



LARGE LOAD & DATA CENTER SERIES • EC-WP-1001

NERC's Large Load Action Plan

Alerts, Standards, and the Acceleration of the Reliability Response

How NERC is responding to the integration of large computational loads onto the bulk power system: Alerts, technical white papers, a reliability guideline, and an accelerated standards project. This is the mandatory layer that overlays every market regime. Updated October 2026.

Book Two of the Energy Compliance Large Load & Data Center Series

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Foreword

This professional reference is one of a series Energy Compliance, Inc. publishes for registered entities and the people who run their compliance programs.

I have spent more than thirty years on every side of the bulk electric system. I have operated control centers as a Reliability Coordinator, Transmission Operator, and Power System Operator. I have audited grid facilities and signed off on findings as a senior compliance auditor. I have worked enforcement matters from inside the regulator's process. For the last several years I have advised registered entities directly through the firm I founded.

The entities that handle reliability well share a common habit. They take the standards seriously without confusing them with reliability itself. They know that a NERC Reliability Standard is a floor, not a ceiling. They know compliance is what an auditor evaluates, but reliability is what the system delivers or does not. They prepare for audits by building programs that survive real questions rather than binders that look thick.

NERC does not move quickly, and that is by design. The standards process builds technical justification, stakeholder consensus, and FERC review into every step. So pay attention when NERC publishes two technical white papers, issues a Level 2 recommendation and then a Level 3 Essential Action Alert, releases a reliability guideline, and launches an accelerated standards project in under a year. The reliability community concluded that the existing framework could not handle large computational

loads and set out to rebuild it on a timetable the ordinary process does not allow. This second book in the series traces that response. The October 2026 edition brings it current: the standards passed their final ballot and NERC's Board approved the registry criteria while this update was in preparation.

These references are written for the compliance manager who wants to understand the system, not just memorize requirements. For the counsel who has to brief a board honestly on the next eighteen months of large-load regulation. For the senior planner or operator told their system has a new kind of load, who suspects the old planning assumptions no longer hold. And for the data center owner or engineering partner told their facility may now be a registered entity, who wants to know what that means.

These references come from three decades of watching this work succeed and fail. I write them in the voice I use in a control room or before a Regional Entity audit team: direct, grounded in evidence, honest about what the standards do and do not require.

Energy Compliance, Inc. exists because most consulting offered to registered entities is structured for billable hours, not outcomes. A senior practitioner oversees every engagement. We automate what should be automated and apply senior judgment where it is required. If that approach matches what you want in a compliance partner, the back of this reference tells you how to reach us.

If not, the reference still belongs to you. Take what is useful. Apply it well. And remember the only test that matters: when the system needs to perform, does it?

Rob Smith

Founder and Principal, Energy Compliance, Inc.

Bloomington, Minnesota

How to Use This Reference

This whitepaper is the second of five core books in the Energy Compliance Large Load and Data Center Series, plus an October 2026 update. EC-WP-1000 laid out the grid layer: what the demand shock is, why the existing planning and interconnection frameworks cannot absorb it, and how the federal and state interconnection regimes are being rebuilt. This book moves from that picture to the specific NERC response. It covers the Alerts, the technical white papers, the reliability guideline, and the standards project that produced the first mandatory requirements for computational loads.

The grid layer (EC-WP-1000)

What the demand shock is, why the existing planning and interconnection frameworks cannot absorb it, and how the federal and state interconnection regimes are being rebuilt in response.

The standards layer (EC-WP-1001)

NERC's Large Loads Action Plan, the Level 2 and Level 3 Alerts, the technical white papers, the reliability guideline, and Project 2026-02, the standards project for computational loads.

The entity layer (EC-WP-1002)

The registration question as it stood in June 2026, when NERC was proposing a single Computational Load Entity. Read it together with EC-WP-1005, which supersedes its description of the registry criteria.

The owner layer (EC-WP-1003)

The data center owner's playbook under Texas Senate Bill 6. It covers the interconnection trigger, the study-fee and site-control regime, the curtailment bargain, and the standalone-versus-co-located choice.

The operating layer (EC-WP-1004)

The compliance operating model for a registered computational load: internal controls, governance, evidence infrastructure, and the day-to-day disciplines that convert obligations into demonstrable compliance.

The October 2026 update (EC-WP-1005)

The registration framework NERC's Board approved on October 8, 2026, with the Computational Load Owner and Computational Load Operator functions, the 50 MW and 100 kV site threshold, and the requirements of CLO-001-1, CLO-002-1 and CLO-003-1.

Every factual assertion in this reference is grounded in a primary source identified in the Sources and Authorities appendix. Where a regulatory matter was proposed or pending at the time of writing, it is described as such. Energy regulation in this area is moving on monthly timescales, so the status of a docket or a NERC project when you read this may differ from its status on October 17, 2026.

Executive Summary

Reliability standards usually evolve slowly. NERC's response to large computational loads has not. NERC published a white paper on the characteristics and risks of emerging large loads in July 2025. It issued a Level 2 industry recommendation in September 2025, posted draft registry criteria and a Standard Authorization Request in April 2026, and issued a Level 3 Essential Action Alert on May 4, 2026. Level 3 is the highest alert level NERC has. It requires Board approval before issuance. NERC first used it in 2023, for cold weather preparation, and used it again in May 2025 for inverter-based resources. By October 2026 the first computational-load standards had passed their final ballot and NERC's Board had approved new registry criteria. This book traces that program, which NERC calls its Large Loads Action Plan, and the machinery that carried it from voluntary recommendation to mandatory obligation.

EC-WP-1000 examined the grid layer: the system reliability problem and the federal and regional interconnection frameworks responding to it. This book examines the NERC layer, the program through which the continent's reliability organization turns that problem into concrete obligations. It connects the system-level diagnosis to the entity-level requirements the later books address. It does not settle who must register or what registration requires. EC-WP-1005 covers that. What this book explains is the program that produced the registration.

Five findings frame the analysis

NERC has one coordinated plan. I read the Large Loads Action Plan as five workstreams in deliberate sequence: technical white papers to define the problem, alerts to direct near-term action, a reliability guideline to capture best practice, registry criteria to define who is covered, and Reliability Standards to make the obligations enforceable. Reading any single piece in isolation misses the design.

NERC's own technical conclusion is that the existing rules are inadequate. The Large Loads Working Group's March 2026 gaps white paper found that the existing Reliability Standards, and the existing processes and requirements for planning, operations, security and other areas, are inadequate to address the risks posed by emerging large loads. That finding is the predicate for everything that follows. A reliability organization does not build a new functional registration around a problem its existing standards already cover.

The Level 3 Essential Action Alert was the centerpiece of the near-term response. Issued May 4, 2026, it set out seven essential actions for the registered entities that interface with computational loads: Transmission Planners, Planning Coordinators, Transmission Owners, Balancing Authorities, Reliability Coordinators and Transmission Operators. Acknowledgment was due May 11 and structured responses August 3, 2026. The alert is not a Reliability

Standard and carries no penalties for failing to implement the actions, but the reporting obligation was real and the response record now exists.

