



SIERRA CLUB

LONE STAR CHAPTER

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To: Chairman Will Metcalf

Members, House Committee on State Affairs

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Energy-Only, LSERO, FRM, PCM, BRS, DEC? Or none of them?

Whatever the solution.... Demand and Energy Efficiency Still Has not been Aptly Considered as a Solution To Reliability and Resiliency

The Public Utility Commission of Texas is considering a number of potential changes to our ERCOT market with the goal of enhancing reliability given the requirements of SB 3 to assess reliability and ancillary services, and the real and tragic experience of so many Texans in February of 2021.

While the Sierra Club is still working on our analysis and comments on the proposed PCM – a new market construct that could be expensive for consumers – we believe that there are a number of alternative proposals that could be considered that might be superior to a new and administratively complex capacity construct. Further in this written testimony we lay out 8 ways to make our systems reliable.

Some Good Work has already been done

A lot has happened since Winter Storm Uri and the passage of SB 3 and other legislation related to the electric grid and the gas supply. The events surrounding Winter Storm Uri revealed how gas, electricity and water are interrelated, and there is the need to weatherize and winterize all three systems and increase their resiliency. While imperfect – especially on the gas supply side -- SB 3 and other bills did help shore up these aspects and focused on supply-side issues. We thank many members of this committee for raising the issues of the inadequate initial rule on critical infrastructure by the RRC, and we recognize improvements that have been made as a result of your input.

Winterization Rules are A Good First Step

Recently, the RRC adopted both winterization requirements and reopened and then approved a rulemaking on critical infrastructure after criticisms about its initial efforts. While the Sierra Club remains concerned that the RRC rules did not go far enough to winterize the gas supply, the new PUCT and RRC rules on winterization do make our electric system more reliable, though concerns remain if given another Winter Storm Uri, our system would function sufficiently. Indeed, a recent FERC report found that Texas might still suffer issues with a similar storm, and many power plants might fail to show up. One important issue will be making the weatherization rules a continual updating process at both the RRC and PUCT. As we learn more about climate change and climate extremes, continually consulting with the State Climatologist and adopting a more conservative understanding of climate patterns will be important. Traditionally, ERCOT and the PUCT have planned forward by looking backward at weather patterns but as those change, our requirements must change as well.

Phase 1 Changes Have Been Positive, though they Have Largely Ignored Demand-Side Solutions

In addition to efforts by the PUC and RRC on weatherization and the supply side, the PUCT has been moving swiftly on changes meant to make the grid more reliable. At times, it has been confusing to the public and stakeholders, but in December of 2021, the PUCT adopted a “blueprint” that laid out both Phase 1 changes as well as Phase 2 changes that they were considering for future adoption.

In general terms, Sierra Club has been an active participant in Phase 1 discussions and has supported them.

