STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

Illinois Commerce Commission	:	
On Its Own Motion	:	
	:	**21-NOI-01**
Notice of Inquiry Regarding Extreme Weather	:	
Preparedness	:	

COMMENTS OF SUSTAINABLE FERC PROJECT, CITIZENS UTILITY BOARD, AND UNION OF CONCERNED SCIENTISTS

Pursuant to the Illinois Commerce Commission's (Commission) April 15, 2021 Notice of Inquiry Regarding Extreme Weather Preparedness (NOI), Docket No. 21-NOI-01, the Sustainable FERC Project, Citizens Utility Board, and Union of Concerned Scientists submits the following comments. We commend the Commission for undertaking this inquiry and appreciate the opportunity to submit comments on these important issues.

Our responses to the questions address the range of challenges posed by extreme weather events, particularly low-probability, high-impact "common mode" events[1] where external disruptions cause correlated failures across electricity system infrastructure—as occurred during February's extreme cold throughout the South-Central United States. While still rare, climate change is making disruptive events like extreme cold, flooding, and hurricanes more frequent.[2] We also discuss various solutions that could increase system resilience for Illinois in the future, while providing everyday value to customers.[3]

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[1] The Electric Power Research Institute defines "common mode events" as "circumstances when two or more resources simultaneously or in overlapping time periods become unavailable or experience a constraint on or reduction in output for the same reason." Electric Power Research Institute, *Exploring the Impacts of Extreme Events, Natural Gas Fuel and Other Contingencies on Resource Adequacy*, 1-1 (January 28, 2021) https://www.epri.com/research/products/000000003002019300.

[2] *See, e.g.,* University of California, Davis, *What Is the Polar Vortex*, Science & Climate Definitions, https://climatechange.ucdavis.edu/climate-change-definitions/what-is-the-polar-vortex/; UN Environment Programme, *How Climate Change Is Making Record-Breaking Floods the New Normal*, (March 3, 2020) https://www.unep.org/news-and-stories/story/how-climate-change-making-record-breaking-floods-new-normal; Jeff Berardelli, *How Climate Change Is Making Hurricanes More Dangerous*, Yale Climate Connections (July 8, 2019) https://yaleclimateconnections.org/2019/07/how-climate-change-is-making-hurricanes-more-dangerous/.

[3] We address the three questions most relevant to wholesale markets and planning and integrated state and utility programs and rules, and may supplement these responses and address other questions in reply comments.

Expanding Illinois' regional and interregional transmission system connectivity with other states and regions of the country should be chief among these solutions. Increasing Illinois' connections to other regions will benefit Illinois by increasing the availability of lower-cost power, including during common mode events, and reducing the risk of system disturbances and blackouts for Illinois consumers. A sufficiently strong regional grid also aids system power restoration after outages, reduces prices for customers, strengthens Illinois' economy, and supports affordable achievement of state decarbonization commitments.

Considering the foundational role of a well-designed and robust transmission system, we encourage the Commission to leverage its position with the Midcontinent Independent System Operator (MISO), PJM Interconnection (PJM), and the Federal Energy Regulatory Commission (FERC) to improve regional and interregional transmission planning processes and identify and approve needed projects. For example, MISO is currently considering the development of a set of regional transmission projects in its Long Range Transmission Planning (LRTP) process.[4] These projects will represent the minimum set of enhancements necessary to support current reliability-based system needs likely to result from economic and policy-driven changes in the power system—in other words, no regrets planning. MISO has provisionally identified system needs requiring transmission capacity expansion including in and surrounding Illinois. These projects, including those that are not in Illinois, benefit Illinois because they will improve reliability and can increase the deliverability of lower-cost power to Illinois, support state policy priorities, and strengthen Illinois' position as a center of the clean energy supply chain. The Commission should therefore encourage MISO to complete the planning for these projects and the development of an acceptable cost allocation methodology that recognizes the numerous benefits of the projects.

[4] MISO, *Long Range Transmission Planning*, (December 7, 2020) https://cdn.misoenergy.org/20201207%20System%20Planning%20Committee%20of%20the%20BOD%20Item%2007%20Long%20Range%20Transmission%20Planning%20Update499463.pdf.

