

PUBLIC



NERC Computational Load Update

Eric Meier
ERCOT

October 15, 2026

NERC Rules of Procedure Update

- 1 NERC has proposed updates to the Rules of Procedure to define and register Computational Loads. The comment period of the proposed updates closed on September 18th. On September 30th, NERC provided an update to the Project 2026-02 Standard Drafting Team.
- 2 NERC has stated that they are not making any changes to the proposed Computational Load definition based on the comments they received.
- 3 NERC's Board had Computational Load registration criteria on the agenda for their meeting last week to approve the updates to the Rules of Procedure.
- 4 NERC also requested the ability to develop a data request designed to support computational load registration on an expedited timeline. If approved, the data request would be presented at NERC's December Board meeting for the Board to authorize NERC to issue the request.

Key Takeaways: NERC is moving quickly to update their Rules of Procedure and to register Computational Loads.

Computational Load Definition

Computational Load Site - One or more buildings, structures, or installations that:

- Primarily contains information technology infrastructure used for:
 - creating, executing, and delivering software applications and services;
 - artificial intelligence training, deployment, and delivery;
 - cryptocurrency mining; or
 - other computational activities at a data center; and
- is supplied through electrical equipment that is connected to the BPS.

Registration only applicable for Computational Load Sites greater than or equal to **50 MW that is connected at a voltage greater than or equal to **100 kV** from one or more points of connection.*

Computational Load Owner (CLO) - The entity that owns and maintains a Computational Load Site.

Computational Load Operator (CLOP) - The entity that operates a Computational Load Site.



FERC Actions and Project 2026-02 Computational Loads

NERC began Project 2026-02 Computational Loads this year to produce the first set of standards on Computational Load integration to ensure BPS reliability.

<https://www.nerc.com/standards/reliability-standards-under-development/2026-02-computational-loads>

On July 16th, FERC ordered NERC to file the following:

- 1 One or more new or modified Reliability Standards to address the reliability risks associated with the integration of computational loads, including any associated Glossary definitions, by December 31, 2026.
- 2 Submit revisions to NERC's Rules of Procedure, expected by December 31, 2026.
- 3 An informational filing detailing its workplan regarding its next steps in the standards development process for additional Reliability Standards pertaining to computational load integration by March 1, 2027.

NERC has indicated it plans to convene a special Board of Trustees meeting in late October or early November to secure Board approval of the standards, paving the way for NERC to file the standards with FERC by the end of the year.

Takeaway: FERC and the NERC Board of Trustees are closely following the risks posed by Computational Loads. Ride-through requirements have been flagged as a high-priority item.

CLO Standards Ballot Results

Standards	Overall Affirmative Vote (66.67% Required to Pass)
Standard – CLO-001-1	81.58%
Standard – FAC-001-5	95.45%
Standard – FAC-002-5	95.45%
Standard – CLO-002-1	77.93%
Standard – CLO-003-1	82.40%
Implementation Plans	Overall Affirmative Vote (66.67% Required to Pass)
Implementation Plan – CLO-001-1, FAC-001-5, FAC-002-5	81.94%
Implementation Plan – CLO-002-1	81.03%
Implementation Plan – CLO-003-1	81.83%

Standard Updates

The SDT reviewed around 1300 pages of comments and drafted revisions to the proposed standards, the associated implementation plans, VRF/VSL document, and technical rationale documents. Key revisions included:

1 Correcting typographical, applicability, and VSL issues

2 Aligning evidence-retention language with applicable NERC standards and templates

3 Clarifying data-specification and Operating Instruction provisions in CLO-002

4 Clarifying implementation extensions and effective-date language

5 Aligning CLO-003 Requirements R1–R8 with PRC-028 and R9–R10 with PRC-027

6 Removing a duplicate technical rationale example

7 Clarifying equipment ownership, breaker scope, monitoring locations, and protection-coordination responsibilities

8 Correcting figures, examples, and outdated standard-family references

Key Takeaway: The revisions were non-substantive and did not change the underlying intent or scope of the requirements.

CLO-001: Computational Load Interconnection, Studies, & Modeling Data

Draws upon FAC-001, FAC-002, MOD-032, MOD-026.

