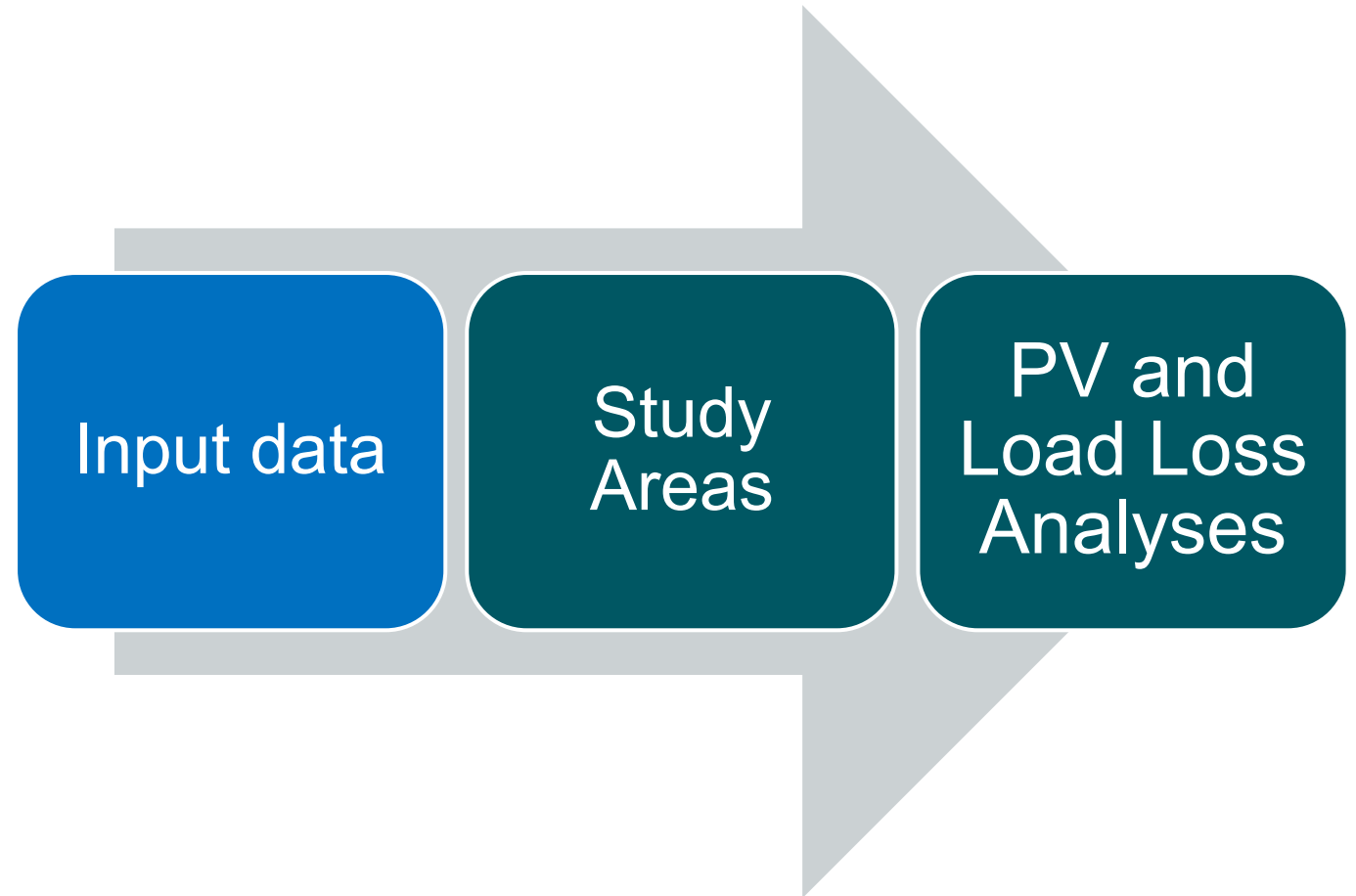
Batch Zero Readiness Discussion Schedule

Batch Zero Stability Screening

Stakeholder Engagement

Stability Screening – Key Input Data

- ERCOT will conduct the Batch Zero Stability Screening Study in accordance with Planning Guide Section 9.3, “Batch Zero Interconnection Study.”
- The stability screening will be performed in coordination with the steady-state study, which is going to be the key input data