The alert mechanism is a tested playbook. NERC used the Level 3 instrument for inverter-based resources in May 2025, after analyzing major events totaling more than 15,000 MW of unexpected generation reduction since 2016. That program moved from alerts to an enforceable ride-through standard, PRC-029-1, which FERC approved in Order No. 909 in 2025. The computational-load program follows the same arc on a faster clock.

The endpoint is mandatory standards and new registered entities, and both arrived on schedule in 2026. Project 2026-02 produced CLO-001-1, CLO-002-1 and CLO-003-1, with conforming revisions to FAC-001 and FAC-002. They passed their final ballot in October 2026 and head to Board adoption and a FERC filing due by December 31, 2026. The single Computational Load Entity NERC proposed in April 2026 is gone. On October 8, 2026, the Board approved two new functions in its place, the Computational Load Owner and the Computational Load Operator. EC-WP-1005 covers that framework in detail.

The obligations are arriving in two waves. The first wave, made up of the alert responses, the modeling and study practices and the commissioning processes, is here now. The second wave, registration and enforceable standards, is filed or about to be, and NERC's implementation plans expect registration to begin in 2027. This book maps the program so an entity can see both waves and prepare for them in the right order.

Chapter 1. The Problem NERC Set Out to Solve

NERC does not mobilize this fast without cause. The first book of this series examined the reliability problem in detail. This chapter revisits it only to explain why NERC framed the issue the way it did and moved on the schedule it chose. The short version: on the basis of real events and its own technical analysis, the continent's reliability organization concluded that the fastest-growing class of large load on the system was operating outside the reliability framework, and that the framework had to be rebuilt to bring it in.

1.1 The events behind the response

NERC's action plan rests on observed system behavior as much as on forecasts. In its March 2026 letter to FERC, NERC said its work was informed by grid events in Virginia and Texas where large data center loads responded to, and amplified, grid instability. The two incident reviews NERC published show what that means.

The first, published in January 2025, examined a July 10, 2024 event in the Eastern Interconnection. A lightning arrestor failed on a 230 kV transmission line. Over an 82-second period the line saw six faults as its automatic reclosing cycled, and every fault was cleared properly by the protection system. Coincident with that sequence, about 1,500 MW of data center load in the area dropped off. No utility equipment disconnected it. Customer-side protection and controls did. Most of the sustained reduction, about 1,260 MW, came at the third reclosing attempt and did not return for hours. NERC traced it to the interaction between the line's reclosing sequence and data center controls that count voltage disturbances within a set period.

The second review, published in January 2026, looked at ERCOT. ERCOT identified 26 ride-through events between January 2023 and September 2025 in which cryptocurrency mining facilities lost more than 100 MW of load in response to normally cleared transmission faults. Load reductions ranged from about 17% to 95% of pre-disturbance consumption, and even a shallow single-phase voltage dip to 0.844 per unit produced a 19% reduction at one facility.

The pattern matters more than any single event. The disturbances themselves were routine faults the system clears all the time. What made them consequential was how the load behaved when the disturbance reached the facility. Internal protection logic did what it was designed to do. It protected the facility's equipment, and in doing so it pulled a large block of demand off the system in seconds. The loss of a very large block of load is a less rehearsed contingency than the loss of generation, and the planning models largely could not see it coming because that sub-second protective behavior sat outside routine load modeling. NERC's response is an attempt to make that behavior visible, predictable, and ultimately governed.

1.2 NERC's diagnosis

When NERC reviewed how the industry was handling these loads, its conclusion was blunt. In the responses to its Level 2 recommendation, NERC found that entities generally did not have sufficient processes, procedures, or methods to address the risks associated with computational loads. That is a finding about the framework rather than about any one entity's diligence. The practices, requirements, and standards that govern interconnection, planning, protection, and operations were built for conventional load. They did not equip even careful entities to manage what computational load does.

That diagnosis shaped the structure of the action plan. If some entities had simply fallen behind on otherwise adequate practices, the remedy would have been enforcement of existing standards. Because NERC concluded the practices and standards themselves fell short, the remedy had to be larger: new modeling expectations, new study practices, new commissioning processes, a reliability guideline, registry criteria, and new Reliability Standards. The breadth of the plan reflects the breadth of the gap.

NERC built its case in three moves. First, it documented the events as a class rather than isolated incidents: disturbances in two interconnections with consistent electrical characteristics. Second, the March 2026 gaps paper established that the existing standards framework did not adequately address that class. Third, the characteristics-and-risks paper and the reliability guideline supplied the technical content of what a sufficient framework would require. Each move is in the published record, and together they make a defensible case for the standards and registration work that followed.

1.3 Why the reliability layer reaches everywhere

One feature of NERC's authority makes its response unusually consequential. It does not depend on market structure. The federal interconnection actions examined in the first book reach the FERC-jurisdictional markets. The Texas statute reaches ERCOT. NERC's reliability authority reaches the Eastern, Western, and Texas Interconnections alike, because it attaches to the reliable operation of the bulk power system rather than to the commercial terms of transmission service. The events behind the action plan occurred in two interconnections under two different regulatory regimes, and NERC's response applies across both. That reach is why this book sits at the center of the series. Whatever market a large load connects in, the NERC layer overlays it.

The bulk power system is one electrical object within each interconnection. A Texas facility that drops a large block of load in seconds moves frequency and voltage on the Texas Interconnection. A comparable facility in PJM does the same on the Eastern Interconnection. The physics does not respect jurisdictional lines, and the reliability framework applies on the same technical basis everywhere for that reason.

This structure also limits the arguments available to a registered entity. NERC's authority does not rise and fall with the wholesale-versus-retail distinction. It follows the bulk power system as a technical object. In my view, a facility whose disconnection can move frequency across an interconnection is a candidate for inclusion whether it sells power, buys power, or simply consumes it. The arguments that have historically limited federal reach over retail customers,

such as state primacy over retail rates and the local character of distribution service, do not translate cleanly into a defense against a reliability obligation tied to the disturbance behavior of the load itself. That is the engine behind the registration and standards work examined in Chapter 7.

Read the technical record alongside the operating record. The white papers and incident reviews cite specific events, identify specific failure modes, and propose specific remediations. Incident reviews, regional event reports, and the operator logs that survive disturbance investigations are the ground truth against which the white papers' generalizations can be tested. The white papers tell you what the drafters concluded. The operating record tells you what the operators actually saw.

Chapter 2. The Large Loads Action Plan

The pieces are easier to understand as a sequence than as a list. NERC organized its response under one banner, the Large Loads Action Plan, and the plan has an internal logic. Define the problem technically. Direct near-term action while the slower machinery turns. Capture best practice in guidance. Decide who is covered. Then make the obligations mandatory and enforceable. Each instrument does a different job, and each hands off to the next.