Lays out requirements for interconnection processes and studies along with data provisioning for modeling.

Interconnection Requirements and Processes

- Computational Load specific interconnection requirements shall be developed by Transmission Owners/Distribution Providers/Generation Owners (TO/DP/GOs). This shall cover coordinated studies, and procedures for notification of a new interconnection or qualified change.

Interconnection Studies

- Each Transmission Planner/Planning Coordinator (TP/PC) shall study the interconnection of new Computational Loads, and those seeking to make a qualified change. CLOs shall cooperate with this effort.
 - Studies shall include steady-state, short-circuit, and dynamics studies.
 - TO/GO/DPs shall coordinate on interconnection studies as needed.
- PCs shall define a qualified change and make the definition publicly available.

CLO-001: Computational Load Interconnection, Studies, & Modeling Data

Planning Modeling Data

PC/TPs shall develop steady-state, dynamics, and short circuit modeling data requirements and reporting procedures for Computational Loads. The data shall include, at a minimum:

- Parameters, settings, and capabilities related to tripping, Ride-through, and Disturbance recovery;
- The amount or percentage of information technology infrastructure; and
- The expected use(s) or behavior(s) of the information technology infrastructure.

Data updates must occur at least every 13 months, and upon one of the following events (does not reset the 13-month clock).

- A post-commissioning modeling change corresponding to the as-built Computational Load Site (intended to capture any changes during commissioning).
- A qualified change as defined by the PC.

CLOs shall provide documentation of Model Verification for modeling demonstrating that the configurable, site-specific parameters of the model(s) are representative of the design and settings of the in-service equipment for each site to the TP.

CLO-002: Computational Load Operational Data and Communications

Draws upon TOP-003, IRO-010, TOP-001, IRO-001, COM-001, COM-002.

Lays out requirements for operational data provisioning, operational communications, and interpersonal communications.

Operational Data

Each Transmission Operator/Balancing Authority/Reliability Coordinator (TO/BA/RC) shall maintain documented specification(s) for the data and information for Computational Load Sites necessary for it to perform its Operational Planning Analyses, Real time monitoring, and Real-time Assessments. They shall also provide the data to the entities that need it. CLOs/CLOPs are required to provide to specified data.

Operating Instructions

CLOs are required to comply with operating instructions from the TO/BA/RC.

Interpersonal Communications

- Each TO/BA shall have Interpersonal Communication capability with CLOPs in its area and vice-versa.
- Detection of Interpersonal Communication capability failure is required by TO/BA/CLOP.
- CLOPs shall do initial training for oral two-party, person-to-person Operating Instructions, and then follow the instructions.

CLO-003: Computational Load Protection Coordination & Disturbance Monitoring

Draws upon language in PRC-028 and PRC-027.

Requires monitoring for Computational Loads and protection coordination.

Monitoring

- Each CLO shall have Sequence of Event Recording (SER) for circuit breakers associated with equipment it owns including bus(es), and, as applicable, the main power transformer(s), on-site generation, shunt static and dynamic reactive device(s).
- Each CLO/TO/DP/GO that owns the main power transformer(s) that supplies a Computational Load Site shall have Fault Recording (FR) on the high-side of the main power transformer or common point of connection – per phase on all three phases. The specifications for the fault recorder are also provided.
- Each CLO/TO/DP/GO that owns the main power transformer(s) that supplies a Computational Load Site shall have Dynamic Disturbance Recording (DDR) on the high-side of the main power transformer or common point of connection – per phase on all three phases. The specifications for the DDR data are also provided.
- The entity responsible for the SER/FR/DDR is responsible for time synchronization and for providing the data to upon request.
- If a SER/FR/DDR device fails, the capability shall be restored and a Corrective Action Plan submitted.

Coordination

- Each Computational Load Owner shall establish a process for developing new and revised Protection System settings for Computational Load Sites.