In addition to supporting a more forward-thinking and resilient transmission system, the Commission should explore the use of pricing, standards, planning, and voluntary programs to encourage demand-side and supply-side market participation during supply crises, as well as long-term investments to improve reliability, and advocate for needed changes at the wholesale level. The Commission should also encourage grid operators to adopt pricing policies that prevent overburdening of consumers by exorbitant bills when rate incentives do not actually promote desired behavior changes, as happened in Texas. Finally, when outages do occur, grid operators must be prepared to target and rotate those outages surgically to protect critical facilities and vulnerable communities.

QUESTIONS

5. What lessons learned from the recent events in ERCOT during the February 2021 extreme weather event should be considered in Illinois? What new or additional measures/operating procedures should be adopted, and by whom, to ensure uninterrupted service during extreme weather events (e.g., hardening or winterizing) and quick recoveries from outages due to extreme weather events?

A confluence of factors caused and exacerbated the February outages in Electric Reliability Council of Texas (ERCOT). However, rather than try to address every potential cause or failure, regulators, grid operators, and utilities should prioritize cost-effective efforts to improve system resilience. These cost-effective solutions will be those that (a) increase system flexibility and resilience and (b) provide everyday value to customers and the grid during both normal grid operation and typical extremes (like summer peaks) alongside common mode failure extremes. Increased regional and inter-regional transmission-level interconnections and greater demand-side and distributed resource participation are particularly promising.

The February 2021 outages demonstrated the importance of transmission in supporting system resilience. While ERCOT's transmission isolation left it unable to replace unavailable generation capacity resulting from constraints on natural gas deliverability or equipment failures, neighboring regional transmission organizations (RTOs) MISO and the Southwest Power Pool (SPP) limited outages by at one point importing approximately 10 gigawatts of power from the less-affected PJM region to close their

own supply deficits.[5] Put another way, SPP and MISO were able to import more than 15 times as much power as ERCOT.[6]

Even in MISO and SPP, however, insufficient transmission capacity contributed to otherwise-avoidable outages, although on a much smaller scale than Texas. Notably, rolling blackouts plagued Louisiana, Mississippi and Arkansas,[7] even as PJM and MISO North areas of Illinois, Michigan, Indiana, and Kentucky had surplus supply capacity.[8] Yet instead of power flowing south and west to areas of need, interconnection bottlenecks effectively trapped the power in the mid-Atlantic and the upper Midwest. If Illinois faced an analogous supply crisis, lack of interconnections could similarly limit the amount of power that the state could import from other regions with surplus capacity.

A prescient FERC staff report, *Report on Barriers and Opportunities for High Voltage Transmission,* noted the reliability and resilience benefits of sufficient transmission eight months before the February blackouts.[9] In addition to allowing regions to share generating resources in the event of capacity shortages, the report also emphasized that high voltage transmission improves system resilience and reliability by aiding system restoration through both infrastructure restoration and access to a wider

[5] Toba Pearlman, *MISO and SPP Can Benefit from a More Connected Grid*, Sustainable FERC Project Blog (March 3, 2021) https://sustainableferc.org/miso-and-spp-can-benefit-from-a-more-connected-grid/.

[6] ERCOT, *Grid Operator Restores More Power Overnight*, News Release (February 17, 2021) http://www.ercot.com/news/releases/show/225369 (noting that ERCOT had imported 600 MW of power during the storm until outages spread to the Midwest).

[7] *See, e.g.*, Entergy, *Entergy Arkansas Winter Storm Update: 2/17/21 11 a.m.* Entergy Newsroom (February 17, 2021) https://www.entergynewsroom.com/news/entergy-arkansas-winter-storm-update-2-17-21-11-m/; Olivia Sanders, *Entergy Restores Power to Louisiana Communities After Winter Storms*, Fox News 15 KLAF-NBC (February 23, 2021) https://www.kadn.com/content/news/Entergy-Restores-Power-to-Louisiana-Communities-After-Winter-Storms-573857061.html; Clarion-Ledger, *Live Weather Updates: When Will Power Be Restored? Thousands of Linemen in Mississippi to Help* (February 19, 2021) https://www.clarionledger.com/story/news/2021/02/19/live-weather-updates-closures-continue-slight-warm-up-friday/4497799001/; Sherman Smith & Lucas Lord, *How Rolling Blackouts Helped Regional Power Grid Avoid 'Cascading Failures,'* Flatland (February 24, 2021) https://www.flatlandkc.org/news-issues/how-rolling-blackouts-helped-regional-power-grid-avoid-cascading-failures/.

