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| PGRR Number |  | PGRR Title | Controllable Load Resource Planning Ahead of NPRR1188 Implementation – Discussion Draft  |
| Date Posted |  |
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| Requested Resolution  | Urgent |
| Planning Guide Sections Requiring Revision  | Include Section No. and Title2.1, Definitions4.1.1.7(4), Minimum Deliverability Criteria6.1(3), Steady-State Model Development9.2.2, Submission of Large Load Project Information and Initiation of the Large Load Interconnection Study (LLIS)9.3.3, Large Load Interconnection Study Description and Methodology |
| Related Documents Requiring Revision/Related Revision Requests | Incorporate NPRR1188 Controllable Load Sensitivities in Large Load Interconnection Service Studies  |
| Revision Description | Allows ILLEs to submit an NPRR 1188-compliant CLR election and attestation to the reviewing TSP. TSPs treat the election as a study input, model the site as an NPRR1188-compliant CLR, and may authorize earlier energization when N-1 can be mitigated by dispatch to LSL which may equal zero for the CLR. All load would still be studied for delivery of their full capacity with timelines for firm network service outlined in the Load Commissioning Plan. To the extent thermal violations limit the integration of firm load in contingency planning cases, CLR dispatch to LSL may be used in real time operations to mitigate these violations and allow CLR energization ahead of LCP timelinesProposes that each proposed Large Load that elects to be studied as a Controllable Load Resource will be studied using the LSL and HSL provided as part of project information described in Section 9.2.2 Submission of Large Load Project Information and Initiation of the Large Load Interconnection Study (LLIS). It further proposes that for the purposes of the Large Load Interconnection Study Methodology, Controllable Load Resources will be studied assuming registration and qualification under NPRR1188 or any successor provision. Details of proposed changes: Adds an optional CLR study election to LLIS process and directs TSPs/ERCOT to treat that election as a study input. Requires ILLEs to submit HSL/LSL and models electing CLRs with those limits, attesting to NPRR1188 registration and qualification. Confirms electing CLRs may be redispatched under 4.1.1.7(4) while firm-planning criteria remain unchanged. Updates 6.1 to state ERCOT will determine the operating state of Generation Resources, CLRs, and ESRs using a SCED tool for study purposes and will utilize CLR model data provided by the IE during the LLIS in accordance with 9.2.2. Confirms temporary interconnection configurations may be evaluated and must demonstrate adequate reliability.Updates Definitions to add Manual System Adjustment (referencing CLRs/ESRs) and to define the Load Commissioning Plan as recording CLR election and a utility attestation of CLR status tied to load commissioning ahead of timeline reflected in the Load Commissioning Plan.  |
| Reason for Revision |  [Strategic Plan](https://www.ercot.com/files/docs/2023/08/25/ERCOT-Strategic-Plan-2024-2028.pdf) Objective 1 – Be an industry leader for grid reliability and resilience  [Strategic Plan](https://www.ercot.com/files/docs/2023/08/25/ERCOT-Strategic-Plan-2024-2028.pdf) Objective 2 - Enhance the ERCOT region’s economic competitiveness with respect to trends in wholesale power rates and retail electricity prices to consumersX [Strategic Plan](https://www.ercot.com/files/docs/2023/08/25/ERCOT-Strategic-Plan-2024-2028.pdf) Objective 3 - Advance ERCOT, Inc. as an independent leading industry expert and an employer of choice by fostering innovation, investing in our people, and emphasizing the importance of our mission General system and/or process improvement(s) Regulatory requirements ERCOT Board/PUCT Directive*(please select ONLY ONE – if more than one apply, please select the ONE that is most relevant)* |
| Justification of Reason for Revision and Market Impacts | Nodal Protocol Revision Request 1188, approved by the PUCT in November 2024 with a 12–24 month implementation window, changes dispatch and pricing for Controllable Load Resources (CLRs) that are not ALRs, to advance utilization of load resources for grid reliability. It focuses on market design and technical measures that make price signals to load transparent. The approved description states that Resources will be dispatched “using their locational nodal shift factor,” which “is essential for efficient congestion management.” ILLEs that elect CLR status must be assigned a Resource Node Settlement Point and must follow SCED Base Points while consuming; OUTL may be telemetered only when the CLR is truly out and consuming 0 MW.ERCOT has now created a durable incentive for loads to contribute to reliability as