

Transmission System Planning Performance Requirements for Extreme Weather

COMMENTS OF ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.

- Development of benchmark planning cases based on information such as major prior extreme heat and cold weather events or future meteorological projections;
- Planning for extreme weather events using steady state and transient stability analyses expanded to cover a range of extreme weather scenarios including expected resource availability during extreme weather conditions and including broad area impacts of extreme weather; and
- Corrective action plans to include mitigation of instances where performance requirements for extreme heat and cold events are not met.

¹ *Transmission System Planning Performance Requirements for Extreme Weather*, 179 FERC ¶ 61,195 (June 16, 2022).

regional transmission grid, which serves the majority of the State of Texas, and administering the wholesale electricity market in the ERCOT region. Under the reliability framework in section 215 of the Federal Power Act, ERCOT is registered with NERC as the sole Reliability Coordinator, Balancing Authority, and Planning Coordinator for the ERCOT region. In its role as the Planning Coordinator, ERCOT conducts planning assessments and long-term studies for the bulk electric system in the ERCOT region, as required by NERC Reliability Standards, and consistent with ERCOT's planning authority under PUCT rules.²

II. COMMENTS

ERCOT appreciates the Commission's attention to the risks of extreme weather events on transmission system reliability. ERCOT agrees that historical practices must be re-evaluated to protect the grid against changes in the severity and frequency of extreme weather events. The substantial loss of generation experienced during the February 2021 winter storm, in particular, has appropriately led state and federal policymakers to focus considerable attention on measures to address these weather-driven risks.

In the ERCOT region, the Texas Legislature, the PUCT, and ERCOT have already undertaken dozens of reforms, including requiring weatherization of generators and critical gas infrastructure;³ requiring the development and maintenance of emergency operations plans for generators, transmission providers, and other market participants;⁴ requiring operators of gas supply infrastructure to register with transmission utilities as critical loads;⁵ mapping the natural

² See 16 Tex. Admin. Code § 25.361(b)(9), (d).

³ See Tex. Util. Code § 35.0021; Tex. Nat. Res. Code § 86.044. In 2021, the PUCT adopted interim weatherization requirements for generation entities and transmission utilities in the ERCOT region. See 16 Tex. Admin. Code § 25.55. The PUCT is currently establishing permanent weatherization rules. See PUCT Project No. 53401.

⁴ See 16 Tex. Admin. Code § 25.53.

⁵ See 16 Tex. Admin. Code § 25.52(h).

gas supply chain to enable identification of critical gas infrastructure;⁶ and creating new market products that ensure the availability of alternative and on-site fuel supplies in the event of a gas shortage,⁷ among many other completed and ongoing initiatives. And consistent with the Commission’s recommendations in the 2021 Cold Weather Report,⁸ NERC is currently developing weatherization standards for generators throughout the United States and Canada.⁹ ERCOT has been an active participant in the NERC standard drafting effort and a proponent of robust standards to improve the resilience of the generation fleet during extreme weather conditions.

In this NOPR, the Commission proposes to address the impacts of extreme weather on the bulk power system by requiring transmission planners to conduct studies of various “benchmark” scenarios based on historical extreme weather events.¹⁰ As described in the NOPR, the benchmark events would be informed by a number of recent extreme weather events that involved an insufficiency in the supply of generation to serve system load.¹¹ The NOPR proposes that transmission planners should be required to develop corrective action plans to address the consequences of these events.¹²

⁶ Tex. Util. Code § 38.201. As required by section 38.201(c), the supply chain map was jointly developed by the PUCT, the Railroad Commission of Texas, the Texas Department of Energy Management, and ERCOT.

⁷ See Nodal Protocol Revision Request 1120, Create Firm Fuel Supply Service; ERCOT Firm Fuel Supply Service Request for Proposals, <https://www.ercot.com/services/programs/firmfuelsupply>.

⁸ FERC-NERC Regional Entity Staff Report, *The February 2021 Cold Weather Outages in Texas, and the South-Central United States* (Nov. 2021) (2021 Cold Weather Report).

⁹ NERC Project 2021-07, Extreme Cold Weather Grid Operations, Preparedness, and Coordination.

¹⁰ NOPR at P 57 (proposing to direct NERC to require planning for “extreme weather scenarios including the expected resource mix’s availability during extreme weather conditions”).

¹¹ NOPR at P 24 (“Since 2011, the country has experienced at least seven major extreme heat and cold weather events; of these, four neared system collapse (2011, 2013, 2018, and 2021 extreme cold weather events) if the operators had not acted to shed load. The remaining three events (2014, 2020, 2021 extreme heat weather events) resulted in generation loss and varying degrees of load shedding.”)

¹² NOPR at P 83.