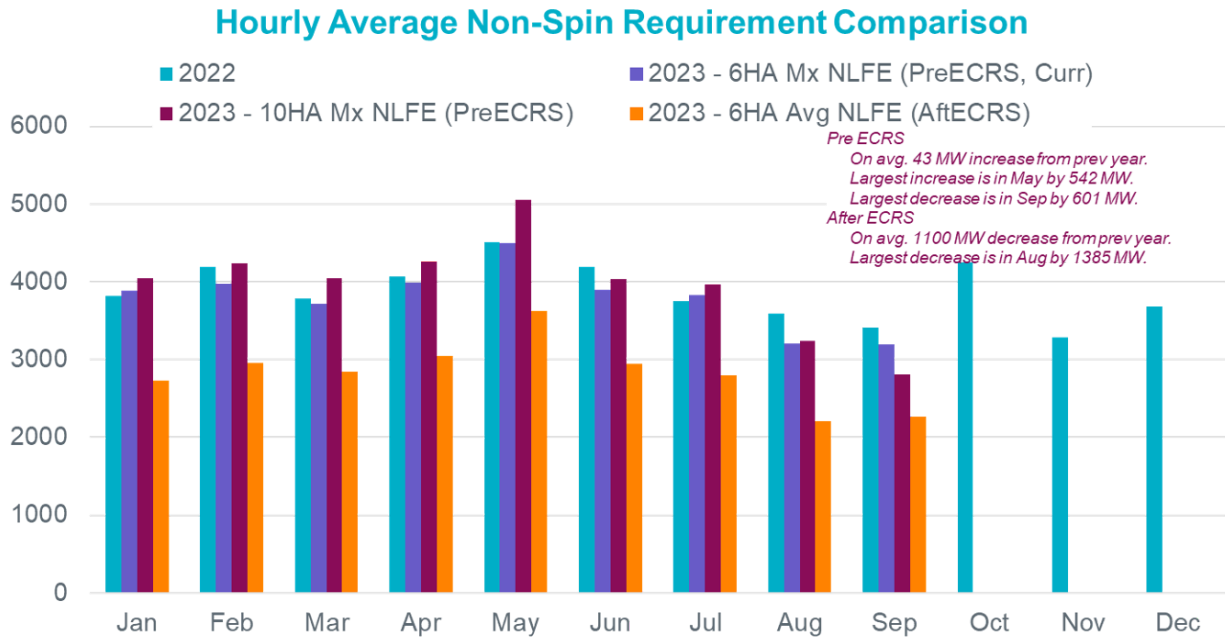
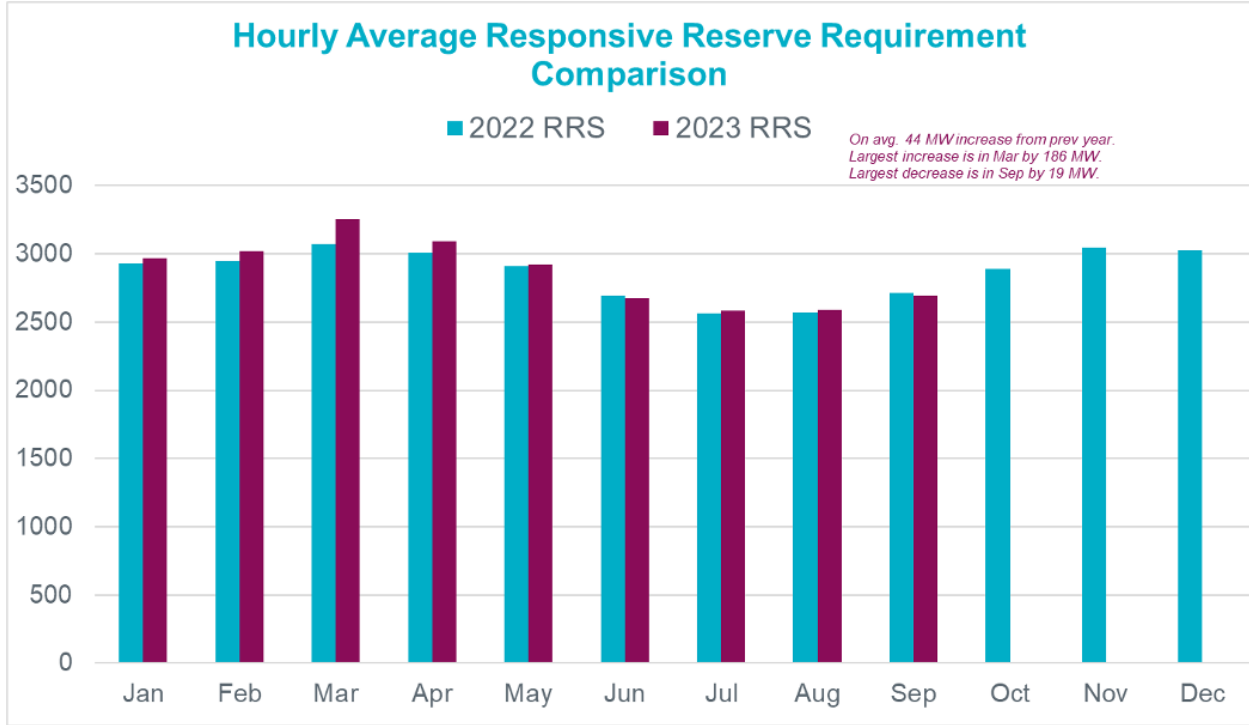
Among the important changes ordered in Phase 1 by PUCT Commissioners include:

