Date: October 1, 2024

To: Chairman Schwertner and the Members of the Senate Committee on Business & Commerce

CC: Sen. Phil King, Sen. Brian Birdwell, Sen. Donna Campbell, Sen. Brandon Creighton, Sen. Nathan Johnson, Sen. Lois W. Kolkhorst, Sen. José Menéndez, Sen. Mayes Middleton, Sen. Robert Nichols, Sen. Judith Zaffirini
Via hand delivery and by email.

From: Kamil Cook and Tom "Smitty" Smith with Public Citizen

Re: Managing Texas Sized Growth & Innovative Power Generation

Dear Chairman Schwertner and Members of the Committee:

Public Citizen appreciates the opportunity to offer this testimony. If you wish to discuss our comments further, we can be reached by contacting Adrian Shelley at ashelley@citizen.org, 512-477-1155.

Our recommendations for implementation of the Texas Energy Fund are as follows:

1. **Prioritize microgrids for backup power.**
2. **Prioritize zero emissions sources of backup power.**
3. **Increase stakeholder input in the implementation of TEF funds.**

Texas Proposition 7, also known as the Texas Energy Fund (TEF), allocated up to $10 billion towards the building of new dispatchable generation facilities and new backup power sources. Up to $1.8 billion of this allocation is intended to build backup power such as microgrids. Even though different backup power systems, like microgrids, have proven useful to the ERCOT grid, there has been little information released about the actual allocation of funds towards backup sources or implementation of this portion of the TEF. This is markedly different than how the process has gone to fund new natural gas facilities—their selection process is already complete.

The Texas Energy Fund should prioritize microgrids for backup power.

Public Citizen believes that this backup power must be prioritized with haste. The sooner backup power can come online to support critical facilities, the sooner Texans can benefit from greater grid reliability and resilience. Additionally, the backup power sources take much less time to come onto the grid than large, centralized natural gas power plants. While some natural gas plants that were selected for funding were hopeful to come online as early as 2026, a microgrid could come online as early as next year.

Backup power such as microgrids give Texans the energy independence that they appreciate and provides safety to a community in an otherwise dangerous emergency. Even though it is labeled as backup power, it provides benefits to the grid during normal times of operation in addition to during emergencies. Beyond an emergency, sources like microgrids give customers the

opportunity to save money on energy bills since these backup sources often consist of a mix of solar, battery, and demand response measures that work during normal grid operations.

Additionally, backup power sources can come online very quickly, much quicker than a natural gas turbine. Chairman Gleeson himself has talked about how microgrids can provide real benefits to the grid much faster than natural gas power plants. Microgrids that are started now can be finished next year. Some of the earliest dispatchable generation units that are allocated funding by the TEF won't come online until 2026, 2027, or 2028.

Prioritize zero emissions power sources.

Public Citizen also advocates for backup power that is zero-emissions. These include batteries, solar, demand response, energy efficiency improvements, and hydrogen fuel cells fueled by green hydrogen.

Zero-emissions backup power provides a plethora of benefits to the hosting entity. Zero-emissions power also offers advantages to the community by eliminating air pollution emissions that harm public health and contribute to climate change.

Zero-emissions backup power sources do not contribute to local air pollution. This is valuable for many critical facilities (like nursing homes, hospitals, homeless shelters, and hospitals) that may house vulnerable populations during times of emergency.

More stakeholder input is needed.

Lastly, there should be more stakeholder input in how these funds will be implemented. There is little public information available about the process to allocate funding. By opening this process up, funds can be more effectively and efficiently used.

Proposition 7 passed last year and 10,000 MW of natural gas power plants have already been selected to receive funding. We are just barely out of the planning stages for the backup power and there is little publicly available information about it. There should be much greater stakeholder input in the planning of and implementation of this plan. Industry stakeholders, advocacy groups, and solar and battery companies should all be involved in this process. This will likely ensure that there is flexibility in the ways that these backup power funds can be distributed, which would be more efficient than prescribing how to distribute this money without input from the entities that are seeking this backup power.

In conclusion, Public Citizen supports this implementation with haste. Backup generation has not been prioritized in the rollout of the Texas Energy Fund, as can be seen by almost all of the $5 billion already being allocated to natural gas plants. We urge all $1.8 billion of money to be allocated to backup sources and for there to be thorough stakeholder input in crafting the implementation process. Public Citizen also urges the use of zero-emissions backup power sources, especially for microgrids, as they offer key air quality benefits to the places in which they would be situated. Lastly, we urge you to implement these changes quickly as backup sources of generation like microgrids can provide resiliency and reliability benefits to the grid much faster than natural gas plants can.