[8] Pearlman, *supra* note 5.

[9] Staff of the Federal Energy Regulatory Commission, *Report on Barriers and Opportunities for High Voltage Transmission*, A Report to the Committees on Appropriations of Both Houses of Congress Pursuant to the 2020 Further Consolidated Appropriations Act, 3 (June 2020) https://cleanenergygrid.org/wp-content/uploads/2020/08/Report-to-Congress-on-High-Voltage-Transmission_17June2020-002.pdf.

array of black start capabilities, "and improving frequency response and ancillary services throughout the existing system."[10] High voltage transmission provides other benefits as well, including reducing delivered energy costs and combatting customer vulnerability to the exercise of local market power, potentially avoiding exposure to unneeded rate increases down the road.[11]

More high voltage transmission is also needed to connect location-constrained resources to load centers in many parts of the country, especially in the Midwest.[12] Renewable and storage resources made up roughly 90 percent of the interconnection queues in the regions covered by the seven RTOs and independent system operators (ISO) as well as more than 30 non-RTO utilities at the end of both 2019[13] and 2020.[14] High voltage transmission will also be necessary to aggregate and incorporate these resources into a reliable and resilient system. For example, because wind and solar energy tend to complement each other by generating energy at different times of the day, having a more geographically diverse set of renewable resources can help further smooth aggregated output. As a North American Electric Reliability Corporation task force report explains:

> Variability and uncertainty can be reduced through aggregation. Larger aggregations of wind and solar generation are proportionately less variable. Forecast accuracy is also improved for larger wind and solar aggregations. Net variability is reduced when variable energy resources (VERs) are aggregated with load, and it is net variability that must be balanced to maintain reliability. The pool of flexible resources, like generators and responsive load, increases as the size of the balancing authorities (BAs) is increased. Balancing should be conducted over the largest geographic area possible, either through consolidating smaller BAs or through coordinated operations.[15]

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[10] *Id.* at 3, 9.

[11] Alison Silverstein, Prepared Remarks of Alison Silverstein for FERC Technical Conference on Climate Change, Extreme Weather, and Electric System Reliability, Docket No. AD21-13-000, 2 (June 1, 2021).

[12] Staff of the Federal Energy Regulatory Commission, *supra* note 9, at 3, 22.

[13] Jay Caspary, Michael Goggin, Rob Gramlich, & Jesse Schneider, *Disconnected: The Need for New Generator Interconnection Policy*, Americans for a Clean Energy Grid, 10 (January 2021) https://cleanenergygrid.org/wp-content/uploads/2021/01/Disconnected-The-Need-for-a-New-Generator-Interconnection-Policy-1.pdf.

[14] Joseph Rand et al., *Queued Up: Characteristics of Power Plants Seeking Transmission Interconnection as of the End of 2020,* Lawrence Berkeley National Laboratory (May 2021) https://eta-publications.lbl.gov/sites/default/files/queued_up_may_2021.pdf (showing 680 GW of wind and solar resources and 200 GW of storage out of a total of 955 GW in the interconnection queue).