ERCOT respectfully disagrees that planners should be required to address the risks of system-wide capacity deficiencies in their transmission planning processes. The risk of load-shedding cannot be addressed through transmission planning; it can only be addressed by ensuring the availability of the generation supply. The Commission should decline to require planners to address generation adequacy concerns in transmission planning processes.

The fundamental purpose of transmission planning is to identify the transmission lines and other facilities needed to reliably and economically transmit power from generators to loads within a defined planning area. To identify transmission needs, planners must assume that sufficient sources of electric energy exist within the system being studied. If the planning case lacks sufficient generation to serve load, the power flow case cannot solve, and no transmission needs can be identified. Consequently, if planners are required to begin their planning studies with an assumption that the generation supply is deficient, as the NOPR appears to propose, no transmission needs could be identified. The tools transmission planners use to identify transmission needs simply cannot be used to resolve system capacity deficiencies.

In fact, the only solution to a generation deficiency is an increase in the generation supply or a decrease in the system load. The NOPR itself recognizes this in proposing to require planners to adopt corrective action plans that could include “additional contingency reserves[,] . . . new energy efficiency programs to decrease load, [and] increasing . . . inter-regional transfer capabilities.” NOPR at P 84. Those solutions clearly impact the underlying system’s overall generation and load balance and thus bear directly on the question of resource adequacy—not the adequacy of the transmission system. Transmission facilities, of course, can only transfer electric power; they cannot create it.

Requiring transmission planners to address what is fundamentally a resource adequacy concern through the transmission planning process would usurp the authority of the states, which are responsible for ensuring the adequacy of the generation supply. Mandating new sources of supply would also be contrary to the basic design of the majority of the organized wholesale markets in the United States, including the ERCOT market, which rely on market forces to ensure resource adequacy. And requiring planners to meet certain adequacy criteria would also exceed NERC's authority under the Federal Power Act, which prohibits NERC from requiring the construction of generation and from "set[ting] and enforc[ing] compliance with standards for adequacy . . . of electric facilities."¹³

Requiring transmission planners to address an insufficiency of the generation supply would also assume the inefficacy of the various state and federal regulatory efforts undertaken since the February 2021 winter event to address the risk of generation insufficiency due to extreme weather, including the ongoing NERC project to establish generator weatherization requirements¹⁴ and the revisions to NERC standard EOP-011 recently approved by the Commission that will require Generator Owners to develop cold weather preparedness plans.¹⁵ If these new standards achieve their intended purpose and result in improved generator performance during extreme weather events, it would then be unrealistic to assume widespread generation losses in transmission planning studies (setting aside the aforementioned concerns with feasibility of studies that assume insufficient generation).

¹³ See 16 U.S.C. § 824o(i)(2) ("This section does not authorize the ERO or the Commission to order the construction of additional generation or transmission capacity or to set and enforce compliance with standards for adequacy or safety of electric facilities or services.").

¹⁴ NERC Project 2021-07, Extreme Cold Weather Grid Operations, Preparedness, and Coordination.

¹⁵ *N. Am. Elec. Reliability Corp.*, 176 FERC ¶ 61,119 (2021) (Order Approving Cold Weather Reliability Standards); NERC Reliability Standard EOP-011-2.

Furthermore, the specific proposal that planners could be required to unilaterally direct “increases in interregional transfer capability”¹⁶ as a solution to a generation deficiency is problematic for the additional reason that transmission planning under TPL-001 necessarily focuses solely on the planner’s own system—not neighboring systems. Under the NERC Standards, the Planning Coordinator determines the needs for its “Planning Coordinator area” and the Transmission Planner determines the needs for its “Transmission Planner area.”¹⁷ If a planner finds a violation of planning criteria within its planning area, it identifies a project within that area to resolve the need. A Planning Coordinator lacks the authority to unilaterally identify an interregional project as a solution to an identified planning need because that project would exist outside the system that falls within the Planning Coordinator’s oversight and would naturally impact the neighboring Planning Coordinator’s system and unavoidably encroach on that entity’s planning jurisdiction. Transmission planners cannot be required to adopt a planning solution that would depend on the consent of some other entity. Planners in neighboring areas may jointly decide to pursue an interregional project based on reliability and/or economic benefits identified in each of their systems; but explicitly or implicitly requiring planners to pursue such projects as part of a corrective action plan under the framework of TPL-001 is incompatible with the necessarily limited scope of planning studies conducted under that standard.

III. CONCLUSION

The Commission should decline to require transmission planners to evaluate conditions of system-wide generation insufficiency in transmission planning studies conducted pursuant to

¹⁶ NOPR at P 85.

¹⁷ See, e.g., Reliability Standard FAC-014-2.

TPL-001. ERCOT respectfully requests that the Commission consider these comments in evaluating its proposed directive.

Respectfully submitted,

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