Testimony of Tom “Smitty” Smith

Retired Director of Public Citizen’s Texas Office

on

Advanced Nuclear Reactors

Before the Senate Business and Commerce Committee

October 1, 2024

Texas’ push for “accelerating” the development of small modular nuclear power plants could be too costly, too risky, take too long and rely on failed technologies. Building nuclear power plants cost the state billions in excess electricity costs over the last 40 years. The Senate should consider adding “brakes” onto this vehicle by putting protections put in place before investing in this technology.

"Those who cannot remember the past are condemned to repeat it. "

--George Santayana 1905

40 years ago, when I first began working at Public Citizen, we published a report called Too Costly to Continue, about the cost overruns that were continually happening for the South Texas and Comanche Peak nuclear plants that were under construction in the 1980’s. The study pointed out that building new coal or natural gas plants would be significantly less expensive than new nuclear plants and would be completed more rapidly. Our estimates of how much those nuclear plants were going to cost were far too conservative. And the time it took to build them was also far longer than we had predicted.

I’ve had a front row seat to how costly nuclear energy has been to Texas. Here are several observations.

The previous drive to build new nuclear plants in Texas came as a result of supply interruptions in the natural gas sector due to winter storms, a series of hurricane related gas supply disruptions in the late 70’s and federal policies that discouraged the use of natural gas. The original cost estimates for building four units at two plants in Texas sites were far too low.

Cost Overruns Above DCE
(excluding AFUDC)

STP

1976 DCE	$1.238 billion
Actual Cost	$5.8 billion
Percent Overrun	368%

Comanche Peak

1975 DCE	$978 million
Actual Cost	$7.8 billion
Percent Overrun	690%

When construction of the nuclear plants was finally completed, and the bills came due, nuclear power costs were so high[1] that they pushed Texas' power costs above other industrial states. As a result, there was a move toward market-based competition, or "deregulation of generation," led primarily by Governor Bush. The "dereg" bill was opposed by the big nuclear utilities because they couldn't be competitive if they continued to carry the debt for the nuclear power plants. As a result, when SB 7 passed in1999, the "electric deregulation bill," it allowed for the "securitization" or the spreading out of debt, and the collection of these excess costs for nuclear power plants as "stranded costs" to reduce the debts owed by power companies. According to a testimony by Clarence Johnson, former energy economist for the Office of Public Counsel, NRG and ratepayers are paying off over $5 billion (in stranded costs) for 44% of the South Texas Nuclear Project. TXU securitized $1.3 billion in regulatory assets as a result of this settlement[2] to pay for stranded costs for Comanche Peak nuclear plant. These costs are collected monthly from all of their customers.

Deregulation was remarkably successful because it chose the lowest cost power supplies to provide electricity to Texas. It lowered energy costs and led to a massive building boom in wind, solar, energy storage and new far more efficient natural gas plants. This boom in new energy resources has created tens of thousands of jobs in manufacturing, exploration, and energy production, particularly in rural areas and West Texas. It demonstrates the success that comes from opening the market to energy competition and basing it on lowest cost principles.

No energy source operates without significant government subsidies. Natural gas gets significant depletion allowances and favorable environmental treatment for their wastes. Renewable energy gets production tax credits and nuclear energy has been heavily subsidized. Now small modular nuclear reactor advocates are asking for about a dozen new state programs and incentives from the state to "accelerate" the building of new types of nuclear reactors. (The final report of the PUC's Advanced Nuclear Task force was not available on 9/28/24)

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[1] Costs of Current and Planned Nuclear Power Plants in Texas, A Consumer Perspective, Author: Clarence Johnson, Prepared for Public Citizen's Texas office, PUC docket **38339_367_670210 pg 114**)