- Operating Reserve Demand Curve (ORDC). Set the Minimum Contingency Level (MCL) at 3,000 megawatts (MW) and set the high system-wide offer cap (HCAP) and value of lost load (VOLL) to \$5,000 per megawatt-hour (MWh). These ORDC changes will enable market-based dispatch of reliable generation units earlier to help maintain grid reliability in the upcoming 2022 winter season and future.
- Expand Emergency Response Service (ERS). ERS is an operational reliability tool that should be deployed earlier to allow participating large commercial and industrial consumers, distributed generation (DG) facilities, and aggregated customers to curtail their electricity consumption to reduce demand on the grid to help avoid conservation appeals and emergency conditions. The PUC expanded this service seasonally and also increased the budget from \$50 million to at least \$75 million with options for greater budgets should the need arise.
- Expanded ancillary services, including Fast Frequency Response Service (FFRS) (New Grid Frequency Ancillary Service Product). ERCOT is currently developing FFRS to help stabilize grid frequency in the future.

- Loads in Non-Spinning Reserve Service. Expansion of ERCOT's existing Non-Spinning Reserve Service (Non-Spin) to allow loads to participate in the service to provide additional versatility for addressing forecast error or ramping issues in the future.
- Firm Fuel Product. The Commission directed ERCOT to develop a discrete firm fuel-based reliability service pursuant to Senate Bill (SB) 3. This reliability service would provide additional grid reliability and resiliency during extreme cold weather and compensate generation resources that meet a higher resilience standard. ERCOT has a contract out for this winter service currently.
- ERCOT Contingency Reserve Service (ECRS) (New Ramping Ancillary Service Product). ERCOT is currently developing ECRS to serve as an additional operational reliability tool to help maintain grid reliability by managing increasing variability and ramping issues associated with higher renewable generation penetration on the grid in the future. ECRS is expected to be operational by May in time for the summer of 2023.

It is important to note that because of these Phase 1 changes, ERCOT has and will be increasing ancillary services and other resiliency services (like ERS).

As a member of ERCOT's Reliability and Operations Committee (ROS), we recently approved the 2023 Ancillary Service Methodology. ERCOT, assuming they get PUCT approval, will increase spinning and non-spin reserves, up until the new ECRS product is introduced, hopefully by May or June. While ECRS will not eliminate non-spin, it will substantially reduce the need for it. In other words, the PUCT and ERCOT have improved ERCOT reliability by increasing our ancillary services and ERS products. This has had a real cost on consumers but is part of the price of paying for a more robust and safer grid.



What About the Demand Side?

Despite efforts by many organizations, legislators and others, political leadership has largely failed to recognize the other issue revealed in Winter Storm Uri: electric (and gas) customers need solutions focused on the demand-side of the equation. Energy efficiency, demand response and other distributed energy resources are solutions that could improve resiliency, lower costs and help make our system more reliable.

Electric demand records were set (or would have been set if not for the grid failure) in February of 2021, and this summer, ERCOT set no fewer than 12 peak summer records

While the PUC in their blueprint has taken some small steps forward as mentioned, they have failed to act on others, but do have the power to do so. To be clear, the PUCT has taken some steps on the demand side including:

- Opening up a pilot project on distributed energy resources including “Virtual Power Plants” that could allow customers through aggregation to participate in the energy market. ***This is a very positive development and we appreciate the stakeholder process that has been created and the quick action by the PUCT to develop a pilot as soon as 2023 that could allow up to 80 MWs of distributed energy resources in various parts of the state to provide energy and ancillary services.***
- Ordering ERCOT to pursue nodal pricing for demand response, **although the protocol revisions appear to be stuck currently and no actual proposal has been moved forward.**