Proposed Implementation Plan

CLO-001		Applicability	Requirements	Implementation		
Interconnection Process & Requirements		TO, DP, GO	R1, R2, R3	Reg Approval	Next Quarter	+6 Months
Qualified Change & Modeling Data Specifications		TP, PC	R7, R8	Reg Approval	Next Quarter	+3 Months
Study Coordination		TP, PC, TO, DP, GO, CLO	R4, R5, R6	Reg Approval	Next Quarter	+9 Months
Provision of Modeling Data & Data Verification		CLO	R9, R10, R11	Reg Approval	Next Quarter	+9 Months
CLO-002		Applicability	Requirements	Implementation		
Operational Data Specifications		RC, BA, TOP	R1, R2, R3, R4, R5, R6	Reg Approval	Next Quarter	+6 Months
Provision of Operational Data		CLO, CLOP	R7	Reg Approval	Next Quarter	+12 Months
Adherence to Operating Instructions*		CLOP	R8, R9	Reg Approval	Next Quarter	+12 Months
Interpersonal Communications*		TOP, BA, CLOP	R10, R11, R12, R13	Reg Approval	Next Quarter	+12 Months
Oral Communication Protocol & Training*		CLOP	R14, R15	Reg Approval	Next Quarter	+12 Months
CLO-003		Applicability	Requirements	Implementation		
Protection Coordination		CLO	R9, R10	Reg Approval	Next Quarter	+9 Months
SER, FR, and DDR Monitoring Equipment**		CLO, TO, GO, DP	R1* – R8	Reg Approval Next Quarter (Effective Date) Sites In-Service Prior to Effective Date +36 Months Sites In-Service After Effective Date +15 Months		

*Deadline extension possible under certain circumstances for R8-R15

*SER data in R1 is only applicable to CLO

** Deadline extension possible under certain circumstances for R1-R8

Project 2026-02 Remaining Items

The SDT referred the following items to the NERC Large Load Working Group (LLWG) for further evaluation and work. Some of these items are already in progress and some will be added to the LLWG workplan in 2027 and beyond.

- | | |
|---|--|
| 1 Disturbance performance and ride-through | 5 Operations and planning studies |
| 2 Commissioning guidance | 6 Electromagnetic transient modeling guidance |
| 3 Qualified changes and modeling-data updates | 7 Co-located computational load, generation, and energy-storage facilities |
| 4 Model validation | 8 Sequence-of-events data, fault codes, and related retention periods |

Key Takeaway: These referrals align with the work that the LLWG has in progress and is envisioning for its future work plan items.

NERC Large Load Working Group Update

The NERC LLWG is advancing three Standard Authorization Requests (SAR):