2.1 The structure of the plan

NERC's Board issued a resolution in February 2025 directing staff to develop the action plan. NERC itself describes the plan today as three concurrent prongs: registration criteria, Reliability Standards, and technical insights delivered through alerts, working groups and white papers. I find it more useful to break it into five workstreams:

- Technical white papers that characterize the loads, their risks, and the gaps in the existing framework. These are the analytical foundation for everything else.
- Alerts that direct registered entities to take near-term action, escalating from a Level 2 industry recommendation in September 2025 to a Level 3 Essential Action Alert in May 2026.
- A reliability guideline capturing recommended best practices for entities to adopt voluntarily, ahead of and alongside mandatory requirements.
- Registry criteria defining which entities, based on specific physical and electrical characteristics, must register with NERC and comply with its Reliability Standards.
- Reliability Standards that establish measurable, enforceable requirements for those registered entities. The first three passed their final ballot in October 2026.

The sequencing tells you something. Alerts need only NERC's existing alert authority under Section 810 of its Rules of Procedure, and they can be issued and acted on within months. The white papers establish the documentary record that later standards work depends on. The reliability guideline follows as a voluntary intermediate step that communicates best practice before mandatory standards exist. The standards project runs in parallel on a longer cycle, and the Rules of Procedure registration revisions advance on a related but separate track. Each step builds on the record of the one before it.

2.2 Why NERC sequenced it this way

The sequencing solves a timing problem. NERC's standards process involves drafting teams, industry ballots, and regulatory approval, and it does not produce an enforceable standard quickly. The reliability risk was immediate. Alerts and the reliability guideline are the tools NERC uses to direct action before a standard exists. The white papers come first for the same reason:

they justify both the near-term alerts and the eventual standards, and they give the drafting team a foundation to build on.

Be precise about the legal status of each instrument, because entities conflate them. A white paper is analysis and binds no one. An alert carries a reporting obligation, but it is not a Reliability Standard and carries no penalties for failing to implement its actions. A reliability guideline is explicitly voluntary best practice. Only Reliability Standards, once balloted, adopted by the Board, and approved by FERC, are mandatory and enforceable with penalties. The action plan moves obligations across that line in public, step by step, which is why an entity can see the mandatory phase coming well before it arrives.

NERC could have gone straight from the event record to a standard. The path through alerts, white papers, and a guideline builds a record that makes the eventual standard harder to challenge, and it gives industry a chance to engage with the substance before obligations become enforceable. That record is the foundation on which the standards will be defended in front of FERC.

The record is now large: two alerts and the aggregated Level 2 report, two technical white papers, two incident reviews, the reliability guideline, the Project 2026-02 SAR, two rounds of proposed Rules of Procedure revisions, the FERC order, and the comments and responses generated at every posting. Effective engagement means reading more than the latest filing. The arguments that prevail in standards drafting are the ones the broader record supports.

2.3 The working group behind the plan

NERC established the Large Loads Task Force in August 2024. It is now the Large Loads Working Group (LLWG) of the Reliability and Security Technical Committee. The LLWG's output, including the white papers and the technical input to the alerts and the guideline, is the substance the rest of the program is built on. For an entity tracking the program, the working group's materials show where the technical thinking is going before it hardens into an alert or a standard. The LLWG is also where the next round starts: it drafted the Phase 2 Standard Authorization Requests that were out for comment in September and October 2026.

The mix of people around that work matters. NERC describes the computational-load standards as the product of collaboration among NERC and Regional Entity staff, the electric industry, data center and cryptocurrency industry participants, and technical experts, and it formed a Computational Load Short-Term Advisory Group of more than 100 members to support the drafting team. The hardest technical questions sit at the boundary between the system and the facility. A protection setting that makes sense to a facility operator protecting expensive equipment can be exactly the setting that drops a cluster of facilities during a normally cleared fault, which is what the July 2024 event showed. A standard that survives review has to be defensible from both sides.

Treat engagement across the plan's components as a single question. An entity that reads the white papers, comments on the guideline, participates in the drafting, and answers the alerts carefully builds a coherent posture. One that engages with some pieces and ignores others builds an incoherent one, and regulators notice. In my experience the entities that engage as a system end up in a healthier relationship with NERC and their Regional Entity.

Chapter 3. The Technical White Papers

Every durable regulatory program rests on a technical record. Before NERC directed any action, it built the analytical foundation: two white papers that first characterized large loads and their risks, and then assessed whether the existing framework could manage them. The second paper's answer, that it could not, is the most consequential technical judgment in the entire action plan.

3.1 The characteristics-and-risks paper

The Large Loads Task Force published Characteristics and Risks of Emerging Large Loads in July 2025. It set out what these loads are electrically and why they pose reliability risks distinct from conventional load. It established, in NERC's own voice, the characteristics examined in the first book of this series: large, concentrated, power-electronic facilities capable of rapid swings in consumption and of disconnecting from the system to protect their internal equipment when electrical conditions deteriorate. By naming and characterizing the risk, the paper created the shared vocabulary the rest of the program relies on. It is the reason later documents can treat computational load as a defined category rather than a vague worry about data centers.

Without that baseline, every later step would have rested on contested premises. The paper drew on the event record and on equipment characteristics, and it describes the load class specifically enough to support standards drafting. The gaps paper names it as a companion document, and the two together performed the first step of the RSTC's SAR process.

3.2 The gaps paper and its conclusion

The second paper, Assessment of Gaps in Existing Practices, Requirements, and Reliability Standards for Emerging Large Loads, came from the Large Loads Working Group in March 2026. It asked the harder question: given those characteristics, are the existing practices, requirements, and Reliability Standards adequate? Its answer was no. The paper found that the existing Reliability Standards, and the existing processes and requirements for planning, operations, security, and other areas, are inadequate to address the risks posed by emerging large loads. It attributed the inadequacy to a regulatory regime built when significant loads behaved very differently from data centers and cryptocurrency mining.

The paper's first recommendation followed directly. It said there are multiple high-impact risks to the bulk power system from large loads that NERC registered entities cannot adequately address, and it recommended that NERC pursue registration of a type of entity, or types of entities, able to perform specific functions to address those risks. Its second recommendation called for SARs to address the unmitigated risks. Read those two recommendations and you have the outline of the rest of 2026.

A reliability organization facing a new risk has two broad options. It can conclude that the existing standards cover the risk and focus on enforcement, or it can conclude that the standards fall short and build new ones. NERC took the second path, on the record, in a published technical document. That choice authorizes the entire downstream program. An entity that understands this will not waste effort arguing that its existing compliance posture is sufficient. NERC has already concluded, at the framework level, that it is not.

3.3 From analysis to action

The white papers impose nothing by themselves. Their job is to turn observed events and engineering judgment into a technical record that can support binding action. That record is what let NERC write the seven essential actions in its Level 3 Alert with specificity, ground the reliability guideline in identified practices, and justify the scope of Project 2026-02. If the standards are challenged, the white papers are the evidentiary foundation NERC will point to.

