Proposed Changes to NERC Rules of Procedure "Computational Load Entity"

Comments of the Electricity Consumers Resource Council (ELCON)

The Electricity Consumers Resource Council (ELCON) respectfully submits these Comments in response to the National Electric Reliability Corporation's (NERC) proposed revisions to the NERC Rules of Procedure posted April 1, 2026[1] incorporating defined terms and registration criteria for "Computational Load Entities."

ELCON is the national association representing large industrial consumers of electricity. ELCON member companies create a wide range of products from virtually every segment of the industrial community—we own and operate hundreds of major facilities and are significant consumers of electricity throughout the United States. Reliable electricity supply at just and reasonable rates is essential to our members' operations.

ELCON has been engaged in the work of the NERC Large Load Task Force (now Large Load Working Group or LLWG) since its inception in August 2024 and appreciates the efforts of NERC staff and industry to quickly anticipate and mitigate emerging risks to the Bulk Power System (BPS) posed by massive new loads interconnecting to the BPS at speeds our current system was not designed for.

Following the completion of two whitepapers,[2] NERC determined that "unforeseen and difficult-to-explain dynamic electrical behavior" made it appropriate "to propose a new functional entity type that focuses on loads with these characteristics [and] further define the entities that will be subject to registration based on their individual characteristics as well as the aggregate impact of multiple Computational Loads meeting the Registry

[1] https://www.nerc.com/who-we-are/rules-of-procedure/proposed-changes-to-rules-of-procedure.

[2] Characteristics and Risks of Emerging Large Loads (July 2025), https://www.nerc.com/globalassets/who-we-are/standing-committees/rstc/whitepaper-characteristics-and-risks-of-emerging-large-loads.pdf (Whitepaper #1); Assessment of Gaps in Existing Practices, Requirements, and Reliability Standards for Emerging Large Loads (March 2026), https://www.nerc.com/globalassets/our-work/guidelines/reliability/white-paper---assessment-of-gaps.pdf (Whitepaper #2).

Criteria."[3] NERC further correctly identified the need to incorporate certain minimum thresholds "to distinguish [ ] those entities, such as industrial manufacturers, with a 'de minimus' [sic] amount of Computational Load do not meet the criteria for registration as a Computational Load Entity. This distinction is based on these entities' differing electrical behavior historically."[4]

As explained below, ELCON is concerned that, despite NERC's clear intent to register only those loads that exhibit certain behaviors that risk BPS stability and reliability, the proposed definitions in the Rules of Procedure and registration criteria in Section III of Appendix 5B (separately and jointly) could capture some traditional loads and, by requiring registration by end users, do not effectively target the entities responsible for ensuring reliable usage of the BPS.

In fact, nothing in the definition or registration criteria addresses the behaviors that introduce risk to the BPS, but rather focus on ancillary usage of a broad set of IT equipment that may or may not introduce those risks. Industrial and manufacturing large load customers are fundamentally different from the data center and computational facility activities that precipitated NERC's large load work. In contrast, traditional manufacturing and industrial customers operate predictable, process-driven load profiles; are already subject to existing power quality expectations under IEEE 519;[5] have decades-long interconnection histories with their host utilities; and do not exhibit the behaviors the LLWG identified as the primary drivers of BPS reliability risk. As proposed, the CLE definition and registration criteria do not adequately target those entities and behaviors identified in the whitepapers and the CLE Technical Reasoning.

Appendix 2 – Definitions Used in the Rules of Procedure

The proposed revisions to Appendix 2 of NERC's Rules of Procedure introduce two new terms:

> "Computational Load" means Load comprised of electric power demand from information technology equipment, such as servers, storage, and networking hardware.
>
> "Computational Load Entity" means the end-user or the entity that hosts end-users that receives electric power for Computational Load.

As an initial matter, both proposed definitions are anchored exclusively to equipment type—"information technology equipment, such as servers, storage, and networking hardware"—rather than to any of the behavioral characteristics that NERC's own LLWG analysis

[3] CLE Technical Reasoning, p. 2 (Apr. 2, 2026), https://www.nerc.com/globalassets/who-we-are/rules-of-procedure/proposed/cle-technical-reasoning-april-2026-posting.pdf.