[15] North American Electric Reliability Corporation, *Integration of Variable Generation Task Force: Summary and Recommendations of 12 Tasks*, 56 (June 2015)

Governor Pritzker has recognized the need for more transmission, joining Governors Whitmer, Walz, and Evers to ask MISO to increase use of its Long Range Transmission Planning process in order "to allow carbon-free and low-cost electricity to flow across the region… while maintaining the reliability of the system."[16] MISO's LRTP proposal should be treated as the floor for how much new transmission is needed to ensure basic system reliability. Encouraging high voltage transmission development will also likely be necessary for Illinois to deliver on Governor Pritzker's commitment to put the state on a path to 100 percent clean energy by 2050 while improving system resilience and affordability.[17]

In addition, transmission can lower customer energy costs significantly (much more than the additional cost of building new transmission) by increasing access to lower-cost generation. One recent study, Americans for a Clean Energy Grid's *Consumer, Employment, and Environmental Benefits of Electricity Transmission Expansion in the Eastern U.S.*, found that increasing access to low-cost renewable energy in the Eastern Interconnection could reduce average electric bill rates by 3 cents/kWh, translating to more than $300 in annual household savings.[18] Another study, *The Value of Inter-Regional Coordination and Transmission in Decarbonizing the US Electricity System*, found that doubling the installed transmission capacity and coordinating power system planning and dispatch across state and regional boundaries can reduce the cost of zero-carbon electricity by as much as 46 percent when

https://www.nerc.com/comm/PC/Integration%20of%20Variable%20Generation%20Task%20Force%20I1/IVGTF%20Summary%20and%20Recommendation%20Report_Final.pdf.

[16] Letter from Governors Gretchen Whitmer, J.B. Pritzker, Tim Walz, & Tony Evers to Mid-Continent Independent System Operator, Inc. RE: Support for MISO's Long-Range Transmission Planning Effort to Cost-Effectively Maintain System Reliability in the Face of a Changing Climate, (June 7, 2021).

[17] See Office of Governor J.B. Pritzker, *Putting Consumers & Climate First: Governor Pritzker's Eight Principles for a Clean & Renewable Illinois Economy*, 6 (August 21, 2020) https://www2.illinois.gov/IISNews/21974-Putting_Consumers_Climate_First-Governor_Pritzkers_Eight_Principles_for_a_Clean_Renewable_Illinois_Economy.pdf.

[18] Christopher T.M. Clack, Michael Goggin, Aditya Choukulkar, Brianna Cote, & Sarah McKee, *Consumer, Employment, and Environmental Benefits of Electricity Transmission Expansion in the Eastern U.S.* Americans for a Clean Energy Grid, 4 (October 2020) https://gridprogress.files.wordpress.com/2020/12/consumer-employment-and-environmental-benefits-of-transmission-expansion-in-the-eastern-u.s..pdf.

comparing a nationally coordinated system to a state-by-state approach.[19] The NREL Interconnections Seams Study, which analyzes the cost and benefits of optimized nationwide transmission expansion, further highlighted transmission economic benefits, finding that every dollar invested in interregional transmission would return more than $2.50 in customer and other savings.[20] And MISO's review of 17 intra-regional transmission projects in MISO North and MISO Central to be completed by 2023 found that they would produce $12.1 to $52.6 billion in net benefits over the next 20 to 40 years—largely in congestion relief and fuel savings—at a benefit-to-cost ratio of 2.2 to 3.4.[21]

Demand-side management also provides opportunities to increase system resilience while creating value for customers and the grid.[22] Investments in building efficiency can smooth winter and summer peaks, decrease heating and power generation competition when natural gas supply is scarce, and keep houses warmer when the power does go out, while also helping customers to save money and reduce greenhouse gas emissions. By one estimate, all 6.7 million homes in Texas could have been weatherized for a price roughly comparable to the four-day gross transfer of energy dollars from consumers to suppliers during the February storm.[23] Instead, only 10,440 Texas homes have been weatherized since 2010 as part of state and federal efficiency programs.[24] Proactive investment to weatherize buildings in Illinois could similarly provide cost-effective reliability and consumer benefits.

Continued growth of energy market demand response and other programs that encourage customers to manage their electricity consumption in the face of supply shortages is also needed to

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[19] Patrick R. Brown & Audun Botterud, *The Value of Inter-Regional Coordination and Transmission in Decarbonizing the US Electricity System*, 5 Joule 115, 115 (2021).

[20] Aaron Bloom et al. *The Value of Increased HVDC Capacity Between Eastern and Western U.S. Grids: The Interconnections Seam Study*, NREL, 4 (October 2020) https://www.nrel.gov/docs/fy21osti/76850.pdf.