The gaps paper is also the procedural turning point. Once NERC concluded in writing that the existing framework was inadequate, the case for a comprehensive response was made. Within weeks NERC had appointed the standards drafting team and told FERC it would run the registration and standards work in parallel rather than in sequence, as it normally would, with a target of filing both by December 31, 2026. Reading the gaps paper as that turning point explains why everything after it moved so fast.

Chapter 4. The Alert Mechanism:

From Level 2 to Level 3

An alert is how NERC acts before a standard exists. The Reliability Standards process is slow by design. Alerts let NERC tell registered entities what to do about an emerging risk while the formal standard is still being written. Understanding how alerts work, and how NERC escalated from a recommendation to essential actions on computational loads, is the key to reading the near-term obligations.

4.1 What NERC alerts are

NERC issues alerts at three levels under Section 810 of its Rules of Procedure. A Level 1 Industry Advisory is purely informational, and no response is required. A Level 2 Recommendation to Industry recommends specific actions and requires recipients to respond. A Level 3 Essential Action identifies actions NERC deems essential to bulk power system reliability. It requires NERC Board approval before issuance, and recipients must acknowledge it and report on the status of their activities. None of the three is a Reliability Standard, and an entity is not subject to penalties for failing to implement the recommended or essential actions. What the alerts carry is a reporting obligation and, in practice, an expectation. An entity that ignores an essential action and later has a related reliability event will find that record difficult to defend.

The response mechanics are formal. For the computational-load alert, a valid response took three steps in the NERC Alert System: acknowledgment, submission of the response, and approval of the response. A response did not count until all three were complete. The questions are not free-form. Each entity rated the workload to implement each essential action as low effort, significant effort, or cumbersome, or marked it not applicable to its functional group. Planners, Transmission Owners and operators then answered function-specific questions about whether their current practices already include each action and, if not, when they plan to change them: 2026, 2027, 2028, or later. For United States entities, NERC aggregates the responses and provides an anonymized report to FERC. That structure turns an alert into a continent-wide data collection as well as a directive. NERC learns, action by action and entity by entity, where the industry stands.

4.2 The Level 2 recommendation

NERC's first formal alert on large loads was a Level 2 recommendation, Large Load Interconnection, Study, Commissioning, and Operations, published September 9, 2025. It went to Transmission Owners, Resource Planners, Transmission Operators, Transmission Planners, Balancing Authorities, Planning Coordinators, Distribution Providers and Reliability Coordinators, with responses due January 28, 2026. It recommended clear facility design and performance criteria in interconnection requirements, a comprehensive interconnection and

system-wide study process, stronger commissioning, operating protocols and communication infrastructure for operating facilities, and inclusion of large loads in demand forecasts.

NERC published the aggregated report on the responses in March 2026. Its central finding drove the escalation: entities generally did not have sufficient processes, procedures, or methods to address the risks of computational loads. The voluntary recommendation showed that industry was not closing the gap fast enough on its own. That finding moved NERC to the next level.

The jump from Level 2 to Level 3 is more than a change of label. A Level 2 recommendation can be answered with a description of activities undertaken or planned. A Level 3 alert names specific essential actions, requires Board approval to issue, and requires status reporting by a fixed date. In my view, the Level 3 reporting record becomes a documented baseline that later audits, self-reports and enforcement discussions will be measured against once mandatory standards apply. For an entity that failed to acknowledge or report, or reported in a way that reads as non-responsive, the record itself is an exposure, independent of the underlying technical question.

The essential actions cover a deliberately broad surface. Modeling requirements address what planners need to see. Study improvements address what planners do with what they see. Commissioning practices address how new facilities join the system. Protection review and system-side corrective actions address behavior during faults. Fault recording addresses what gets captured during events. Interpersonal Communication and joint operating procedures address coordination during planned and emergency conditions. Each is a discrete capability the system needs, and each is a discrete workstream a registered entity has to staff.

4.3 The inverter-based-resource precedent

NERC had run this play before, and recently. On May 20, 2025, it issued a Level 3 Alert, Essential Actions for Inverter-Based Resource Performance and Modeling, to Generator Owners, Transmission Owners, Transmission Planners and Planning Coordinators. NERC stated that since 2016 it had analyzed major events totaling more than 15,000 MW of unexpected generation reduction that current planning processes had not predicted and NERC studies could not replicate. Its earlier Level 2 alerts had found that voluntary recommendations were not being implemented and that many Generator Owners did not have basic facility data readily available. Acknowledgment was due May 27 and reporting August 18, 2025. The essential actions pressed for model validation reports, commissioning testing, tracking of firmware changes, and retention of facility data including ride-through capability.

The parallel to the computational-load alert is close. In both cases NERC observed large, unexpected losses tied to fast power-electronic equipment. It concluded that voluntary measures were not working and used the Level 3 instrument to force visibility through modeling, studies, commissioning, and data. The inverter-based-resource program also shows where this road ends. FERC approved PRC-029-1, Frequency and Voltage Ride-through Requirements for Inverter-Based Resources, in Order No. 909, effective August 28, 2025. The computational-load program is following the same arc on a faster clock.

Acknowledgment is not completion. The alert required named entities to acknowledge it and report on the status of the essential actions. It did not require them to have finished the work. That distinction matters because the response record is what NERC and the Regional Entities have to work with until the standards take effect. An entity that acknowledged and reported limited progress is in a different posture from one that acknowledged and reported substantial progress. Both satisfied the alert mechanism. The records they produced signal very different programs.

Regulators have institutional memory. Once mandatory standards apply, I expect an entity's alert responses on the corresponding essential actions to become part of the context an audit team brings to the table. Entities that used the alert period to build program infrastructure and document progress credibly will find that memory working for them. Entities that treated it as paperwork will find it working against them.

Chapter 5. The Level 3 Essential Action Alert

On May 4, 2026, NERC reached for its highest instrument. The Level 3 Essential Action Alert, Computational Load Modeling, Studies, Instrumentation, Commissioning, Operations, Protection, and Control, uses the highest alert level NERC has. NERC first used that level in 2023 for cold weather preparation and used it again in May 2025 for inverter-based resources. NERC said it issued the alert because it observed customer-initiated large load reductions and significant oscillations occurring in seconds, leaving little or no room for real-time response. The alert converted NERC's technical diagnosis into seven essential actions with a fixed reporting deadline.

5.1 Who had to respond, and by when

The alert went to the registered functions that stand between a computational load and the bulk power system: Transmission Planners, Planning Coordinators, Transmission Owners, Balancing Authorities, Reliability Coordinators and Transmission Operators. Recipients had to acknowledge it in the NERC Alert System by midnight Eastern on May 11, 2026, and submit approved responses by midnight Eastern on August 3, 2026. The alert states plainly that it is not a Reliability Standard, does not create a mandatory obligation to take the essential actions, and carries no penalties for failure to implement them. It also states that it does not excuse a failure to follow its practices where that failure is itself a violation of an existing Reliability Standard.

