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| NPRR Number | [1191](https://www.ercot.com/mktrules/issues/NPRR1191) | NPRR Title | Registration, Interconnection, and Operation of Customers with Large Loads; Information Required of Customers with Loads 25 MW or Greater |
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| Date | | August 28, 2023 | |
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| Market Segment | | Industrial Consumer | |

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| Comments |

Texas Industrial Energy Consumers (TIEC) appreciates the opportunity to provide high-level feedback on ERCOT’s proposed Nodal Protocol Revision Request (NPRR). As outlined below, TIEC has concerns about the novel and legally controversial approach of attempting to impose the ERCOT protocols on pure retail customers. TIEC is also concerned about feasibility, cost, and operational impacts for affected loads. For certain items, TIEC believes there may be better avenues to achieve ERCOT’s desired outcome.

1. ***Concerns with the General Concept***

Generally, the proposed approach of requiring pure retail loads—regardless of size—who are not voluntarily participating in the wholesale market is novel and controversial. TIEC is not aware of any other grid in the country that imposes compliance obligations on pure customers.

Pure retail customers are not staffed, trained, or positioned to understand and comply with ISO requirements. As noted at the recent workshop, the grid and its attendant reliability requirements exist to serve customers, not vice versa. Among other statutory provisions, this is reflected in PURA Section 39.151(j), which explicitly and exhaustively lists the entities that are subject to the ERCOT protocols and other binding documents. It does not include retail customers:[[1]](#footnote-1)

(j) A retail electric provider, municipally owned utility, electric cooperative, power marketer, transmission and distribution utility, or power generation company shall observe all scheduling, operating, planning, reliability, and settlement policies, rules, guidelines, and procedures established by the independent system operator in ERCOT. Failure to comply with this subsection may result in the revocation, suspension, or amendment of a certificate as provided by Section 39.356 or in the imposition of an administrative penalty as provided by Section 39.357.

As this section indicates, retail customers are not wholesale market participants or regulated entities; they do not have any “certificate” from the Commission that may be revoked or suspended. Similarly, Market Participants who are seeking to participate in the wholesale market must agree to comply with and be bound by all ERCOT Protocols.[[2]](#footnote-2) Pure retail loads have made no such commitment and have no such obligation. It is therefore unclear how any requirements on retail customers would even be enforced, aside from either (a) imposing an administrative penalty, which a pure retail customer may or may not understand or pay, and (b) disconnecting the retail customer, which would have to be achieved through the customer’s REP or utility as ERCOT has no way to do this today. Clearly, this would be an extreme outcome, and REPs and utilities presumably do not want to be placed in this position relative to their largest customers. Such an obligation would also conflict with the PUC’s existing customer protection rules and the terms of service that are already in place between retail customers and their service providers.

ERCOT’s general mandate to ensure reliability does not trump these specific statutory statements or give ERCOT authority to impose requirements on any entity that may have an impact on grid reliability. For example, residential air conditioning poses the single largest reliability challenge from the load side, but ERCOT has no authority to tell homeowners what type of air conditioning units to buy, or what the temperature settings must be in their homes. The exact same logic applies to NPRR1191’s requirements on voltage tolerances and ramp rate restrictions for large customers.

This is further borne out by Senate Bill (SB) 1929 from the most recent session, which proposed new language that would have given ERCOT authority to register and impose requirements on large loads.[[3]](#footnote-3) ERCOT negotiated on this bill with members and stakeholders, and agreed that it would not apply to large loads. There was explicit hearing testimony and comments from the bill authors about the imprudence of requiring large manufacturing loads to be subject to ERCOT requirements. As finally passed, the bill was tightly bracketed to cryptocurrency facilities.[[4]](#footnote-4) TIEC views ERCOT’s recent proposal as in conflict with representations that were made in these negotiations during session, as well as the legislature’s clear intent in limiting SB 1929 to cryptocurrency facilities.

For these reasons, TIEC believes the approach in NPRR 1191 is likely to lead to extensive confusion, implementation challenges, and legal controversy. If the reliability concerns ERCOT is raising are real and borne out by the data, ERCOT should pursue alternative approaches through more traditional avenues to ensure that these concerns are timely addressed.

1. ***Technical and Feasibility Concerns with Operational Requirements***
2. **Voltage Ride-Through**

First, TIEC does not believe that sufficient information has been provided on the voltage events to justify the requirements proposed in NPRR 1191. TIEC understands from discussions with ERCOT and other stakeholders that the West Texas/Odessa event, which appears to be the largest and most concerning, was driven in part by operational challenges with inverter-based resources in West Texas. ERCOT is currently attempting to address those issues by working with solar companies and the utilities, which is similar to historical approaches. While granular information has not been provided, the Gulf Coast events appear to be largely related to one or two major industrial loads. Again, it is not clear what is causing those events based on the information presented, but they do not seem to be widespread or pervasive. Nor has ERCOT provided any data quantifying the actual threshold(s) where voltage-related trips by industrial loads could materially impact system reliability. As a result, TIEC believes more study and information is required before there is a clear justification for requiring the entire industrial community to register and be subject to the ERCOT protocols.