[4] *Id.*, p. 3 (emphasis added).

[5] IEEE Standard for Harmonic Control in Electric Power Systems.

identified as the source of BPS reliability risk.[6] NERC's technical work consistently grounds the large load reliability concern in specific operational behaviors: second-to-second demand oscillation tied to AI training workloads, voltage-sensitive customer-initiated load reductions (CILR), and synchronized cross-facility demand reductions. A definition anchored to equipment type rather than demonstrated or expected behavior cannot effectively distinguish load facilities that pose reliability risks from those that do not. ELCON urges NERC to anchor the definition to behavioral criteria, or at a minimum incorporate a substantial-proportion threshold as detailed below.

The "Computational Load Entity (CLE)" definition is independently problematic and overly broad. As worded, any user of electric power demand from information technology equipment satisfies this definition and is a candidate for registration. Taken to its extreme, anyone with a computer is a potential NERC registrant.

The phrase "the entity that hosts end-users" could capture a landlord or owner of a multi-tenant industrial park that has no direct control over individual tenants' electrical behavior. Similarly, an industrial manufacturer that operates a vendor-managed server room could be registered as a CLE even though it has zero operational control over that equipment's electrical behavior or demand variability. ELCON recommends that NERC revise the CLE definition to require that the entity have operational control over the computational load at the facility. An entity that passively receives electric power for use by a third-party operator of information technology equipment should not bear registration obligations arising from that operator's equipment and behaviors.

In addition to the overly broad nature of the proposed definitions, it is unclear whether the definition and registration criteria are to be considered separately or jointly. In other words, must an entity first meet the explicit definition of a (CLE) before applying the registration criteria to determine if they are subject to registration? Is there a scenario where a "computational load entity" would not meet the MW and voltage registration criteria as defined in Appendix 5B of NERC's Rules of Procedure?

For example, Company X manufacturers widgets with a load profile of 28 MW and uses 1.6 MW of that demand to power its internal communications server (email), file database, internal management systems, process controls, and onsite data processing. Based on the definition alone, Company X could be considered a "Computational Load Entity" as some of its demand is used to power its information technology equipment.

However, if NERC's intent is to directly tie the *characteristics* and *behaviors* of certain loads that pose a risk to the BPS and then apply the specific size and voltage thresholds to determine their registration eligibility, it is not entirely clear as written.

If NERC does not intend to capture traditional loads hosting informational technology that is ancillary to its primary industrial process, ELCON recommends that NERC modify the proposed definition of "Computational Load" to include the qualifying language "load comprised *primarily* of electric power demand from information technology equipment… ."

[6] *See* Whitepaper #2.

Alternatively, NERC could include a percentage threshold to the definition. For example, "Computational Load means Load comprised of at least 50% of total electric power demand coming from information technology equipment… ."

With the clarification proposed by ELCON, traditional loads such as large commercial and industrial loads would not qualify for registration as the first criteria, the CLE definition, is not applicable. Thus, the proposed registration criteria in Appendix 5B would be irrelevant.

Appendix 5B – Statement of Compliance Registry Criteria

If, however, NERC intended to cast a broad net initially, as currently proposed in the CLE definition, with the registration criteria being more narrowly targeted to size impacts, the low thresholds in the proposed revisions to Appendix 5B of NERC's Rules of Procedure would still inadvertently capture a wide swath of large loads that do not exhibit the characteristics and behaviors identified in the whitepapers and supporting documentation. Such broad implementation would be extremely inefficient and would distract industry from focusing on mitigating the behaviors that pose actual risk to BPS reliability.

Applying the proposed registration criteria in our Company X example, after meeting the broad criteria in the CLE definition of load with "electric power demand from information technology equipment," Company X would then apply the registration criteria proposed in the revisions to Appendix 5B which specifies that a CLE must contribute at least **20 MW** in aggregate load at a single point of interconnection at a voltage of **60 kV** or higher where it hosts at least **1 MW** of load attributable to information technology equipment.