Scope was narrowed in one useful way. NERC said entities that neither have nor expect to integrate computational loads within two years may not find the essential actions useful. The actions are aimed at entities that have such loads, expect them within two years, or could feasibly receive an interconnection request. NERC also said entities should implement the actions before receiving a computational load interconnection request.

The August 3 deadline started a dialogue rather than ending one. Reports that showed concrete progress, named specific gaps and proposed realistic completion paths will read as constructive. Reports that recited generalities or deferred specifics invite follow-up. With the deadline past, the useful question for each recipient is whether its organization is doing what its response said it would do.

5.2 The seven essential actions

The seven essential actions track the domains named in the alert's title. Together they make computational load visible to planning and operations, push its characteristics into interconnection requirements and studies, and harden the system against the sudden loss of a large block of this load. As NERC wrote them:

1. **Modeling data.** Transmission Planners and Planning Coordinators develop a detailed list of the modeling data, settings, and parameters needed from computational loads and distribute it to the Transmission Owners in their footprint, and Transmission Owners reflect it in their facility interconnection requirements. The PERC1 load model, or one with equivalent or better capability, is the minimum base. Planners model computational load separately from other industrial load and separate its IT load from non-IT load. They collect expected minimum and maximum MW and power factor by season, dynamic characteristics including UPS settings, the percentage of IT versus non-IT load such as cooling at various loading levels, expected ramp rates, and protective device behavior. Modeling information is collected at interconnection and through the facility's life, with model updates when a qualified change occurs.
2. **Studies.** Transmission Planners and Planning Coordinators study their systems with computational load in view. That means evaluating System Operating Limits or similar envelopes for additional load before voltage or frequency instability, identifying vulnerable areas and mitigation, and identifying credible Contingencies where the aggregate loss or reduction of computational load would cause planning criteria violations. The load loss involved is communicated to Balancing Authorities and Resource Planners.
3. **Qualified change.** Planning Coordinators revise their definition of the qualified change that triggers review of local area protection, stability limits, and other reliability studies, so that it captures growth of the load, changes to settings or configuration of its supply and end-use equipment, and repurposing for a significantly different application.
4. **Commissioning.** Transmission Owners establish a commissioning process for computational loads. It includes evaluation of the as-built facility model with model quality assessment, verification and validation; notice to nearby facilities of planned tests; full-load, no-load and voltage-step testing where possible; coordinated communications with the Transmission Operator, Balancing Authority and Reliability Coordinator; a pre-energization checklist; and post-energization verification that all parties hold consistent data. Some steps repeat when the facility changes significantly.
5. **System-side corrective actions and ride-through.** Transmission Planners and Planning Coordinators study and implement, with Transmission Owners, corrective actions on the system side of the interconnection so that normally cleared non-bus faults cause no non-consequential loss of firm load attributable to computational load. They obtain the facility's relay and protection settings to evaluate its response. Transmission Owners coordinate with customers, where possible, on maximizing facility ride-through up to equipment capability limitations.
6. **Fault recording.** Transmission Owners install and use dynamic fault recording devices, or gain access to existing ones in collaboration with the load owner, to capture facility performance during disturbances, and supply that data to planners, Reliability Coordinators, Regional Entities and NERC for event analysis. Sample rates, retention windows and triggers are set per facility, with PRC-002 and PRC-028 cited as references.
7. **Communications and operating procedures.** Transmission Operators, Reliability Coordinators and Balancing Authorities establish Interpersonal Communication capability with computational loads and joint operating procedures for planned and emergency conditions, and issue instructions to those loads by voice, SCADA or other means to prevent BES Emergencies.

Read the seven together rather than as a checklist. Each addresses a discrete deficit, and none is sufficient alone. An entity that invests heavily in modeling without also revising its commissioning practices will produce models that diverge from the installed equipment soon after energization. One that installs fault recorders without revising its operating procedures will collect data nobody is responsible for interpreting. The actions were designed as a system, and the entities that got the most out of their alert responses treated them that way.

5.3 What the actions revealed about the direction of travel

The seven actions previewed the standards that followed. They asked, in voluntary form, for what a standard would later make mandatory: model the load, collect its data, study its impact, trigger studies on change, commission it against a verified model, engineer the system so its loss does not shed firm load, record it during disturbances, and talk to it in real time. That preview turned out to be accurate. CLO-001-1 addresses interconnection requirements, studies, the qualified change definition and modeling data. CLO-002-1 addresses operational data, Operating Instructions and Interpersonal Communication. CLO-003-1 addresses protection coordination and disturbance recording. An entity that implemented the essential actions in good faith has been building the posture those standards require.

It also explains why the alert named the entities it did. The obligations fell on existing registered entities, the planners, owners, operators and coordinators, rather than on the computational loads, which were not registered then and are not registered now. Until registration exists, NERC reaches the risk through the registered entities that already interface with these loads. The alert was a bridge. It managed the risk through the existing framework while the new framework of dedicated registration and dedicated standards was built.

Chapter 6. The Reliability Guideline

Alongside the alert, NERC published guidance. On May 1, 2026, three days before the Level 3 Alert, NERC released Reliability Guideline: Risk Mitigation for Emerging Large Loads, the final version of a draft first posted for comment in November 2025. The alert lists the guideline among its additional resources. Where the alert directs specific actions and demands responses, the guideline captures recommended practices that entities can adopt voluntarily, ahead of and alongside the mandatory standards.

6.1 What a reliability guideline is

A NERC reliability guideline is voluntary by design. It is not a Reliability Standard, it is not balloted as one, and it carries no enforcement consequences. Its purpose is to consolidate the technical community's best current thinking into practical recommendations entities can implement on their own initiative. Guidelines sit in a useful middle ground in the action plan. They are more detailed and prescriptive than a white paper, but without the binding force of a standard. They let NERC share proven practices without waiting for the formal process to conclude.

The differences from a standard matter before you rely on one. A guideline is recommended practice. A standard is an enforceable requirement. A guideline can be revised through NERC's internal technical committee process. A standard requires the full development cycle and FERC approval. NERC has said it strongly urges all relevant entities to adopt the guideline's risk mitigation strategies, even though it is non-binding. In practice the guideline was the transitional instrument. It told industry what the technical community expected before mandatory rules existed, and it gave the drafting team content to draw on.

6.2 The role of the large-load guideline

The guideline works as the practical companion to the Level 3 Alert. The alert told entities what to assess and report. The guideline helps them do it well. Its chapters cover data collection and modeling, interconnection studies and re-study triggers, long-term planning and resource adequacy, operations and balancing including commissioning and real-time monitoring, stability and disturbance performance, power quality, physical and cyber security, and resilience, restoration and load shedding. Its recommendations address utilities and grid operators, the companies behind the loads, and equipment manufacturers. For an entity working through the essential actions, it is the natural place to find the methods behind them.