Phase 2 Proposal Could be Expensive

Recently, a report by a consultant - E3 - has been released that lays out six options for Phase 2, and the PUCT is asking for comments on one of those options - the PCM. *Sierra Club is extremely concerned that some other options are not being adequately considered by the PUCT as an alternative to PCM, and is also concerned that certain parameters chosen by the consultant appear to not be in line with the original proposals of the option.*

The Sierra Club remains concerned that the types of solutions being developed by the PUC and ERCOT – particularly those in Phase 2 - will create huge costs to consumers large and small, and will not guarantee the reliable and resilient system required for Texas’s health, and well-being. We have serious concerns with the process thus far, and want to be sure that any Phase 2 changes must undergo a robust cost-benefit analysis with opportunities for stakeholder and public input. Recently, the PUCT released the E3 Report - ***Assessment of Market Reform Options to Enhance Reliability of the ERCOT System*** that looked at seven different options. While like many stakeholders we are still reviewing the 150 page report and the PUCT proposed questions we have some basic observations:

1. The Energy-Only option assumed there would be no additional changes beyond the status quo, even though there are proposals such as **Real-Time Co-Optimization and the Uncertainty Product** that have been suggested as enhancements. The Sierra Club is

generally supportive of moving forward on looking at the Uncertainty Product and co-optimization as an alternative proposal to the capacity market constructs.

2. One of the options - the Dispatchable Energy Credits – was modeled in a very different way than the way it was presented in previous discussions. In other words, rather than modeling a two-hour service that could be served by batteries or fast-acting gas plants, the E3 analysis assumed the need for a 48-hour duration service which would limit who could provide such services, and also make the service much less cost-effective. As an option that seemed to better fit our current market construct – and was assumed to be more flexible - it was disappointing to not see this option modeled correctly.
3. The analysis seemed to assume that batteries should be counted along with renewable capacity and subtracted from total load to arrive at net load even though batteries are dispatchable and therefore should not be subtracted from total demand. Running the analysis with batteries not counting as a dispatchable resource could change the results.
4. In general it is unclear in the analysis whether load resources - that is loads using demand response and peak shifting – could provide the different services that are reviewed (PCM, Forward Reliability Market, LSERO, DEC, etc) , which could both lower the costs and the volumes of the resources needed. It is also unclear whether distributed energy resources would be eligible to participate which could lower the costs of the services.

We would also note that all scenarios reviewed in the report do show the positive impact of renewable energy development on cost, which should provide an important lesson to policy-makers - renewables benefit consumers because they lower costs on the system.

Prices are Hurting Customers Right now

Electric consumers are getting hit by major hikes in electricity prices due to a variety of factors. First, gas as a commodity is higher and with gas representing approximately half of our energy use, wholesale prices are up. Second, the high electricity use and more robust price-adder adopted by the Commission has increased the number of times we are hitting price caps. Third, ERCOT has adopted an extremely conservative operating procedures, meaning they are buying more operating reserves than ever before and ordering power plants to be online through RUC orders. Fourth, a failure to invest in transmission solutions means that congestion costs have more than doubled this year, with in particular wind and solar companies being ordered to scale back their use due to congested lines. Eventually, implementation of SB 1281 may help this situation but PUCT is still engaged in rulemaking. Finally, some customers are already facing extra costs due to the securitization of the ERCOT Uri wholesale costs, as well as individual debts by certain public cooperatives and municipal utilities. Private TDUs are also in the process of raising rates.