Here again, Company X (28 MW load, connects at 60 kV, where 1.6 MW of its power demand is used for internal information technology equipment) would meet each of the proposed criteria merely because of its size, not its operational characteristics. According to NERC's Technical Reasoning supporting document, the 1 MW of computational load represents a de minimis amount that would distinguish traditional load "such as industrial manufacturers."[7] It is not clear how a facility with only 1 MW of computational load (defined only as "informational technology equipment") would exhibit any of the variable load patterns attributed to reliability risks that precipitated NERC's large load work. Even in aggregate where that 1 MW load was located with 19 other facilities with at least 1 MW of computational load (i.e. 20 MW in aggregate), there is no direct link that ties the risk of the behavior and the impact to the grid due to its size. This approach risks including traditional industrial, manufacturing, and commercial facilities—many of which utilize computational processes as an ancillary component of their operations—but whose load profiles, operating characteristics, and system impacts are well understood and already adequately addressed through existing planning, interconnection, and operational frameworks.

[7] CLE Technical Reasoning, p. 3.

Critically, the proposal does not establish a clear, evidence-based nexus between the mere presence of "computational" activity and an increased or unique reliability risk to the BPS. Absent such a showing, expanding mandatory registration to these facilities would impose significant compliance obligations without a commensurate reliability benefit. NERC's registration framework has historically been grounded in functional distinctions that align with demonstrated reliability impacts. Departing from that principle here could dilute the effectiveness of the registry by including entities that do not meaningfully affect system reliability.

Further, the 60 kV voltage threshold requires explicit legal and technical justification that NERC has not provided. FERC's definition of the Bulk Electric System establishes 100 kV as the general bright line, with narrow exceptions justified by specific demonstrated reliability impacts. NERC's prior extension to 60 kV for generator registration was grounded in documented technical analysis of sub-100 kV generation impacts on the BPS. NERC should be required to provide equivalent technical justification for applying load registration at 60 kV, and absent such justification, ELCON recommends the voltage threshold be set at 100 kV. Similarly, NERC should publish the reliability analysis, if any, that supports the 20 MW aggregate threshold, as the LLWG guideline itself explicitly states that no MW threshold is specified in that document. Registration thresholds must be grounded in demonstrated reliability impact, not arbitrary size proxies. Finally, the proposed aggregation approach—measuring load across a single point of interconnection—does not correspond to the actual reliability risk that NERC seeks to address. The LLWG's documented concern is with cross-facility synchronized demand reductions across geographically dispersed facilities. A single 28 MW industrial facility with 1.6 MW of internal IT equipment presents no such cross-facility synchronization risk regardless of its size, and the proposed criteria fail to make this distinction.

Should NERC reject the proposed qualifying language in Appendix 2 and adopt the CLE definition as written, ELCON requests that NERC adjust the MW and voltage thresholds proposed in Appendix 5B to more closely align with actual risk impact to the BPS.[8] Alternatively, the 1 MW "de minimis" criteria could be replaced with:

> and 3) at least 50% of that aggregated connected Load capability is attributable to powering Computational Load.[9]

This revision also recognizes that NERC's concern does not lie solely with the mere size of these loads and their variable behavior, but that the *proportion* of computational loads in relation to the entire system will significantly increase causing an even greater risk to the BPS.

[8] The proposed 20MW is entirely too low and fails to target the size impacts of actual observed behavior, such as the often-cited incidents in Virginia and Texas that each involved loads of over 1GW.

[9] ERCOT has recently recognized this distinction in its revised definition of "Large Computational Load" which includes the criteria that a 50% or greater portion of the demand at a site be attributable to electronic based load.

Finally, the breadth of the definition and registration criteria creates uncertainty for entities that may not reasonably have considered themselves subject to NERC jurisdiction, leading to potential over-reporting, administrative burden, and inefficient allocation of compliance resources—for both industry and NERC. Absent these refinements, the proposed criteria risk being both overinclusive and insufficiently tied to the reliability concerns it is intended to address. We respectfully urge NERC to revise the proposal to ensure that any expansion of the registration regime is targeted, justified, and proportionate to demonstrated risks to the BPS.