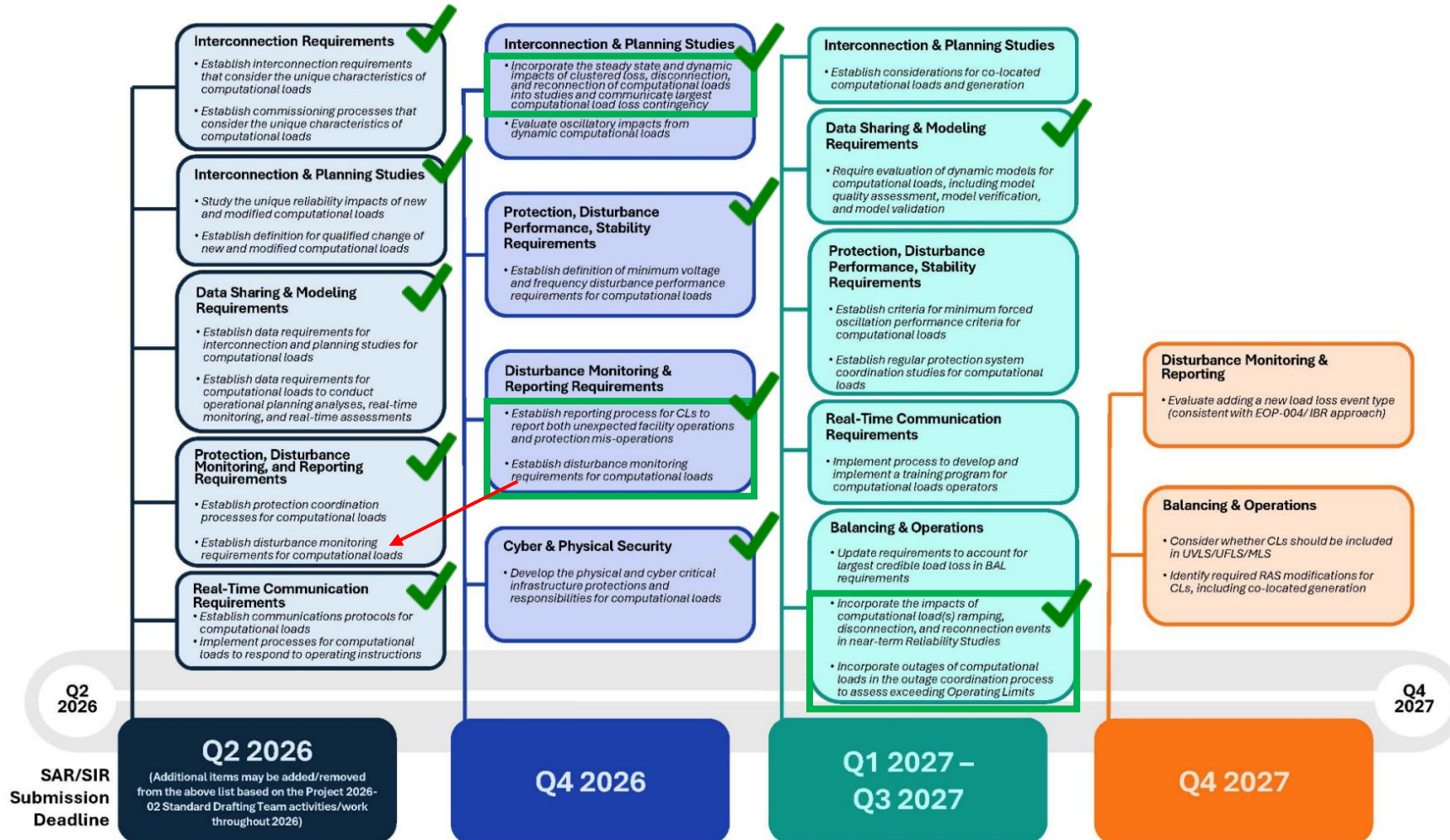
- 1 **Reliability Standards to Address Computational Load Disturbance Performance**
This SAR is advancing to the Standards Committee and will be picked up by Project 2026-02.
- 2 **Computational Load Event Reporting, Model Validation, and Model Quality Assessment**
This SAR is open for comments till October 22nd.
- 3 **Studying Computational Load Loss in Planning and Operational Studies**
This SAR is open for comments till October 22nd.

The LLWG is also working in the following items:

- White Paper: Large Load Disturbance Performance – Impact Analysis and Ride-Through Recommendations
- White Paper: Simulation and Study Considerations for Large Loads
- Reliability Guideline: Computational Load Commissioning

Key Takeaway: Standard development work will continue into 2027 with numerous requirements that may impact entities in the ERCOT region.

Computational Loads Standard Authorization Request Roadmap Status



Upcoming Deadlines and Next Steps

Upcoming Deadlines

The Computational Load Event Reporting, Model Validation, and Model Quality Assessment, and Studying Computational Load Loss in Planning and Operational Studies SARs are for open public comment till October 22nd, 2026.

Preparation for Next Steps

- Prepare to respond to the NERC data request if necessary.
- Prepare to register with your Regional Entity – Texas Reliability Entity (TRE) if you meet the registration criteria.
- Prepare for implementation of the CLO standards beginning in 2027. If FERC approves the CLO Standards in early Q1 2027, then the effective date will likely be 4/1/2027 which would then imply a 7/1/27 compliance date for the very first CLO requirements (CLO-001 R7 & R8, which address the definition of a qualified change and modeling-data specifications for Computational Load Sites).

Key Takeaway: Review the SARs open for comments and file comments if your organization decides it wishes to do so. Prepare to register with TRE and to meet your obligations under the CLO Standards as applicable.

Questions/Comments?

Eric.Meier@ercot.com

Learn More

www.ercot.com

Download ERCOT Mobile App



Connect With Us



facebook.com/ERCOTISO



x.com/ercot_iso



linkedin.com/company/ercot



instagram.com/ercot_iso