Recently, the Independent Market Monitor found that through the first seven months of 2022, costs were more than \$2 billion higher in 2022 than in 2021 for the market as a whole just from changes to the ORDC. Real-time congestion costs are also rising. They stood at \$2.1 billion at the end of July, compared with \$2.1 billion for all of 2021.-

[https://www.ercot.com/files/docs/2022/08/12/7%20Independent%20Market%20Monitor%20\(I MM\)%20Report.pdf](https://www.ercot.com/files/docs/2022/08/12/7%20Independent%20Market%20Monitor%20(I%20MM)%20Report.pdf)

In fact, recent data shows that average prices in the retail electric market have risen in just a year from an average of 10 to 12 cents per kilowatt hour to one that is more than 20 cents today. A search on Power to Choose in the Dallas area today shows average rates for a one-year fixed contract are in the 15 to 18 cents per kilowatt hour range, a significant increase from just a year ago.

Many Texans have huge energy burdens, particularly in light of the record-setting high temperatures, and Texas has no state discount program, meaning we rely largely on federal funds to help lower-income Texans with their energy bills.

Eight things the PUC and/or Legislature could do

- 1. Uncertainty Product and Co-optimization.** Similarly, many stakeholders – including the Independent Market Monitor – have been endorsing the creation of a new ancillary service - the Uncertainty Product – a two or four-hour additional ancillary service meant to bridge the gap between demand and supply in certain times of day and seasons. The advantage of increasing and adding ancillary services is we already have an existing ancillary service market and an annual process to change our methodology. We believe that further study is warranted and it could be preferable to an administratively challenging, costly and complex PCM, Load Serving Entity Obligation or Forward Capacity Market. Along these lines, co-optimization - another idea that has been approved by ERCOT and the IMM but never implemented - would allow ERCOT to better coordinate resources and operations within both the ancillary and energy markets.
- 2. Create a third market between the day-ahead and real-time market.** A “peak-ahead” market, sometimes known as MIRTM (Multi-Interval Real-Time Market), would allow resources to bid in one to two hours before an event adding new resources as demand or weather changes suddenly. Such a concept was modeled several years ago in ERCOT, and found to be a positive market enhancement, but never implemented. We believe that it could be a good market enhancement that would be relatively inexpensive and allow fast-acting dispatchable resources and loads to respond to prices and conditions.
- 3. Raise Residential Energy Efficiency and Demand Response Goals at the PUCT.** In its Blueprint, the four commissioners approved a plan that in Phase 1 stated they would improve the efficiency of the load-management and other programs run by the state’s eight private Transmission and Distribution Utilities. However, thus far, they have failed to open up a rulemaking to do this, and in the meantime these same utilities have already submitted their plans for 2023, and their plans on how to charge ratepayers for meeting those plans.

In response, due to the lack of action by the Commission, on August 10th, the Lone Star Chapter of the Sierra Club submitted a **petition for rulemaking** with the Public Utility Commission of Texas (PUC) that would require the state's eight private utilities to nearly double their peak demand goals and quadruple their energy saving goals over the next three years. This would benefit thousands of Texas families and small businesses and would help make our grid more resilient and reliable. **A copy of our petition and any stakeholder input can be found at the PUC's interchange through Project Number 53971.**

Unfortunately, on October 6th, the PUCT unanimously rejected our petition for rulemaking. Still, we are pleased that they held a special meeting on energy efficiency later that month, and have indicated they may open a rulemaking on energy efficiency in early 2023 based on feedback from stakeholders.

While the PUCT has indicated they may take up rulemaking soon, it is unclear whether the rulemaking would address the eight issues that the Sierra Club raised in our rulemaking petition. We would note that last week Senator Sarah Eckhardt did file **SB 258**, which would establish new energy efficiency goal requirements for private utilities both within ERCOT and outside of ERCOT.

4. **Residential Demand Response.** One low-cost solution to help consumers save money, but also improve system reliability would be to authorize the use of more demand response- peak shifting of energy usage. Expansion of the Utility Goals discussed in Item 3 through rulemaking or legislation would be one way, another would be to require retail electric providers to meet a certain percentage of their load through residential demand response programs. Recently, Senator Jose Menendez filed legislation (SB 114) which would create over several years a five percent residential reduction goal through demand response.