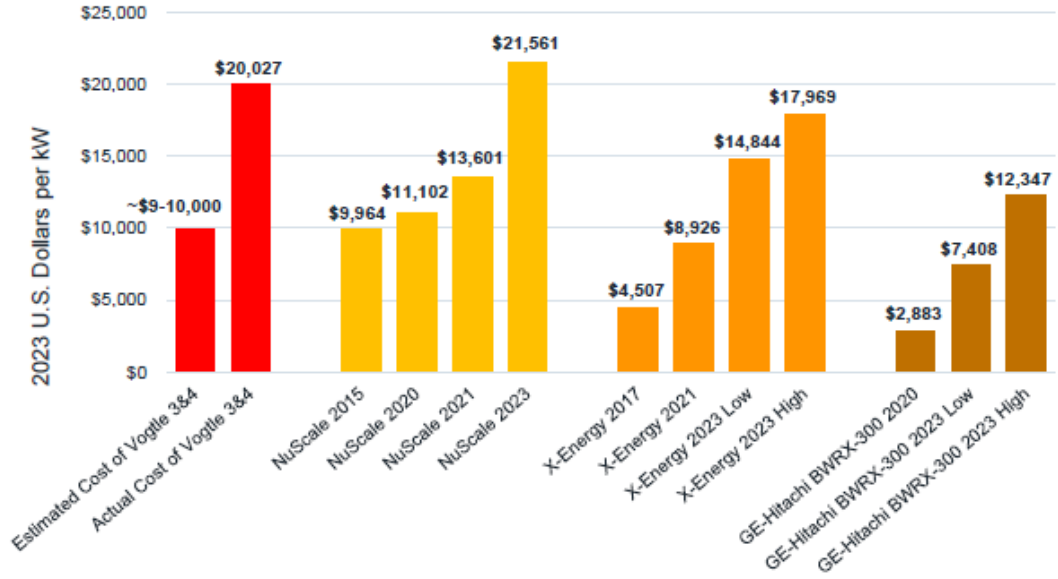
[2] Costs of Current and Planned Nuclear Power Plants in Texas, A Consumer Perspective, Author: Clarence Johnson, Prepared for Public Citizen's Texas office, PUC docket **38339_367_670210 pg 109)**

It would be wise for the Senate to look at the costs and risks of new nuclear technologies and put in place some "brakes" to slow down or stop this development if costs and risks go out of control.

A recent study by IEEFA, SMRs: Still Too Expensive, Too Slow and Too Risky,[3] presents the cost overruns of current advanced nuclear reactors.

It examines data from the four SMR's currently in operation or under construction, as well as projected costs from leading SMR developers. The results show that little has changed from the previous nuclear track record. SMRs still are too expensive, too slow to build, and too risky to play a significant role in transitioning from fossil fuels in the coming 10 to 15 years.

Figure 2: Projected Cost Increases for Proposed U.S. SMRs



Source: IEEFA calculations based on public data for each of the projects converted to 2023-year U.S. dollars. For example, see the GE Hitachi website, Four reactors could cost Saskatchewan $12 to $20 billion,, X-Energy and ARES Acquisition Corporation Announce Strategic Update, Georgia Power Company's monthly and Quarterly Reports to the Georgia Public Service Commission on construction of the Vogtle Nuclear Project and IEEFA reports on NuScale.

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IEEFA believes these findings should serve as a cautionary flag for all energy industry participants. In particular, they recommend that:

[3] SMRs: Still Too Expensive, Too Slow and Too Risky, David Schlissel and Dennis Wamsted, IEEFA, https://ieefa.org/SMR

- Regulators who will decide on whether to approve utility or developer-backed SMR proposals should craft restrictions to prevent delays and cost increases from being pushed onto ratepayers.

- Utilities that are considering SMRs should be required to compare the technology's uncertain costs and completion dates with the known costs and construction timetables of renewable alternatives. Utilities that still opt for the SMR option should be required to put shareholder funds at risk if costs and construction times exceed utility estimates.

- Investors and bankers weighing any SMR proposal should carefully conduct their due diligence. Things will go wrong, imperiling the chances for full recovery of any invested funds.

- State and federal governments should require that estimated SMR construction costs and schedules be publicly available so that utility ratepayers, taxpayers and investors are better.

- Assess the magnitude of the SMR-related financial risks that ratepayers may be forced to bear.

- Finally, it is vital that this debate considers the opportunity costs associated with the SMR push. The dollars invested in SMRs will not be available for use in building out a wind, solar and battery storage resource base. These carbon-free and lower-cost technologies are available today and can push the transition from fossil fuels forward significantly in the coming 10 years, during which time SMRs will still be looking for license approvals and construction funding.

Texas should:

- Require all new reactors to set aside an adequate decommissioning fund to remove and dispose of the waste and contaminated reactor vessels. Texas created one for existing reactors in 1987.
- Don't permit any additional nuclear plants to operate without an adequately isolated underground permanent national waste repository in place that meets Department of Energy standards.
- Assure that local first responders are adequately trained, funded, and equipped to respond to an "out of control" nuclear scenario. Waiting for a team to be dispatched from Houston to Seadrift or from Dallas to Abilene could make it impossible to timely contain an accident. While containment vessels aren't currently required for new small modular reactors, they should be.
- Learn from the past and make nuclear power compete in the open energy market. Don't repeat the multi-billion-dollar mistakes of the past by allowing the PUC to fund incentives for nuclear projects that aren't on time and on budget. Set up bi-annual PUC reviews and don't be afraid to pull the plug on faltering projects.

If you'd like to discuss this further, please reach out to me.

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