[21] MISO, *MTEP17 MVP Triennial Review: A 2017 Review of the Public Policy, Economic, and Qualitative Benefits of the Multi-Value Project Portfolio*, 4, 6, 23 (September 2017) https://cdn.misoenergy.org/MTEP17%20MVP%20Triennial%20Review%20Report117065.pdf.

[22] See Mark Specian, Charlotte Cohn, & Dan York, *Demand-Side Solutions to Winter Peaks and Constraints*, American Council for an Energy-Efficient Economy (2021) https://www.aceee.org/research-report/u2101.

[23] Eric Gimon, *Lessons from the Texas Big Freeze*, Energy Innovation, 12 (May 2021).

[24] *Id.*

provide critical demand flexibility and avoid the need for rolling outages. In that regard, we encourage the Commission to explore the regulatory and RTO tariff changes necessary to increase demand response and other demand-side participation in PJM and MISO (especially necessary considering the differing market structures in those two RTOs).

Lastly, clean distributed energy resources and vehicle-to-grid technologies can provide both demand *and* supply flexibility and resilience, allowing customers to either self-supply power or support their neighbors during capacity crises, again while also providing economic and decarbonization benefits to customers every day. Distributed energy is particularly effective to improve reliability when sited strategically to relieve congestion;[25] to the extent that the Commission and Illinois utilities can encourage distributed energy resource adoption in places where it will provide the most system value, its reliability benefits will be increased. At sufficient penetration levels, these resources could also provide system restoration benefits and could be factored into black start planning, assuming system upgrades are in place and grid operators can control generator performance.[26] For this reason we encourage the Commission to ask MISO and PJM to expeditiously and effectively implement FERC Order No. 2222 on distributed energy resource market participation.[27]

7. What current wholesale and retail pricing policies, rules or laws are relevant to pricing during an extreme weather event? Include any that address price gouging and consumer protections from high supply or distribution service rate impacts. Describe any changes needed to current policies, rules, or laws to ensure adequate, uninterrupted service at a reasonable cost during an extreme weather event.

Pricing can be a valuable tool to encourage system resilience—whether to incent wholesale market participation, demand response, or retail consumer conservation during crisis events, or to promote long-term reliability investments. However, regulators must ask when designing pricing policies to address reliability concerns whether those prices will induce the behavior change desired or merely

[25] National Academies of Sciences, Engineering, and Medicine, *Enhancing the Resilience of the Nation's Electricity System*, The National Academies Press, 76 (2017).

[26] *Id.* at 113–14.

[27] See *Participation of Distributed Energy Res. Aggregations in Markets Operated by Reg'l Transmission Organizations & Indep. Sys. Operators,* 172 FERC ¶ 61,247 (2020).

leave customers with large bills during outages. Difficulty predicting extreme events and consumer demand inelasticity can impede scarcity pricing efficacy as a tool to improve resilience. For that reason, the Commission should not over-rely on pricing as the sole means to address system vulnerabilities; other tools like standards, planning, and voluntary programs will also be necessary.

Some rate incentives have failed to catalyze the infrastructure investments that they are designed to encourage. Grid expert and former FERC and Texas Public Utility Commission advisor Alison Silverstein, for example, testified during FERC's recent technical conference on Climate Change, Extreme Weather, and Electric System Reliability that "[m]ost rate incentives encourage companies to take actions that they already wanted to do, but don't move companies that weren't already enthusiastic about the incented measure."[28] In these cases, rate incentives serve only as company windfalls at customer expense. During the Texas storm, for example, scarcity pricing failed to incent the generator or consumer behavior needed to avert or lessen the crisis. Generator winterization investments would have been cost-justified 12 times over, but without winterization requirements under state law, most generators failed to make them.[29] Even more distressing, ERCOT estimates that 15 percent of outages during the February storm were planned or predated the cold weather[30]—that is, even as ERCOT issued extreme cold weather notices, advisories, and emergency alerts in the week preceding the outages, the prospect of scarcity rates did not move generators to alter plans to voluntarily take generators offline.[31] It is very difficult to justify the extremely high prices paid by consumers when they failed to incent planning decisions to participate in the market when needed most. The reality is that in these situations, market actors may fail to rationally

[28] Alison Silverstein, Prepared Remarks of Alison Silverstein for FERC Technical Conference on Climate Change, Extreme Weather, and Electric System Reliability, Docket No. AD21-13-000, 8 (June 1, 2021).