Registration of End-Users

NERC's jurisdiction over "users, owners and operators" was established by section 215 of the Federal Power Act as enacted through the Energy Policy Act of 2005. Since 2005, NERC has asserted that authority through its registration requirements, mandatory reliability standards, compliance and monitoring programs, and enforcement at the transmission level for those responsible for operating and planning the bulk power system. Although there has been some consideration of NERC's jurisdiction over certain distribution functions, there has never been an instance where NERC's authority over "users" has been challenged or more narrowly defined. Specifically, as "users" are typically under retail (state and local) jurisdiction, where does NERC's authority over "users" begin and end?

Size and voltage thresholds offer little protection when defining NERC jurisdiction as the end-user continues to evolve as does NERC's scope. The generally accepted bright-line for NERC jurisdiction has traditionally been 100 kV and above as memorialized in the Bulk Electric System definition in NERC's Rules of Procedure. With the introduction and increased penetration of variable resources, NERC determined that it needed to assert jurisdiction at the 60 kV in some instances[10].

Here again, NERC is proposing jurisdiction at the 60 kV level without addressing the retail v. wholesale, bulk electric system, transmission v. distribution divide. Further, it is questionable to what extent an entity whose chief function falls well outside of electric grid service should be required to manage grid operations and protocols. The reliability concerns cited in the proposal—such as large, rapidly changing load profiles or novel operational characteristics—can be more appropriately and lawfully addressed through entities that are already subject to NERC oversight. Transmission Owners, Transmission Operators, Balancing Authorities, and Load-Serving Entities are already responsible for planning,

[10] *See* NERC Rules of Procedure, Appendix 2 "'Generator Operator' means the entity that: 1) operates generating Facility(ies) and performs the functions of supplying energy and Interconnected Operations Services (Category 1 GOP); or 2) operates non-BES inverter based generating resources that either have or contribute to an aggregate nameplate capacity of greater than or equal to 20 MVA, connected through a system designed primarily for delivering such capacity to a common point of connection at a voltage greater than or equal to **60 kV** (Category 2 GOP)" (emphasis added).

interconnection oversight, operational coordination, and real-time balancing of load. These registered entities are well positioned to assess and manage the impacts of large or variable loads within their systems using existing or refined reliability standards, interconnection requirements, and operational tools. "Users" do not share the requisite expertise nor visibility and control into system operations. Their core mission is health care, manufacturing, chemical processing, mining, data processing, national security, logistics, etc. NERC must ensure that those entities with the technical expertise and responsibility for managing the grid are the entities responsible for ensuring responsible usage of the grid by their customers.

The existing NERC reliability framework places responsibility for BPS reliability squarely on registered entities—transmission owners, transmission operators, planning coordinators, balancing authorities, and distribution providers—who are professionally staffed, technically equipped, and legally obligated to manage BPS reliability. These entities already have the tools and authority to manage large load interconnections through FAC-001 interconnection requirements, qualified change triggers in interconnection agreements, and real-time operational coordination. The LLWG Reliability Guideline itself directs Transmission Owners to incorporate guideline recommendations into FAC-001 interconnection requirements; this mechanism can achieve the same reliability outcomes without the jurisdictional overreach of direct end-user registration. ELCON urges NERC to strengthen the obligations of existing registered entities rather than conscript retail customers into the NERC registry for purposes of addressing load behaviors that existing registered entities are already positioned and obligated to manage.

Reliability is essential to all of us and time is critical as our Nation's energy system evolves rapidly on both the user and producer side. To swiftly address the risks and regulatory gaps identified by the LLWG, the recommendations in the Level 2[11] and Level 3[12] alerts should be formalized through revisions to existing standards (bridge standard) with development of new standards to be applicable to current registered entities.

ELCON appreciates the extensive outreach and analysis devoted to ensuring our grid can meet the challenges of integrating emerging large loads and large load technologies. ELCON looks forward to continuing our engagement with NERC as we address large load operations and the criticality of reliable electricity.

[11] Industry Recommendation: Large Load Interconnection, Study, Commissioning, and Operations (Sept. 9, 2025),

[12] Essential Action to Industry: Computational Load Modeling Studies, Instrumentation, Commissioning, Operations, Protection, and Control (May 4, 2026), https://www.nerc.com/globalassets/programs/bpsa/alerts/level-3-computational-load-alert.pdf.

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