CLRs. To close the loop for successful reliability, load energization, and customer outcomes for all loads constrained by N-1 violations today, interconnection studies should recognize asap the same mechanics to solve constraints that bind in load studies which will govern how these resources will be re-dispatched to solve transmission constraints in real-time operations. With interconnection studies effectively frozen across TSP areas serving hyperscale, colocation, bitcoin, industrial, and large commercial customers, the priority is to resolve N-1 binding constraints by modeling electing loads as nodal, dispatchable CLRs in studies. Doing so credits the system benefits those sites will actually provide (ability to be dispatched and re-dispatched to manage constraints), enables earlier energization where studies show N-0 is met and N-1 is mitigable by dispatch to LSL, and pulls forward private investments that make sites more grid-friendly and customer-friendly—while also shortening queues for everyone.A CLR election ties study modeling to a real project, real telemetry, and a real commissioning profile, reducing case breakage while firm upgrades proceed for the same sites under the submitted IILE. Thisaddresses a TSP-flagged planning issue, that of having to add loads to planning cases without executable projects, which degrades planning-case integrity (breaks grid models) and slows studies for all firm requests. Allowing new loads to be studied as CLRs today increases planning efficiency and targets transmission upgrade spending that ratepayers fund, while giving loads faster-interconnection optionality with delivery risk borne by the project. This approach aligns with NPRR1188’s CLR operational framework and should be in force before any electing load studied now is energized.**Urgent status is being requested** due to the unprecedented nature of large load interest currently reflected in the large load interconnection queue. Allowing these prospective loads the maximum optionality in meeting their desired in-service dates during grid studies performed ***today*** will directly contribute to corporate capital commitments in Texas over the next 12 months which would otherwise be forfeit or jeopardized by long interconnection lead times primarily driven by transmission network upgrades required to deliver firm service. Additionally, neighboring RTO areas and utilities, including Tennessee Valley Authority, Southwest Power Pool, and Midcontinent System Operator are working on various approaches to non-firm transmission access studies that allow large loads to credit their firm service requests with “bring your own flexibility” solutions in exchange for speed to power access. Without a common ERCOT playbook that yields consistent curtailable load study outcomes and values generation, batteries, and flexibility technologies which can enable CLR participation, over the next 12–18 months development capital will flow to other markets that permit earlier in-service dates.By allowing load to elect planning treatment as a CLR today, assuming registration and operating requirements set forth in NPRR1188, private participants will be granted additional optionality in project planning while significantly reducing the uncertainty in the longer term for system planning. The approach enables resolution of interconnection bottlenecks and increases economic activity captured by Texas while preserving reliability and shifting risk to private project sponsors in a manner which increases ERCOT resources visibility for operations and long-term transmission planning.Lastly, the language of this PGRR is in direct support of, and complementary to, the spirit of Senate Bill 6 which explicitly states, “The commission by rule shall establish standards for interconnecting large load customers in the ERCOT power region in a manner designed to support business development in this state while minimizing the potential for stranded infrastructure costs and maintaining system reliability.”Key Immediate Benefits to ERCOT Texas Region: * ERCOT credits dispatch-based mitigation in steady-state cases and aligns planning with operations and treatment of all other dispatchable ERCOT Resources
* Developers secure bankable interconnection results to unlock capital and energize sooner
* Texas keeps and attracts high-impact load, jobs, and investment.
* TDSPs can focus capital on regional backbone projects while interim N-1 risk is managed by CLR sites via basepoint/ramp-limit compliance and nodal curtailment.
* Ratepayer and utility cost recovery protection: Interim deliverability risk and curtailment/compliance costs shift to private projects, reducing stranded costs and avoiding anticipatory overbuild on the regulated system.
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| Proposed Guide Language Revision |