[29] Gimon, *supra* note 23, at 10.

[30] ERCOT, *February 2021 Extreme Cold Weather Event: Preliminary Report on Causes of Generator Outages and Derates*, 8 (April 6, 2021) http://www.ercot.com/content/wcm/lists/226521/51878_ERCOT_Letter_re_Preliminary_Report_on_Outage_Causes.pdf.

[31] Bill Magness, *Review of February 2021 Extreme Cold Weather Event – ERCOT Presentation*, ERCOT, 9 (February 24, 2021) http://www.ercot.com/content/wcm/key_documents_lists/225373/2.2_REVISED_ERCOT_Presentation.pdf.

respond to market signals related to high-impact, low-probability extreme weather events like the one in Texas:

> The natural conclusion [from the ERCOT outages] is that some events are rare enough that scarcity pricing will not be adequate to attract the matching investment to cover system needs—not because the money is not there on a probabilistic basis but rather because there is a failure of imagination or ignorance of the probability of events and the size of the windfall is too uncertain. While scarcity pricing might be sufficient to incentivize investment in the face of some well-understood extremes (like periodic summer heat waves), policymakers must acknowledge the possibility that extended bouts of scarcity pricing are not enough to motivate investment to ride through even rarer extremes (like a weather event combined with a failure of a key supply system). While high prices provided some operational signal to high-cost plants to keep selling energy, exposing ERCOT customers to $52.6 billion in costs did not translate into system adequacy as intended.[32]

The Commission and other regulators need to grapple with this fact squarely and cannot be pollyannish about the ability of scarcity pricing to promote resilience; they must evaluate incentive programs rigorously to ensure that they are not throwing customers' good money after bad.

One tool that could be implemented at PJM and MISO to incent market participation and winterization investment while protecting consumers would be the use of a "circuit breaker" to limit the consumer impacts of otherwise-valuable scarcity pricing during extreme conditions. Under a circuit breaker policy, a lower shortage pricing cap would kick in if scarcity prices persisted beyond a set time window. For generators whose fuel costs exceed the price cap, the circuit breaker could also be designed to provide cost recovery through uplift—that is, cost-of-service payments made directly to generators without affecting the clearing price paid for all generation. This would continue to incent suppliers to produce and demanders to conserve while limiting exorbitant costs to consumers, as well as extreme losses for generators unable to deliver power.[33]

The Commission should also hold grid planners and utilities accountable for better planning, benefits identification and allocation, permitting, standards adoption, and penalties for non-performance if accredited capacity is not available during times of system stress. For example, there continues to be an

[32] Gimon, *supra* note 23, at 11–12.

[33] See Peter Cramton, *Lessons from the 2021 Texas Electricity Crisis*, 17 (May 17, 2021); Gimon, *supra* note 23, at 18.

urgent need for improved planning between gas and electric utilities and regulators to ensure that both residential heating and power generation needs can be met during winter extreme weather events. Improved coordination around planned maintenance outages, penalties for outages, and recognition that extreme events are increasingly occurring during winter and shoulder seasons in addition to summer, are low-hanging fruit to improve resource availability.

On the demand side, the Commission should assess the current opportunities available for Illinois customers to be rewarded for energy conservation measures during times of supply scarcity and determine whether additional opportunities should be developed. Illinois is already a leader in using retail pricing to promote conservation, with Ameren Illinois (Ameren) and Commonwealth Edison Company (ComEd) both offering opt-in real time pricing options to consumers.[34] Participation in these programs remains limited though, with only 37,486 customers participated in ComEd's program[35] and 13,455 participated in Ameren's in 2020.[36] Increasing participation in these programs likely could increase grid reliability and resilience benefits.