Second, ERCOT’s proposal presents technical, feasibility, and cost issues for businesses. As acknowledged at the workshop, ERCOT does not know if large loads can even meet the voltage requirements they are seeking to impose. An ongoing study on cryptocurrency facilities was referenced, but there is no information on the impact these requirements would have on the broader industrial community. Nor is this easy to evaluate, as industrial loads are not homogenous and have different operating characteristics, types of safety requirements, and business needs. ERCOT has described the voltage ride-through requirements as just “changing a setting” but this characterization ignores that the current settings typically exist for a reason—to protect equipment and processes at industrial sites. Overriding existing voltage settings can create a risk of equipment damage and longer-term load outages, along with imposing health and safety risks for industrial sites. Apart from preventing a trip in the first place, for many TIEC members re-accelerating rotating equipment too soon after a voltage event can also damage the machinery. If facilities were required to meet ERCOT’s proposed standards, it could cause major damage to large synchronous motors at many sites and create health and safety risks for site personnel and the general public.

There are also logistical concerns with ERCOT’s proposal that will have economic impacts for large retail customers trying to do business in Texas. Older relays only allow one trip setting, and to convert older relays to newer models with multiple settings could take an industrial customer years and cost hundreds of thousands of dollars. In some instances, it would take hundreds of hours for a company to even evaluate the scope and extent of the project due to the large variety of mechanical equipment behind many interconnections. Further, this type of requirement creates unique challenges for industrial sites with multiple loads behind a single point of interconnection, such as (but not limited to) qualifying facility (QF) sites with multiple steam users and auxiliary processes sharing infrastructure and generation facilities. It is not clear how ERCOT would measure, evaluate, or enforce voltage ride-through requirements at a site like this, or how the customers would apportion responsibility. This is just one example of industrial sites not being “one size fits all.”

Finally, at least some electric utilities serving large industrial customers have their own design specifications and voltage ride-through requirements that industrials have heeded when constructing their facilities. Some of the events referenced in ERCOT’s presentation have occurred in spite of the large customers designing their equipment to meet the specifications provided by the utility, and the customers and the utilities have been working collaboratively to understand and resolve those issues. This illustrates that establishing voltage requirements is a more appropriate responsibility for the regulated utilities, who have a responsibility to maintain reliability on their respective systems and a direct contractual relationship with large customers. ERCOT should not impose a competing set of requirements that do not match the utility standards and would undermine established relationships between customers and their service providers.

Again, TIEC recommends that more traditional means be considered to address any reliability issues related to voltage, such as evaluating solutions on the utility system or requirements on wholesale market participants. Rather than mandating a ride-through requirement, ERCOT should fully analyze what is causing the voltage fluctuations that are causing the loads to trip. If ERCOT can address the root cause through additional equipment on the utility system or another solution, the potential reliability issue could be addressed much more efficiently without registering or imposing compliance obligations on retail customers. Additionally, ERCOT should evaluate whether the system has proper protections to isolate voltage fluctuations, so if one occurs, ERCOT can isolate the problem and protect the rest of the system. These are more traditional, effective approaches that should be explored.

1. **Ramp Rate Requirements**

ERCOT has indicated that the ramp rate requirements are not meant to target traditional industrial customers, but they will impact industrial sites in unacceptable ways nonetheless.

Many industrial sites must ramp up and down quickly—and often—based on the fundamental nature of their processes. Steel mills, for example, cannot merely recalibrate their existing facilities to ramp at a certain rate. They turn on and off almost instantly, and their load fluctuates in response to the physical characteristics of the steel melting process. The proposed ramp rates are physically impossible for steel mill loads and other industrial processes with similar operational characteristics.

For other industrial sites to ramp at a prescribed rate, they would have to make substantial investments in batteries or some type of behind-the-meter generation to offset the fundamental nature of their operations. It is not reasonable for ERCOT to require pure retail customers to make major capital investments in behind-the-meter generation resources in order to simply consume power from the grid. This is unprecedented and will be a substantial deterrent to industrial companies looking to do business in ERCOT.

Second, at the workshop ERCOT indicated that a Load Resource carrying an ancillary service responsibility on only a portion of its total load will be subject to the ramp rate restrictions for the remaining portion of its demand. TIEC is still evaluating this but preliminarily believes this may make it infeasible for many loads to provide Responsive Reserve Service (RRS), and potentially other ancillary services, because curtailing to provide the obligated megawatts will require the load to violate ramp requirements for the remainder of its load. This could unnecessarily reduce ancillary service participation and reduce reserves available in real-time. This will increase costs to customers and eliminate existing resources that are available to provide reliability.

These ramp rate restrictions may also have unintended consequences when industrial sites start up and shut down. Even an industrial that is typically a steady, high load factor customer will typically have higher ramp rates when turning on or off during a plant turnaround, or if there is any kind of unexpected outage or event. It is unclear how these events will be handled, but requiring large industrial sites to seek some sort of preclearance from ERCOT for plant turnarounds is not an acceptable path forward. These are businesses with sophisticated operational needs that are exempted even from requirements related to their on-site generation.[[5]](#footnote-5) Enforcing restrictions on industrial sites during start-up and shut-down that ignore operational needs is not a prudent or workable course of action.