Its structure was also a fair indicator of where the standards would go. The modeling material, including expectations for electromagnetic transient models where a planner requires them, maps onto the modeling data requirements of CLO-001-1. The commissioning and real-time coordination material maps onto CLO-002-1. The disturbance performance chapter covers ground that Phase 1 left for later and that NERC's separate Disturbance Performance SAR now

takes up. Entities that adopted the guideline early built a transition path into the standards rather than facing a compressed build after they take effect.

6.3 Voluntary now, foundational later

Do not dismiss the guideline because it is voluntary. In NERC's sequencing, voluntary instruments are how mandatory ones get road-tested. The white papers established the technical record. The alerts forced near-term action and showed where entities stand. The guideline captures the practices that work. The standards make the durable ones enforceable. The guideline is a stage in that progression.

Adoption also shapes what comes next. A guideline that registered entities adopt broadly shows the recommendations are workable. One that is broadly ignored signals they need rethinking before they are codified. The guideline includes metrics and an effectiveness survey for exactly that reason. Implementation across a diverse population will surface practical problems: recommendations that are easy for one entity and hard for another, retrofits that are technically feasible but commercially painful, coordination relationships that do not exist yet. Entities that report that experience back through the working groups and comment periods influence the Phase 2 standards in a way a late comment cannot.

A registered entity that adopts the guideline is not subject to enforcement under the guideline itself. It is building the documentary record and program infrastructure the standards assume. Entities that wait for the mandatory standard face a compressed implementation period. Entities that started early can treat the implementation period as validation of work already done. Right now, that choice is one of the most consequential program decisions an entity faces.

Chapter 7. From Alert to Mandatory Standard: Project 2026-02

The voluntary phase has an expiration date. The white papers, the alerts and the guideline were preparation for the moment the obligations become mandatory and enforceable. That moment arrives through Project 2026-02, NERC's standards project for computational loads, and through the Rules of Procedure revisions that create the entities those standards bind. This chapter traces how the program crossed from recommendation to requirement, and where it stands on October 17, 2026.

7.1 How a Reliability Standard is made

A NERC Reliability Standard is not written by fiat. The process begins with a Standard Authorization Request, the document that defines the scope of a new or revised standard. The Standards Committee accepts the SAR, authorizes drafting, and a standard drafting team develops the text. Drafts go through formal comment periods and ballots of the Registered Ballot Body. Under NERC's Standard Processes Manual, a ballot passes when at least 75% of the ballot pool responds, establishing quorum, and at least two-thirds of the weighted Segment votes cast are affirmative. Comments are answered, revisions may trigger additional ballots, and a final ballot follows. The NERC Board of Trustees then adopts the standard, and NERC files it with FERC.

FERC review is not a rubber stamp. Under Section 215(d)(2) of the Federal Power Act, FERC may approve a proposed standard if it finds it just, reasonable, not unduly discriminatory or preferential, and in the public interest. It can approve, remand, or approve while directing NERC to modify specific provisions. The inverter-based-resource precedent shows how that works. When FERC approved PRC-029-1 in Order No. 909, it also directed NERC to submit a modification clarifying documentation for legacy exemptions within twelve months. Treat FERC review as part of the development timeline.

The process is demanding because the output is mandatory and penalty-backed. That is also why NERC needed the alerts and the guideline. The standard cannot move at the speed of the risk, so the voluntary instruments carry the interim load. The design windows for real influence are earlier than they look. An entity that starts engaging only when a standard reaches final ballot has missed them.

7.2 Project 2026-02 and its Standard Authorization Request

NERC posted the Project 2026-02 SAR on April 1, 2026, the same day it posted draft registry criteria. The Standards Committee had accepted the SAR for posting on March 18 and appointed the drafting team in March, and it authorized standards drafting on May 20, 2026. In

parallel, NERC told FERC in a March 20, 2026 filing in Docket No. RM26-4-000 that it would run the registration and standards work in parallel and file both on or before December 31, 2026.

FERC then made that deadline binding. On July 16, 2026, in Docket No. RD26-7-000, FERC directed NERC under Section 215(d)(5) of the Federal Power Act to develop and submit new or modified Reliability Standards addressing the reliability risks of integrating computational loads, and to develop Rules of Procedure revisions including registry criteria. The order sets December 31, 2026 for both, and requires an informational filing on a Phase II workplan by March 1, 2027.

The schedule held. The proposed standards were posted for a formal comment period from August 19 to September 18, 2026, with the initial ballot in the last ten days of that window. A final ballot ran from October 9 to October 14, 2026, and NERC announced on October 15 that the standards and their implementation plans had passed and would go to the Board for adoption. The package consists of three new standards and two conforming revisions:

Standard	Subject
CLO-001-1	Computational Load Interconnection, Studies, and Modeling Data
CLO-002-1	Computational Load Operational Data and Communications
CLO-003-1	Computational Load Protection Coordination and Disturbance Monitoring
FAC-001-5 and FAC-002-5	Limited conforming revisions so a site is not connected and studied under two overlapping sets of requirements

The standards now go to the NERC Board for adoption and then to FERC. NERC's implementation plans phase requirements in over periods from three to thirty-six months after the effective date, and they expect Computational Load Owners to be registered beginning in 2027. EC-WP-1005 walks through each requirement and the compliance calendar.

The compressed schedule was possible only because the technical record was built in advance. The white papers, the guideline, and the alert responses supplied a documentary base that a drafting team would otherwise spend years assembling. The earlier work made the compressed schedule possible.

Phase 1 also has defined edges, and they show where the program goes next. NERC describes the 2026 package as foundational, with broader and more integrated changes beginning in 2027. In September 2026 the LLWG posted two Phase 2 SARs for comment through October 22, 2026: one on event reporting, model validation and model quality assessment, and one on studying computational load loss in planning and near-term reliability studies. A separate SAR on disturbance performance, covering ride-through, was out for comment from August 26 to September 24, 2026, with RSTC endorsement and Standards Committee presentation planned for October 20 and 21. Ride-through, which the essential actions treated as a coordination goal, is headed for its own standard.

For Regional Entities, all of this means a real expansion of scope. Each one needs expertise in the technical characteristics of computational loads, audit approaches for the new requirements,

and the capacity to process a population of registrations that does not exist yet. The relationships registered entities and new registrants build with their Regional Entities during that build-out will shape the compliance relationship for years.

7.3 The new registered entities

A Reliability Standard is enforceable only against a registered entity performing a defined function. Computational loads did not fit cleanly into any existing functional registration, so NERC moved in parallel to create one. The June 2026 edition of this book described that effort as it stood then, and the premise has since changed.