However, rate design must reflect both the need to protect consumers and to meet them where they are. A Citizens Utility Board analysis tells a mixed story consumer experience with of real-time pricing programs; in 2018, program participants reduced consumption by an average of 732 kWh over the year, but 40 percent of participating ComEd customers and 55 percent of Ameren's participants reported that they did not check prices to guide usage decisions.[37] The Commission should support utility efforts to increase participation in these programs while also improving customers' awareness of rate spikes and abilities to defer consumption when they happen.

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[34] Ameren, *Power Smart Pricing*, https://www.ameren.com/illinois/account/customer-service/bill/power-smart-pricing?utm_source=DirectMail&utm_medium=Vanity&utm_campaign=IL-PSP&utm_content=KBJL2; ComEd, *ComEd's Hourly Pricing Program*, https://hourlypricing.comed.com/.

[35] ComEd, *ComEd Hourly Pricing: 2020 Annual Report*, Docket 15-0602, 3 (April 2023, 2021).

[36] Ameren, *Ameren Illinois Power Smart Pricing: 2020 Annual Report*, Docket 11-0547, 3 (April 15, 2020).

[37] Cate York, *Did Real-Time Pricing Help Electricity Customers Save in 2018?* Citizens Utility Board (May 10, 2019) https://www.citizensutilityboard.org/blog/2019/05/10/did-real-time-pricing-help-electricity-customers-save-in-2018/.

11. What additional action not already mentioned above could FERC, NERC, MISO, PJM, and/or the Commission undertake to minimize the impacts of, and improve the recovery from, extreme weather events?

Regardless of the solutions adopted pursuant to this inquiry, the Commission may not be able to prevent all outages in all cases. In Texas, outages and their impacts fell heaviest on already marginalized communities, while downtown skylines remained illuminated.[38] For that reason, the Commission should consider directing grid operators and utilities to make the grid investments needed to initiate targeted outages in the face of supply deficits to preserve critical facility operation and to develop plans for the equitable rotating of outages among customers in the face of emergencies.

The Commission should also further explore and recommend that grid operators or legislators adopt, where needed, other standards and programs to improve resilience. Winterization standards for generators are one such tool to prompt reliability investments, especially performance-based standards that will continue to promote resilience over the long-term as the likelihood and severity of extreme weather events increases due to climate change. Standards, penalties, or other financial incentives may be particularly necessary to ensure transmission resilience, because short-term price increases may be insufficient to incent generation owners to invest in resilience or plan outages with system risk in mind. (This is a good area for future study). However, as noted, while these hardening investments are often readily identifiable, they can quickly become quite expensive and difficult to support if rarely used, and should therefore be pursued only to the extent that other solutions to provide resilience and everyday system value are insufficient or unavailable.

Last, the Commission should also consider using this docket to explore the use of non-rate mechanisms to promote customer conservation during supply crises. In California, for example, state

[38] See James Dobbins & Hiroko Tabuchi, *Texas Blackouts Hit Minority Neighborhoods Especially Hard*, New York Times (February 16, 2021) https://www.nytimes.com/2021/02/16/climate/texas-blackout-storm-minorities.html; Alexandra Villarreal, *Winter Storm Amplifies Power Grid Inequalities for Disadvantaged Texans*, the Guardian (February 17, 2021) https://www.theguardian.com/us-news/2021/feb/17/texas-winter-storm-power-outages; Dan Soloman, *Lights, Camera, Reaction: Lit-Up Downtown Skylines Are Enraging Powerless Texans*, Texas Monthly (February 17, 2021) https://www.texasmonthly.com/news-politics/downtown-skylines-enraging-powerless-texans/.

agencies deployed public engagement strategies during the August 2020 power crisis to close supply deficits.[39] The Commission should evaluate whether current mechanisms are sufficient or if additional programs are necessary to trigger voluntary conservation when needed.

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For the foregoing reasons, Citizens Utility Board, Sustainable FERC Project, and Union of Concerned Scientists respectfully request that the Commission consider these comments.

Respectfully submitted,

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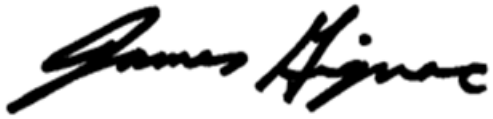

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[39] Gimon, *supra* note 23, at 20.