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| PGRR Number | TBD | PGRR Title | Incorporating Advanced Technology Options for Large Load Interconnections |
| Date Posted | | TBD | |
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| Requested Resolution | | Normal | |
| Planning Guide Sections Requiring Revision | | 2.1, Definitions  9.2.2, Submission of Large Load Project Information and Initiation of the Large Load Interconnection Study (LLIS)  9.2.5, Required Interconnection Equipment  9.3.5, Reconsideration for Fast Responding Loads (new) | |
| Related Documents Requiring Revision/Related Revision Requests | | ERCOT Planning Guide | |
| Revision Description | | To incorporate rules for Fast Responding Loads in the load interconnection processes. | |
| Reason for Revision | | X [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 consumers  [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 | | Advanced technology now exists that is capable of monitoring, managing, and responding to grid conditions and contingency events. A Fast Responding Load (defined below), provides benefits to electric systems that, among other things, can help ERCOT interconnect significant new demand from large loads by allowing transmission owners to increase available firm capacity, as well as reduce congestion hampering access to additional generation required to serve the ever increasing demand. To that end, this revision request intends to build upon PGRR 115 to provide for the integration of Fast Responding Loads.  The key objectives of this revision request are as follows:  (1) to expand and increase load interconnection on the existing grid without a loss of reliability;  (2) to encourage and facilitate the use of new technologies to increase utilization of existing grid assets;  (3) to assure that the amount of capacity made available to a large load corresponds to the asset’s speed of response. By using this technical framework, every large load able to respond to grid changes or contingencies can be treated as a reliability enhancing assett; and  (4) to facilitate collaborative relationships between the grid and the grid owners. | |

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| Proposed Guide Language Revision |

**NOTE: This PGRR assumes the adoption of the changes to the Planning Guide detailed in the recently approved PGRR 115.**

**2.1 DEFINITIONS**

**Fast Responding Load (FRL):** An interconnecting Load with an expected peak demand of at least 75 MW that, as a condition of its interconnection, agrees to ensure reliability by either curtailing its consumption (load drop) or operating with on-site backup generation (self-supply) with an automatic response to transmission contingencies. A Load designated as an FRL shall be contractually allocated additional transmission capacity in accordance with Planning Guide Section 9.3.5. based upon its speed of response and the amount of incremental physical capacity remaining on its interconnected transmission line that, if not for the FRL’s contingency response capability, would have been unused due to a a restricted line rating.

**9** **Large Load additions at new or MODIFICATION OF existing LOAD INTERCONNECTION(S)**

9.2.2 Submission of Large Load Project Information and Initiation of the Large Load Interconnection Study (LLIS)

(1) For any Load request meeting one or more criteria defined in paragraph (1) of Section 9.2.1, Applicability, 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.

(a) Submission of all information, including but not limited to, data required by the lead 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;

(b) Submission of a preliminary Load Commissioning Plan that fully reflects the proposed project schedule;

(c) Written acknowledgement from the 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;

(d) A formal request to initiate the LLIS process described in Section 9.3; and

(e) Payment of the LLIS Application Fee to ERCOT as described in paragraph (3).

(f) For any FRL requesting interconnection, the Load shall submit all relevant information about its control systems and method for monitoring transmission system conditions and contingencies in real time.

(2) The interconnecting Transmission Service Provider (TSP) shall submit the information described in paragraphs (1)(a) through (1)(d) above on behalf of the Interconnecting Large Load Entity (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, RE, or 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 DSP studies.

**9.2.5**  **Required Interconnection Equipment**

(1) Each Service Delivery Point for a Large Load not co-located with a Generation Resource, Energy Storage Resource (ESR), or Settlement Only Generator (SOG) interconnected at transmission voltage to the ERCOT System:

(a) Must have a permanent configuration consisting of one or more breakers capable of interrupting fault current to isolate the Large Load from the ERCOT System without interrupting flow on the associated transmission lines. The breakers shall be under the remote control of the applicable TO; and

(b) For any FRL, the Load owner must also demonstrate the capacity to respond in the manner required for such participation.

(2) Each Large Load co-located with a Generation Resource, ESR, or SOG interconnected at transmission voltage to the ERCOT System must have a permanent configuration consisting of one or more breakers capable of interrupting fault current to isolate the Large Load from the ERCOT System without isolating any of the co-located generators. The breakers shall be remotely controllable at the direction of the applicable QSE.

* + 1. **Reconsideration for Fast Responding Loads**

If a Large Load has applied for a designated capacity on a specified schedule and the application is denied in whole or in part, and the Large Load can offer the TSP a mechanism to automatically reduce the energy delivered from the transmission system to remediate a limiting contingency without violating the existing grid protection scheme or applicable reliability criteria to the satisfaction of ERCOT, the Large Load may request re-study as an FRL for an additional amount of firm capacity during normal operation for:

1. Up to the full physical capacity of the grid on a firm-capacity basis with all lines in services if the FRL is capable of sub-second response, whether as a dynamically responsive grid reliability asset or through simple disconnection, to a set of constraining contingencies;
2. Up to the short-term emergency rating of the line, if the mechanism iscapable of responding in 10 minutes or less to a contingency.