On April 1, 2026, NERC posted proposed Rules of Procedure revisions creating a single new registered entity, the Computational Load Entity. As the Level 3 Alert summarized it, the proposal would have captured loads of 20 MW and greater, connected at 60 kV, with more than 1 MW of IT load. Comments ran to mid-May. That proposal is history. In response to comments, NERC posted revised criteria on August 19, 2026, for comment through September 18. The revision raised the threshold to 50 MW at 100 kV and above, defined a Computational Load Site, and split the single entity into two functions. On October 8, 2026, the NERC Board approved Rules of Procedure revisions establishing the Computational Load Owner and the Computational Load Operator and their registry criteria. It also authorized expedited procedures under Section 1606 to develop a Section 1600 data request supporting registration, pending FERC approval of the criteria. NERC has said it plans to file the approved criteria with FERC.

This book deliberately does not dissect the registry criteria or the obligations that attach on registration. EC-WP-1005 does, and it supersedes the Computational Load Entity analysis in EC-WP-1002. The point here is structural. NERC built the standards and the registration together, on the same accelerated timeline and against the same FERC deadline, so that when the standards take effect there is a registered entity for them to bind. A standard without a registered population would be largely academic. A registered population without targeted standards would be governed only by general requirements that were never written for it. NERC advanced both tracks at once because neither is useful without the other.

Chapter 8. What Registered Entities Should Do Now

The program has been moving faster than the standards. An entity that waits for an effective standard before acting will find itself behind on obligations that already exist in voluntary form, and racing to register under criteria it had time to prepare for. The action plan gives entities something unusual: clear visibility into the mandatory phase before it arrives. Use it.

8.1 Stand behind your alert response

The Level 3 responses were due August 3, 2026. Each recipient told NERC, action by action, what its current practices include and when it plans to change them, with target years from 2026 onward. Treat those answers as commitments. Pull your approved response, assign an owner to every planned change, and track it to completion. If your response said modeling requirements would change in 2026, the clock is running. The response was the first structured pass at the posture the standards require, and an auditor who later reads it will expect the program to match it.

8.2 Build the practices the essential actions describe

Beyond the response, the essential actions are a ready-made work program. An entity that interfaces with computational loads can develop its modeling data requirements now, collect the load characteristics it needs, build computational load loss into its studies and Contingency files, revise the qualified change definition that triggers reliability studies, stand up a commissioning process tied to verified models, engineer system-side corrective actions against firm-load loss, install or gain access to fault recording, and establish communications and operating procedures with the loads in its area. The reliability guideline is the reference for doing this well. None of this is wasted. It is the substance of CLO-001-1 through CLO-003-1, undertaken on the entity's own schedule rather than under audit pressure.

8.3 Track the filings and the next phase

The second wave is where obligations harden. Watch the Board's adoption of the standards and NERC's FERC filing of both the standards and the registry criteria, due by December 31, 2026, and the FERC proceedings that follow. Watch for the Section 1600 data request, which will be the first practical step toward building the registry. Engage with the Phase 2 SARs on event reporting and model validation, on load loss in planning and operations studies, and on disturbance performance, because those will become the next set of requirements. Comment periods are the points of influence. An entity that engages shapes the requirements it will later have to meet. An entity that waits inherits whatever the process produces.

8.4 The bridge to the rest of the series

This book has mapped the NERC layer, the program through which the reliability problem became a set of obligations. The standards layer is where the system speaks with one voice across jurisdictions. Whatever an individual market decides about interconnection terms or curtailment design, the standards described here will apply on the same technical basis to registered entities across the continent.

It has stopped short of the questions that matter most to the loads themselves: who must register, what registration obligates, what a data center owner must weigh under state law and in the co-location decision, and how a registered computational load builds and defends a compliance program. Those are the subjects of the other books:

- **The entity layer (EC-WP-1002)** describes the registration question as it stood in June 2026. Read it with EC-WP-1005.
- **The owner layer (EC-WP-1003)** is the data center owner's playbook under Texas Senate Bill 6 and the co-location decision. The PUCT has since adopted new 16 TAC §25.194, Large Load Interconnection Standards, in Project No. 58481; the order adopting it was filed September 18, 2026, and the rule took effect October 8, 2026.
- **The operating layer (EC-WP-1004)** covers building, evidencing, and defending the compliance program of a registered computational load.
- **The October 2026 update (EC-WP-1005)** documents the Computational Load Owner and Operator registry criteria and the requirements of CLO-001-1, CLO-002-1 and CLO-003-1.

The first book explained why these obligations exist. This book explained how NERC created them. EC-WP-1005 explains who they fall on, and that is where the program becomes a concrete registration decision.

Glossary of Terms

The following terms are used throughout this whitepaper. Definitions are summarized for convenience; the operative definitions are those in the governing NERC documents.

Term	Meaning in this paper
Alert (NERC)	An instrument NERC issues under Section 810 of its Rules of Procedure at three levels: Level 1 Industry Advisory (informational), Level 2 Recommendation to Industry, and Level 3 Essential Action, which requires Board approval before issuance. Alerts carry reporting obligations but are not Reliability Standards and carry no penalties for failing to implement their actions.
Balancing Authority (BA)	The responsible entity that integrates resource plans ahead of time, maintains load-interchange-generation balance within a Balancing Authority Area, and supports Interconnection frequency in real time. A recipient of the Level 3 computational-load alert.
Computational Load	In NERC's usage, large load consisting primarily of computing equipment, such as artificial intelligence training, cryptocurrency mining, and traditional data center uses, characterized by power-electronic interfaces and the capacity for rapid changes in consumption and disconnection during disturbances.
Computational Load Entity	The single registered entity NERC proposed on April 1, 2026 (20 MW, 60 kV, more than 1 MW of IT load). Superseded by the Computational Load Owner and Computational Load Operator functions approved by the NERC Board on October 8, 2026.
Computational Load Owner (CLO) and Computational Load Operator (CLOP)	The two functional entities established by the Rules of Procedure revisions the NERC Board approved on October 8, 2026: the entity that owns and maintains a Computational Load Site, and the entity that operates one. Registry criteria await FERC approval. See EC-WP-1005.
Computational Load Site	As defined in the August 2026 Rules of Procedure revisions, one or more buildings, structures or installations at a single location that primarily contains information technology infrastructure for computational activities and is supplied through electrical equipment connected to the Bulk-Power System. The registry criteria capture sites of at least 50 MW total connected Load at 100 kV or above.
Essential Action	A specific action NERC has determined to be essential for certain owners, operators or users of the bulk power system, issued through a Level 3 Alert. The May 2026 computational-load alert set out seven.
Facility Interconnection Requirements	The technical requirements a Transmission Owner documents for facilities interconnecting to its system. The Level 3 Alert asks Transmission Owners to reflect computational-load modeling data requirements in them.