5. **Transmission Congestion.** One of the reasons our system has been unreliable is because there are so many megawatts of electric power that are unable to get to the loads where they are needed because the system is congested. In 2021, the Legislature took an important step to help resolve some of this problem through passage of SB 1281 (Hancock-P King), which added some additional tools to the PUCT and ERCOT to allow economic transmission (and resilient transmission) to be built more quickly. Recently, the PUCT adopted new rules to implement SB 1281 which could help resolve some of the Generic Transmission Constraints found our system. Still, additional legislative direction and action may be needed. In addition, monies available through the IRA and IJA for transmission could help. Finally, Texas could and should explore interconnecting with other grids where it makes economic sense.

6. **Receiving and Coordinating Federal Funding.** Texas has a unique opportunity to reduce costs to consumers, make our grid cleaner and more reliable by taking advantage of both IIJA (Bipartisan Infrastructure Fund) and the IRA (Inflation Reduction Act). The Legislature should embrace this opportunity and work with state agencies and the Governor's Office to:

- Accept these federal funds while assuring that it does not impose conditions that are not in Texas interests;
- Assure that we have good reporting to both assure monies are spent wisely, and we get credit for the reductions in air pollution for our efforts to clean the air.
- Assure that we coordinate with existing programs to get greater bang for the buck.

Among the important sources of funds which could directly improve our grid and help our residential and commercial customers include:

a. IIJA of 2021

- i. Weatherization Assistance Program (\$174 million through TDHCA)
- ii. Section 40109 of the IIJA. State Energy Plan (SECO)
- iii. Section 40502 of the IIJA. Energy Efficiency Revolving Loan Fund Capitalization Program (SECO)
- iv. Section 40552 of the IIJA. Energy Efficiency and Conservation Block Grant Program (SECO)
- v. Section 40503 of the IIJA. Energy Auditor Training (SECO)
- vi. Section 40511 of the IIJA. Cost-Effective Codes for Efficiency and Resilience (SECO)
- vii. National Electric Vehicle Infrastructure Formula Funding (\$408 million for TXDOT)
- viii. Grants for EE and Renewable Energy Improvements at Public Schools
- ix. Clean School Bus grants through EPA

b. IRA of 2022

- i. Homes Rebate Program (SECO) (\$346,022,980)
- ii. High efficiency Electric Home Rebate Program (SECO) (\$344,006,590)
- iii. State-based home energy contractor training grant (SECO)
- iv. Energy Policy and Conservation Act Latest Building Code (competitive, SECO could be eligible)
- v. Zero Building Energy Code (competitive, SECO could be eligible)
- vi. Greenhouse Gas Reduction Fund (TBD)

7. **Building Codes must be prioritized.** Texas has been a leader on adopting the latest energy codes, but because of some legislative changes, the State Energy Conservation Office has been unwilling to adopt the latest 2021 energy codes. The Legislature needs to resolve this issue. In addition, adopting other codes like the overall building codes, plumbing codes and the mechanical codes can assure that new buildings use less energy and are more sustainable. Finally, Counties need additional authority over adoption and enforcement of building codes.
8. **Working Texans Must be Considered.** Whatever solutions the legislature and the PUCT come up with to make our system more reliable long-term, we need to assure that increasing prices do not price Texans out of quality of life, and that Texans have access to programs to help them save energy and money. Sierra Club is following the sunset process closely, and appreciates the recent creation of the Office of Public Engagement, and calls for improvements in information, communications and the PUCT website. But more is needed. Allowing better access to how Texans can take advantage of utility energy efficiency and demand response programs, distributed generation, and also federal weatherization and LIHEAP funds available through TDHCA is key.

In addition, in the light of the elimination some 10 years ago of the System Benefit Fund, Texas might want to explore other mechanisms to provide bill relief to working Texans. As an example, Ohio recently enacted legislation and programs using state and utility funding to create the ***Percentage of Income Payment Plan (PIPP)*** helps eligible Ohioans manage their energy bills year-round.