Instructions:

The Revision Request and Comment Submission Guidelines are posted on the [NPRR Submission Process](https://www.ercot.com/mktrules/nprotocols/nprr_process) page.

Please remember the following::

* Use the most current version of the Guide language, which is available on the ERCOT website.
* Show original Guide baseline language in black.
* Present the entire titled Section or subsection as the baseline, not just the paragraph(s) subject to revision.
* Make all revisions in redlined format, using the “Track Changes” feature. Be sure to change the user/author name to the appropriate individual or company name. Do NOT show revisions by changing font color or font strikethrough.
* Ensure that proposed changes are reflected in both boxed and unboxed Sections, if appropriate.
* Submit the completed form to RevisionRequest@ercot.com.

Insert proposed Guide language here.

* 1. **Definitions**

***[PGRR118: Replace the definition “Manual System Adjustment” above with the following upon system implementation of NPRR1246:]***

**Manual System Adjustment**

Operator actions, with consequences allowed by Section 4, Transmission Planning Criteria, in response to an outage in the ERCOT System, including, but not limited to circuit switching or changes to schedules of Generation Resources, Controllable Load Resources (CLRs) and Energy Storage Resources (ESRs), but excluding the physical repair or replacement of any damaged equipment.

***[PGRR115: Insert the definition “Load Commissioning Plan (LCP)” below upon system implementation of NPRR1234:]***

**Load Commissioning Plan (LCP)**

An agreed upon schedule between the interconnecting Transmission Service Provider (TSP) and Interconnecting Large Load Entity (ILLE) for connecting a Large Load in increments defined by the ILLE, compiled in the format prescribed by ERCOT, detailing dates, cumulative peak Demand amounts, and transmission upgrades that would be required to be in service for each amount of peak Demand. The LCP shall cover the time period from the Initial Energization date up to the final amount of peak Demand. The LCP may be accompanied by a Controllable Load Resource election and attestation by the ILLE stating the project’s intent to register with ERCOT as a Controllable Load Resource such that the TSP may proceed to study the site as requested for energization consistent with the ILLE’s election. Where an ILLE elects CLR study treatment, the ILLE’s attestation shall acknowledge NPRR1188 operating requirements, including SCED compliance when ON and telemetering **OUTL** only when Off-Line with **0 MW** consumption.”

**4.1.1.7 Minimum Deliverability Criteria**

(1) In conducting its planning analyses, ERCOT and each TSP shall ensure that an ERCOT- defined minimum percentage of capacity of each Resource described in paragraph (3) below can be delivered to serve peak system Load while meeting the following reliability criteria:

1. Category P0, P1, P2-1, P3, and P7 planning events from the NERC Reliability Standard addressing Transmission System Planning Performance Requirements; and
2. The ERCOT-specific reliability performance criteria included in Section 4.1.1.2, Reliability Performance Criteria.
3. The minimum percentage of capacity referenced in paragraph (1) above shall be applied to each Resource’s applicable Seasonal Net Max Sustainable Rating submitted through the Resource Registration process.
4. The minimum deliverability condition described in paragraph (1) applies to the following Resources:
	1. Any Generation Resource utilizing combined cycle, steam turbine, combustion turbine, hydro, or reciprocating engine technology; or
	2. Any Energy Storage Resource (ESR) meeting an ERCOT-defined minimum duration threshold.
5. Resources other than those described in paragraph (3) above may be redispatched as necessary to meet the requirements of this Section. This includes Controllable Load Resource (CLR) electing treatment pursuant to Sections 9.2.2 and 9.3.3, to be dispatched to their LSL, up to and including 0 MW, consistent with NPRR1188.
6. ERCOT-proposed revisions to the minimum percentage of capacity or minimum duration threshold for ESRs used to implement the requirements of this Section will be recommended by the Technical Advisory Committee (TAC) and approved by the ERCOT Board.
	1. ERCOT will post the current values approved by the ERCOT Board pursuant to paragraph (5) above on the ERCOT website.
7. **Steady-State Model Development**
8. Using the Network Model Management System (NMMS), ERCOT and TSPs shall create steady-state models that represent current and planned system conditions from the following data elements:
	1. Each TSP, or its Designated Agent, shall provide its respective transmission network steady-state model data, including load data.
	2. Each TSP, or its Designated Agent, shall not include the impact of energy sources connected to the Distribution System that are registered with ERCOT and required to provide telemetry including, but not limited to, Distribution Generation Resources (DGRs), Distribution Energy Storage Resources (DESRs), or Settlement Only Distribution Generators (SODGs) in its submitted Load data as negative loads or as embedded reductions in the submitted load forecast.
	3. Each TSP, or its Designated Agent, shall include the impact of energy sources connected to the Distribution System that are not registered with ERCOT in its submitted Load data. The methodology used shall be consistent across all TSPs and described in the ERCOT Steady State Working Group Procedure Manual.
	4. ERCOT shall utilize the latest available Resource Entity and Private Use Network model data submitted to ERCOT by the Resource Entity and the Private Use Network owners through the Resource Registration process for Resource Entities.
	5. ERCOT shall utilize proposed Generation Resource model data provided by the Interconnecting Entity (IE) during the generation interconnection process in accordance with Section 5, Generator Interconnection or Modification.
	6. In cases that include electing CLRs, the operating state shall reflect NPRR1188 logic: ON and SCED-dispatchable, or **OUTL** only when Off-Line at 0 MW;

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| ***[PGRR118: Replace paragraph (e) above with the following upon system implementation of NPRR1246:]***(e) For Transmission Service Providers (TSPs) and owners of Direct Current Ties (DC Ties), dynamics data includes the data needed to represent the dynamic and transient capability of dynamic devices including but not limited to Load shedding relays, protective relays, FACTS devices (e.g., SVC, STATCOMs), DC Ties, variable-frequency transformers, automatically switched shunts, and transformers with automatic load tap changers. |

* 1. ERCOT shall determine the operating state of Generation Resources, CLRs and ESRs(MW, MVAr) using a security-constrained economic dispatch tool.

