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| PGRR Number | [134](https://www.ercot.com/mktrules/issues/PGRR134) | PGRR Title | Interconnection Studies Reform for Dispatchable Loads |
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| Date | | December 8, 2025 | |
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| Market Segment | | Not applicable | |

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| Comments |

Camus Energy appreciates the opportunity to comment on Planning Guide Revision Request (PGRR) 134. Camus is a grid software provider supporting utilities, system operators, and large-load developers with tools for real-time visibility, forecasting, and flexible interconnection. Our recent study, conducted with Princeton ZERO Lab, encoord, and a major PJM-area utility, evaluated how large flexible data centers can reliably interconnect earlier by operating within quantified transmission and generation constraints. A public version of this research is available here[[1]](#footnote-1): <https://cdn.prod.website-files.com/60dbdcca2e4b1919e8894fa5/6930abf1be0f36db6fc27157_Whitepaper%20-%20With%20Appendix.pdf>. We respectfully submit this study into the record because its analytical methods and findings directly support the objectives of PGRR134.

**1. Support for Aligning Planning Studies With Operational Dispatch Under NPRR1188**

Camus strongly supports the core principle behind PGRR134: that ERCOT’s interconnection and planning studies for large loads should reflect the same dispatchability characteristics that Controllable Load Resources (CLRs) will exhibit under NPRR1188. Several commenters note that aligning planning assumptions with real-time SCED behavior is essential for reliability, transparency, and investor confidence. We agree.

Our recent study demonstrates that planners can evaluate large flexible loads on a time-varying basis, using hourly system conditions to determine when and to what extent dispatchability is needed to manage transmission and generation constraints. By examining all 8,760 hours of the year across multiple candidate sites, we were able to identify specific hours, magnitudes, and durations of curtailment that a flexible 500 MW load would need to accommodate to remain within system limits.

While our analysis was deterministic, the same modeling workflow can be extended to probabilistic or multi-scenario methods using the tools and data already available to TSPs. Such approaches would further improve confidence in curtailment expectations for flexible loads, but they are not a prerequisite for implementing the planning-to-operations alignment envisioned in PGRR134.

Importantly, resolving NPRR1188 implementation details need not delay advancement of PGRR134; establishing the Planning Guide framework now will give ILLEs and solution providers the investment certainty to begin preparing the flexibility solutions that will operate under NPRR1188 once its details are finalized.

**2. Support for a Pathway That Preserves Firm Transmission Planning While Enabling Earlier Energization**

Camus supports the clarification echoed by many parties: PGRR134 does not alter or delay firm transmission upgrades identified in the Large Load Interconnection Study (LLIS). Instead, it allows ILLEs to energize sooner on a non-firm basis by voluntarily assuming dispatchability obligations as a CLR.

Our research supports this approach. Across six real-world study locations, we found that large loads could safely operate at full demand more than 99% of the time, with consideration for generation availability and thermal limits on the transmission system. Transmission-driven curtailment needs—modeled across all 8,760 hours of the year—were infrequent, bounded, and predictable, generally between 7 and 35 hours annually for the most constrained sites. This indicates that provisional energization prior to the completion of upgrades is feasible if dispatchability is well-defined and monitored, as envisioned under PGRR134.

**3. Support for Providing ILLEs With Clear, Quantitative Curtailment Expectations**

Several commenters highlight the need for transparent, standardized outputs describing when and how dispatchable loads may need to be curtailed. Camus supports this direction. Our study demonstrates that TSPs, using their existing planning datasets and models, can reliably estimate:

* Expected annual hours of curtailment
* Maximum number of events
* Peak MW curtailment
* Longest event duration
* Energy required during the longest events
* Minimum time between events

These metrics, alongside program parameters such as the event notification method and number of test events, were sufficient for ILLEs to design flexibility portfolios that maintain uptime while respecting system constraints. We encourage ERCOT and TSPs to continue stakeholder engagement to ensure that PGRR134 implementation includes study outputs that provide ILLEs with the clarity needed to underwrite flexibility and plan responsibly.

**4. Support for Parallel Development of a Companion NOGRR**

Camus agrees with ERCOT staff and other commenters that successful implementation of PGRR134 will require complementary updates to Protocols governing SCED dispatch, telemetry expectations, and CLR registration. Advancing this PGRR in parallel with the companion NOGRR process will help ensure that planning assumptions are operationally actionable, and that the dispatchability modeled in LLIS studies is faithfully reflected in real-time operations.

**5. Analytical Evidence That Flexible Loads Can Responsibly Manage Identified Constraints**

Camus’s study provides empirical evidence that ILLEs can design least-cost portfolios of flexibility—combining batteries, dispatchable generation, and load flexibility—when curtailment expectations are defined through planning studies. For example, depending on the site’s constraint profile, the optimal mix for a 500 MW data center ranged from ~49 MW of storage and 11 MW of on-site generation for lightly transmission-constrained locations to ~155 MW of storage and 48 MW of on-site generation for moderately constrained areas. In all cases, ILLEs were able to reliably supply full operations for the nameplate 500 MW data centers within the limits identified by transmission planners. These findings are specific to the location, system configuration, and period of time studies. However, they point to the potential for ILLEs to install and operate flexibility that can ensure the data center can operate largely or totally unaffected by transmission network constraints.

These findings reinforce that PGRR134 enables an interconnection pathway that manages risk privately, preserves system reliability, and accelerates access to power while maintaining traditional planning criteria.

**Conclusion**

Camus supports the overall structure and intent of PGRR134 as an important step toward enabling ERCOT to safely and efficiently integrate large, flexible loads. The proposal aligns planning with operational dispatch under NPRR1188, preserves firm transmission upgrade obligations, and provides a procedural mechanism for ILLEs to responsibly rely on flexibility to access grid power sooner.

We appreciate ERCOT’s leadership and the thoughtful engagement of stakeholders, and we stand ready to support future discussions on technical implementation as ERCOT advances both PGRR134 and its companion NOGRR.

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| Revised Cover Page Language |

None

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| Revised Proposed Guide Language |

None

1. This research was authored by Camus, encoord, and Princeton University’s ZERO Lab. The research was funded by Google LLC (Google), who reviewed the analysis prior to publication. Citation for the study: *Carlo Brancucci, Dylan Cutler, and Jesse Jenkins. Flexible Data Centers: A Faster, More Affordable Path to Power. Camus, encoord, and Princeton ZERO Lab, December 2025.* [↑](#footnote-ref-1)