1. **Grandfathering**

The grandfathering provisions proposed in NPRR1191 do not meaningfully mitigate the operational issues raised above. As drafted, large loads are only exempt as long as there are no “material changes” to the facility. While “material change” is not defined, loads must notify ERCOT if they replace or modify any equipment, or if their peak demand increases by one MW or greater.[[6]](#footnote-6) ERCOT will then consider if any of those changes result in facilities losing their exemption from the ramping requirements. Notably, all of the potential “material” triggers—changing peak demand, replacing equipment, etc.—regularly occur during the normal course of operating and expanding an industrial site in Texas, so it is likely the grandfathering provisions will have no impact. At a minimum, since it is not clear when ERCOT may unilaterally determine whether facility updates qualify as “material,” all facilities will face significant compliance risk and regulatory uncertainty. This is, again, not a good recipe for attracting or retaining business customers in ERCOT.

1. **Alternative Approach**

As noted above, the utilities currently have certain operational requirements and design specifications for industrial facilities. Some of these are tariff-based, but some are internal design specifications that are not tariffed but are provided to large users. Industrial users are accustomed to working with their utility to ensure that their equipment aligns with the utility’s specifications to ensure reliability both for the grid and for their industrial facilities. This typically occurs as part of the initial interconnection process or when the customer is pursuing an expansion. While the requirements themselves need to be feasible and appropriate, it may be possible to work with the utilities to come up with specifications that would be more workable for the industrial community and to implement this through the utilities’ tariffs or other design requirements instead of requiring customers to create a direct relationship with ERCOT. Using the utilities’ tariffs or other design requirements also maintains a clear line of responsibility for grid reliability and avoids creating conflicts between ERCOT’s requirements and the design specifications imposed by the utilities.

1. ***Informational Requirements***

TIEC generally understands ERCOT’s desire to have more situational awareness around industrial loads for planning and real-time operations. However, TIEC still does not have clarity on the specific pieces of information that ERCOT does not have access to today. TIEC suspects that the customers’ retail electric provider or retail electric already has the vast majority of this information. Finding ways to efficiently incorporate this information in the ERCOT systems through the REPs and utilities would be a more established, less controversial path forward. These entities already have a direct relationship with both ERCOT and large customers. For example, during the workshop ERCOT explained it is particularly interested in understanding the type of large loads located at each point of interconnection. This is information the REPs and utilities should already have. Obtaining this through existing entities, who are subject to the ERCOT protocols, is a more efficient and less controversial avenue than attempting to register large users and interact with them directly.

Practically, pure retail customers do not have personnel that are trained to interact directly with ERCOT or its systems. Asking pure retail customers to submit and maintain information through a system like RIOO is unlikely to be successful. Submitting and maintaining information in RIOO has been challenging even for more sophisticated market participants. Practically, REPs or utilities will have to help most, if not all, of the loads over 25 MW submit their information.

To develop a workable solution, TIEC recommends that ERCOT schedule a smaller meeting with utilities, retail electric providers, and consumer representatives to evaluate what information currently exists and what channels could be repurposed to get this information to ERCOT in a usable format. This would help better identify any gaps and then a targeted, less controversial NPRR might be achievable.

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| Revised Cover Page Language |

None

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| Revised Proposed Protocol Language |

None

1. The *expressio unius est exclusio alterius* cannon of statutory construction provides that the express mention of one thing excludes anything not mentioned. *See Conoco Phillips Co. v. Koopmann*, 547 S.W.3d 858, 876–77 (Tex. 2018). As a result, this is an exhaustive list of the entities that must comply with ERCOT requirements, other than entities who voluntarily submit to ERCOT’s requirements in exchange for the privilege of participating in the wholesale market or providing compensate services. [↑](#footnote-ref-1)
2. Standard Form Market Participant Agreement at Section 5(a). [↑](#footnote-ref-2)
3. Introduced Version of SB 1929, 88th Regular Session (2023) (<https://capitol.texas.gov/tlodocs/88R/billtext/pdf/SB01929I.pdf#navpanes=0>) (“The independent organization certified under Section 39.151 for the ERCOT power region may require a person seeking to receive retail electric service for a facility that the organization anticipates will require a large electrical load to . . . register the facility with the organization.”). [↑](#footnote-ref-3)
4. Enrolled Version of SB 1929, 88th Regular Session (2023) (<https://capitol.texas.gov/tlodocs/88R/billtext/pdf/SB01929F.pdf#navpanes=0>) (directing the Commission to create rules requiring virtual currency facilities to register). [↑](#footnote-ref-4)
5. *See* PURA § 39.151(*l)* (“No operational criteria, protocols, or other requirement established by an independent organization, including the ERCOT independent system operator, may adversely affect or impede any manufacturing or other internal process operation associated with an industrial generation facility, except to the minimum extent necessary to assure reliability of the transmission network.”). [↑](#footnote-ref-5)
6. NPRR1191 at Section 6.5.7.12(6). [↑](#footnote-ref-6)