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| ***[PGRR118: Replace paragraph (f) above with the following upon system implementation of NPRR1246:]***(f) ERCOT shall determine the operating state of Generation Resources, CLRs and ESRs (MW, MVAr) using a security-constrained economic dispatch tool. |

* 1. ERCOT shall determine the import/export levels of asynchronous transmission interconnections based on historical data.
	2. ERCOT shall utilize Controllable Load Resource (CLR) model data provided by the Interconnecting Entity (IE) during the Large Load Interconnection Study Process in accordance with Section 9.2.2.
1. **Submission of Large Load Project Information and Initiation of the Large Load Interconnection Study (LLIS)**

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| ***[PGRR115: Insert Section 9.2.2 below upon system implementation of NPRR1234:]**** + - 1. For any Load request meeting one or more criteria defined in paragraph (1) of Section 9.2.1, Applicability of Large Load Interconnection Study Process, the following actions shall be completed prior to the initiation of the LLIS process described in Section 9.3, Interconnection Study Procedures for Large Loads.
				1. Submission of all information, including but not limited to, data required by the lead Transmission Service Provider (TSP) to perform steady state, short circuit, motor start, stability analyses and any other studies the lead TSP deems necessary to reliably interconnect the Load. The dynamic load model to be provided for performing stability analysis will be in a format prescribed by the lead TSP and/or ERCOT;
				2. Submission of a preliminary Load Commissioning Plan (LCP) that fully reflects the proposed project schedule;
				3. Written acknowledgement from the Interconnecting Large Load Entity (ILLE) of its obligations to notify the interconnecting TSP of changes to the Large Load project information or to the load composition, technology, or parameters, as described in Section 9.2.3, Modification of Large Load Project Information, during the interconnection process
				4. A formal request to initiate the LLIS process described in Section 9.3; and
				5. Payment of the LLIS Application Fee to ERCOT as described in paragraph (3).
				6. Election of Load to be studied as CLRs.
				7. CLR Attestation. If the ILLE elects CLR study treatment, the ILLE shall submit an attestation that upon interim energization as a CLR it will (i) register and qualify under NPRR1188, (ii) follow SCED Base Points while ON, and (iii) telemeter **OUTL** only when Off-Line and unavailable with energy consumption at **0 MW**. The TSP shall use this attestation as a study input when evaluating interim energization as a CLR while the LCP proceeds
			2. The interconnecting TSP shall submit the information described in paragraphs (1)(a) through (1)(d) above on behalf of the ILLE.
			3. The ILLE shall pay to ERCOT the LLIS Application Fee, as described in the ERCOT Fee Schedule prior to the commencement of the LLIS. The interconnecting TSP, Resource Entity, or Interconnecting Entity (IE) may choose to submit this fee to ERCOT on the behalf of the ILLE. Payment of the ERCOT LLIS Application Fee shall not affect the independent responsibility of the ILLE to pay for interconnection studies conducted by the interconnecting TSP or for any Distribution Service Provider (DSP) studies.
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* 1. **Large Load Interconnection Study Description and Methodology**

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| ***[PGRR115: Insert Section 9.3.3 below upon system implementation of NPRR1234:]**** + - 1. The primary purpose of the LLIS is to determine whether the amount of Load being requested by the ILLE can be placed in service by the desired Initial Energization date while maintaining the reliability of the ERCOT System and ensuring compliance with all NERC Reliability Standards, Protocols, this Planning Guide, and the Operating Guides. The LLIS will also identify any transmission improvements needed to serve the full requested Load amount, including individual load increments requested by the ILLE in the initial Load Commissioning Plan (LCP).
			2. The LLIS consists of a series of distinct study elements. The specific elements included in a particular LLIS will be stated in the LLIS scope.
			3. Each proposed Large Load interconnection that requests more than one physical transmission interconnection will be studied as an individual study for each interconnection to be analyzed separately from all other such requests unless otherwise agreed by the TSP(s) in the interconnection study agreement.
			4. The LLIS process includes developing and analyzing various computer model simulations of the existing and proposed ERCOT transmission system. The results from these simulations will be utilized by the TSP(s) to determine the impact of the proposed interconnection.
			5. The study shall include an analysis demonstrating the adequate reliability of any temporary interconnection configurations.
			6. Each proposed Large Load that elects to be studied as a CLR will be studied using the LSL and HSL provided as part of project information described in Section 9.2.2 Submission of Large Load Project Information and Initiation of the Large Load Interconnection Study (LLIS). CLRs will be studied assuming registration and qualification under NPRR1188. For transmission screening, the TSP/ERCOT may redispatch the CLR down to its LSL, including 0 MW, to test mitigation of binding N-1 constraints. Study modeling shall not represent any CLR ‘opt-out’ state; a CLR is either ON and following SCED or OUTL = Off-Line at 0 MW.”
			7. For the purposes of the Large Load Interconnection Study Methodology, CLRs will be studied assuming registration and qualification under NPRR1188 or any successor provision.
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