Stability Screening – Study Area

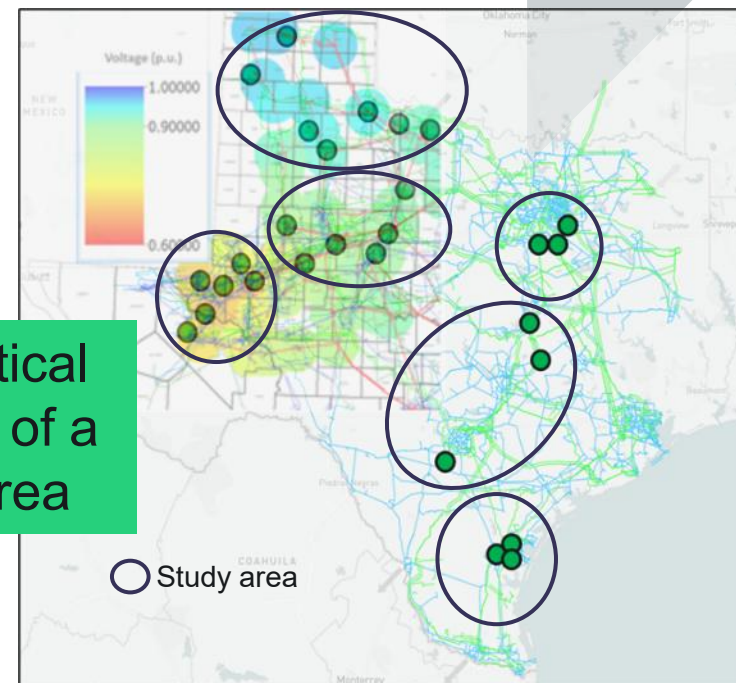
- Preliminary approach to establish study areas:
 - Voltage dip test - Conduct short-circuit or fault analysis at the POI of each LL
 - Electrical distance and locations of LLs
 - Establish study areas based on review of the analysis and engineering judgement