Term	Meaning in this paper
Large Loads Action Plan	NERC's program, developed under a February 2025 Board resolution, for addressing the reliability risks of large loads through technical analysis, alerts, a reliability guideline, registry criteria, and Reliability Standards.
Large Loads Working Group (LLWG)	The Reliability and Security Technical Committee group, established in August 2024 as the Large Loads Task Force, that produced the white papers, the reliability guideline, and the Phase 2 SARs.
NERC Alert System	The platform through which NERC distributes alerts and through which registered entities acknowledge them and submit and approve responses.
Planning Coordinator (PC)	The responsible entity that coordinates and integrates transmission Facilities and service plans, resource plans, and Protection Systems. A primary recipient of the Level 3 Alert's essential actions.
Project 2026-02	NERC's standards project for computational loads. Its Phase 1 standards, CLO-001-1, CLO-002-1 and CLO-003-1 with conforming FAC-001-5 and FAC-002-5, passed final ballot in October 2026.
Qualified Change	The Planning Coordinator's definition of a change that triggers review of protection, stability limits and other reliability studies. The Level 3 Alert asked Planning Coordinators to revise it for computational load, and CLO-001-1 R7 requires each Planning Coordinator to maintain a public definition for Computational Load Sites.
Reliability Coordinator (RC)	The entity that is the highest level of authority responsible for the Reliable Operation of the Bulk Electric System, with the Wide Area view and the authority to prevent or mitigate emergency operating situations.
Reliability Guideline	A NERC document setting out recommended, voluntary practices. Reliability Guideline: Risk Mitigation for Emerging Large Loads was published May 1, 2026, and is not enforceable.
Reliability Standard	A mandatory, enforceable requirement developed through NERC's standards process, adopted by the NERC Board, and approved by FERC in the United States, applicable to registered entities performing defined functions. The only instrument in the action plan that carries penalties.
Ride-Through	The ability of a connected facility to remain in service through defined voltage and frequency disturbances rather than disconnecting. The Level 3 Alert asks Transmission Owners to work with customers on maximizing computational-load ride-through up to equipment capability limitations, and a separate SAR on disturbance performance would set minimum requirements.
Rules of Procedure	NERC's governing procedural rules. Creating the new computational-load functions required revisions to Appendices 2, 5A and 5B.
Standard Authorization Request (SAR)	The document that defines the scope of a proposed new or revised Reliability Standard. The Project 2026-02 SAR was accepted by the Standards Committee on March 18, 2026, and posted for comment on April 1, 2026.

Term	Meaning in this paper
Transmission Operator (TOP)	The entity responsible for the reliability of its local transmission system, and that operates or directs the operations of the transmission Facilities.
Transmission Owner (TO)	The entity that owns and maintains transmission Facilities. The Level 3 Alert asks Transmission Owners to reflect modeling data in interconnection requirements, establish commissioning processes, and install or gain access to fault recording for computational loads.
Transmission Planner (TP)	The entity that develops a long-term plan for the reliability of the interconnected bulk electric transmission systems within its portion of the Planning Authority area. With Planning Coordinators, the primary actor under several essential actions.

How Energy Compliance Can Help

This book maps a program that has moved from alert to standard in under a year. The entities it reaches fall into two groups, and we work with both.

For the registered entities the alert named

If you are a Transmission Planner, Planning Coordinator, Transmission Owner, Balancing Authority, Reliability Coordinator or Transmission Operator, you have an approved Level 3 response on file and a set of commitments inside it. We help you turn that response into a program: compliance program management against the seven essential actions, and RSAW production and audit defense for CLO-001-1 through CLO-003-1 once they take effect. When the first data requests on these standards arrive, our data request strategy work keeps the response scoped, deduplicated and defensible.

For the loads that will register

If you own or operate a site that meets the 50 MW and 100 kV test, registration as a Computational Load Owner or Operator is the planning assumption for 2027. We handle registration and build the compliance program that follows it, from the operational data specifications in CLO-002-1 to the disturbance monitoring in CLO-003-1.

WattOps Compliance

WattOps Compliance is our NERC compliance evidence platform (wattopscompliance.com). The evidence behind an alert response or a CLO requirement belongs in a system built to hold it. We will run one standard at one facility through WattOps at no cost so you can see your own evidence position. CIP standards are excluded from that offer.

RenewOps

RenewOps is our renewable operations monitoring and analytics platform, and it includes a Data Center module. Chapters 5 and 6 describe the operating data and real-time coordination NERC expects around a computational load. That operating picture is the work RenewOps does.

If you have a Level 3 response to stand behind or a registration decision to make, call or write. Tell me which entity you are and what you have in front of you, and we will tell you where to start.

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About the Author

Rob Smith is the Founder and Principal of Energy Compliance, Inc., with more than thirty years in the industry on every side of the system. He began in control-room operations as a Reliability Coordinator, Transmission Operator, and Power System Operator across RTO/ISO and utility control centers. On the regulator side, he was a senior compliance auditor and subject matter expert for NERC Reliability Standards. He audited grid facilities, evaluated mitigation adequacy, participated in risk-based oversight of utility mitigation activities, and supported the development of violation notifications and settlements in FERC-directed enforcement actions. He conducted a regulatory audit in the Sultanate of Oman against the Sultanate's Sector Law and Grid Code.

He founded Energy Compliance, Inc. to deliver senior regulator-side compliance authority without the layered staffing and billable-hour overhead of larger firms.

Education:

- MBA, Energy Management, University of Mary
- MSL, Compliance Law, Fordham Law University
- BAS, Energy Management, Bismarck State College
- BAS, Mechanical Engineering, Metallurgy minor, University of Florida
- BAS, Criminology, St. Petersburg College (State Law Enforcement Certification)
- AAS, Power Plant Technology, Bismarck State College
- AAS, Electrical Transmission System Technology, Bismarck State College

Certifications: NERC Lead Auditor training; previously NERC-certified at the Reliability Coordinator level; 1st Class A Boiler Engineer License, Minnesota.

About Energy Compliance, Inc.

Energy Compliance, Inc. is a regulatory compliance consultancy serving the energy sector, with a focus on NERC, FERC, and RTO/ISO compliance and a particular concentration in the Texas PUCT and RTO/ISO markets. The firm helps registered entities and prospective registrants through the full compliance lifecycle, from registration and program design through evidence development, RSAW production, mitigation, and audit defense.

The firm works research-analyst first. Every conclusion is tied to an authoritative source, every narrative is backed by evidence, and every deliverable is built to stand up to regulator scrutiny. That discipline extends to two platforms: WattOps Compliance, EC's NERC compliance evidence platform, and RenewOps, EC's renewable operations monitoring and analytics platform.

This whitepaper is the second in the Energy Compliance Large Load and Data Center Series, a multi-volume analysis of how the integration of data centers and other large computational loads is reshaping bulk-power-system reliability and the compliance obligations of the entities that build, serve, and operate them.

To discuss how the obligations described in this series apply to a specific registered entity or facility, contact us.

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NERC: standards and registration

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Public Utility Commission of Texas

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