Input data

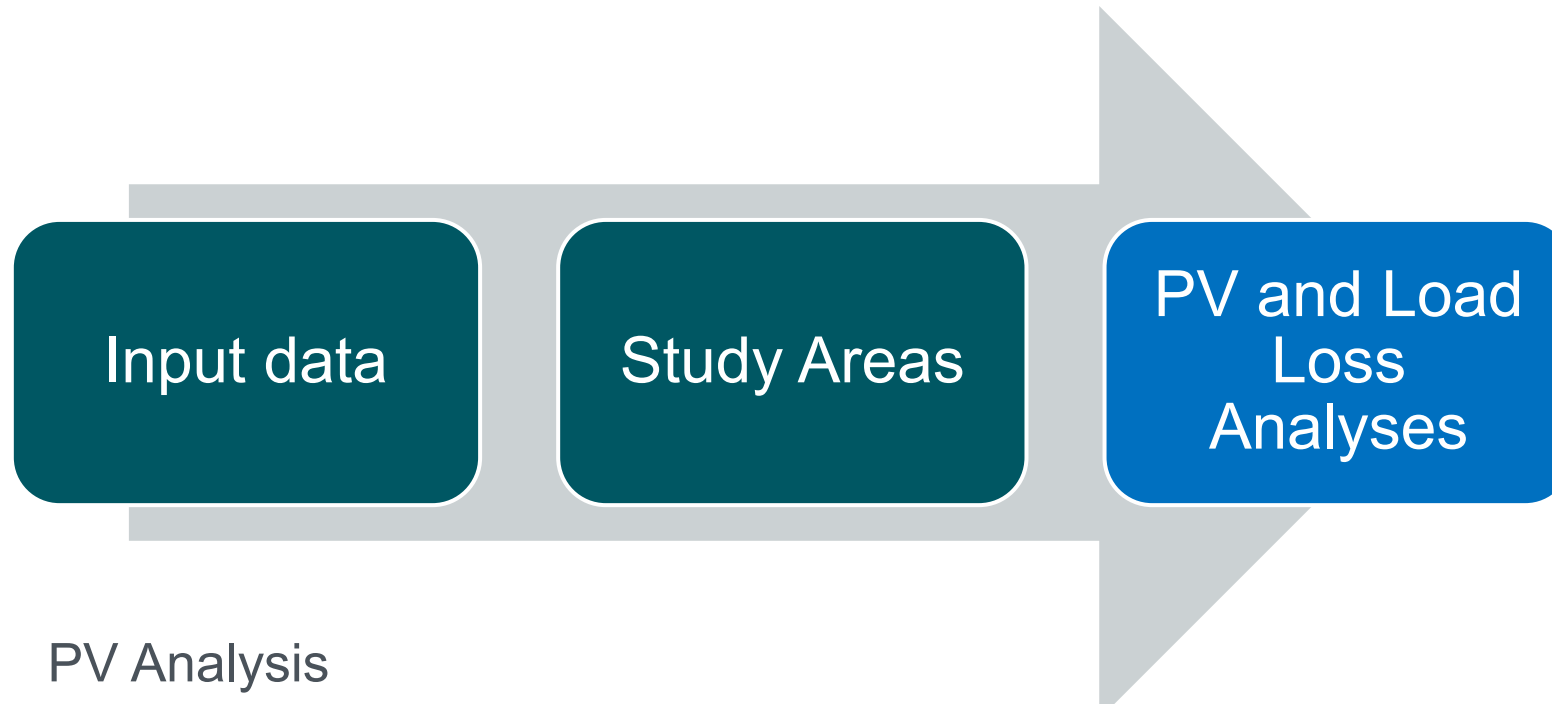
Study Areas

PV and Load Loss Analyses

hypothetical example of a study area



Stability Screening – PV Analysis and Load Loss Analysis



- 1) PV Analysis
 - Determine whether voltage stability margin criteria are violated
 - Identify stability-related load allocation limitations and any potential transmission upgrades, where feasible, if the stability limit is more restrictive.
- 2) Load Loss Analysis
 - Determine regions where load loss may surpass the 3,200 MW* threshold

* [Load Loss Threshold Analysis](#) available in December 2025 LLWG website

Stability Screening – PV Analysis

- 1) PV (Power-Voltage) analysis:
 - To evaluate voltage instability and identify electrically weak or critical areas. Load in the study area will be incrementally increased to identify potential voltage instability concerns
 - Criteria per Planning Guide Section 4.1.1.3, Voltage Stability Margin
 - A 5% increase in load above expected peak supplied from resources external to the ERCOT or TSP-defined areas and operating conditions in categories P0 and P1: and
 - A 2.5% increase in load above expected peak supplied from resources external to the ERCOT or TSP-defined areas and operating conditions in categories P2 through P7

Note: a bus voltage dropping below 0.8 pu will be considered as voltage collapse
 - Contingencies will be consistent with the steady-state analysis. Engineering judgment may be applied as needed
 - All buses rated 100 kV and above within each study area will be monitored

Stability Screening – Load Loss Analysis

2) Load Loss Analysis:

- A screening will assess Large Load loss, considering fault impact and voltage ride-through capability in dynamic models
- If load loss exceeds 3,200 MW, the studied Large Load in the region will be reduced until it meets the 3,200 MW limit*

* [Load Loss Threshold Analysis](#) available in December 2025 LLWG website

FAC-002 Dynamic Stability Analysis

- ERCOT will conduct a dynamic stability analysis to evaluate any system impacts associated with projects expected to be energized in the upcoming year
- This analysis will begin after the initial Batch Zero study ends. It will support compliance with NERC Reliability Standard FAC-002, and the results may be used in performing the QSA

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Updates since last Batch Readiness meeting

Batch Zero Readiness Discussion Schedule

Batch Zero Stability Screening

Stakeholder Engagement

Batch Zero Updates and Collaboration

- ERCOT will provide regular updates at the future RPG meetings throughout the Batch Zero Interconnection Study process
- Stakeholders are welcome to provide comments and feedback at the RPG meetings or via emails to
Ping.Yan@ercot.com
SunWook.Kang@ercot.com
BatchZero@ercot.com
- ERCOT will also collaborate with the TSPs for the Transmission Facility improvement development outside of the stakeholder meetings

Questions?

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