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Date: March 19, 2025

To: Chairman Ken King and the Members of the House Committee on State Affairs

CC: Rep. Ana Hernandez, Rep. Rafael Anchia, Rep. Drew Darby, Rep. Yvonne Davis, Rep. Charlie Geren, Rep. Ryan Guillen, Rep. Lacey Hull, Rep. John W. McQueeney, Rep. Will Metcalf, Rep. Dade Phelan, Rep. Richard Pena Raymond, Rep. John T. Smithee, Rep. Senfronia Thompson, Sen. Chris Turner
Via hand delivery and by email.

From: Adrian Shelley, Public Citizen, ashelley@citizen.org, 512-477-1155

Re: HB 14, Nuclear Energy – Public Citizen testimony in opposition

Dear Chairman King and Members of the Committee:

On behalf of 30,000 members and supporters in Texas, Public Citizen appreciates the opportunity to testify against HB 14, relating to funding mechanisms within the Office of the Governor and Texas Public Utility Commission to support the deployment of advanced nuclear reactors in this state. We must oppose this bill because we do not think taxpayer dollars should support unproven nuclear technologies and we do not believe the bill will lead to more affordable energy on the ERCOT grid within a reasonable time.

Tier 1 and 2 payments are available before a project generates any electricity.

HB 14's tiered payment system provides grant funding for projects at three separate tiers of completion, as follows.

1. Tier 1 is for initial development costs.
2. Tier 2 is for costs associated with construction, with 30% of a grant awarded while the nuclear commission is considering the application and 70% awarded after the final investment decision is made by the company building the project. Tier 2 funds can even be given for costs incurred before a project enrolls in the Texas Advanced Nuclear Deployment program.
3. Tier 3 is for projects that are activated and operating and are awarded on a per megawatt basis.

This means that projects can be awarded Tier 1 and 2 funds without generating any electricity at all. The bill does includes a provision that Tier 1 and 2 agreements may include a requirement to repay funds if no operating license is obtained. If this bill moves forward, we recommend a deadline for generating electricity be set, with any project not meeting that deadline required to return funds.

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Furthermore, Tier 1 and 2 costs could consume all of the money allocated to this program. The Tennessee Valley Authority has allocated $350 million to new nuclear projects since 2022—and that's just for initial design and permitting.[1]

Unlike the completion bonus grants in the Texas Energy Fund (Utilities Code Sec. 34.0105) there is no deadline for projects to qualify for Tier 3 funds. This is especially concerning given that advanced nuclear energy projects are many years away from generating electricity, at best. The 2040 expiration of the fund might be another indication of the long time horizons contemplated for advanced nuclear projects to begin generating electricity.

There is no requirement that qualifying projects provide power to ERCOT.

The Texas Energy Fund is limited to projects that provide power to the ERCOT region. The completion bonus grant program states that, "The amount of a grant under this section must be based on the megawatts of capacity provided to the ERCOT power region by the facility." Utilities Code Sec. 34.0105(b).

The Texas Energy Fund also clearly states:

> The commission may not provide a loan or a grant under this chapter:
> (1) for a facility that will be used primarily to serve an industrial load or private use network;

Utilities Code Sec. 34.0106(b).

The Tier 3 completion payment program in HB 14 is not similarly limited. It states:

> (a) The commission shall provide a grant for the costs associated with the completion and operation of an advanced nuclear reactor project *in this state*.
> (b) The commission may provide a grant under this section on a *per megawatt basis only* for an advanced nuclear reactor project that is activated and operating.

Emphasis added. The bill gives payments for any project operated in Texas on a per megawatt basis. This means that a new advanced nuclear project that served a large data center behind the meter would still be eligible for a Tier 3 payment.

HB 14 is therefore not designed to provide additional power to the ERCOT grid, but simply to promote the existence of advanced nuclear energy projects, whatever load they serve.

[1] *See* https://www.knoxnews.com/story/money/business/2024/09/27/tennessee-valley-authority-small-nuclear-reactors-could-cost-billions/74894512007/.

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Advanced nuclear energy projects are too expensive to succeed in the ERCOTR power market.

One of the great successes of ERCOT is the affordability that diversifying the power grid has provided to Texas consumers. Texas has some of the cheapest power in the nation at an average of 10.04 cents/kWh.[2] Advanced nuclear energy projects are not cost competitive with wind, solar, and even gas and battery storage.

The only publicly traded company in the United States trying to build small modular reactors (SMRs) is NuScale. NuScale cancelled six SMRs proposals in Idaho after cost overruns of 250%.[3]

NuScale also recently abandoned the Utah Associated Municipal Power Systems project due to financial challenges.[4] Even optimistic projections had the project generating electricity for $4,200 per kilowatt. That ultimately proved too optimistic, as the project was cancelled due to inflating cost projects.

The TVA project mentioned above was projected to cost $17,949 per kilowatt.[5]

By contrast, wind energy could be installed for $1,391 per kilowatt in 2019.[6]

Nuclear is also not cost competitive with solar, even with solar farms are paired with battery storage to add dispatchability. The financial firm Lazard gave the following unsubsidized levelized costs for energy in June 2024:[7]

- Solar plus storage: $60 – 210 per MWh
- Nuclear: $142 – 222 per MWh.

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[2] *See https://www.eia.gov/electricity/state/texas/.*
[3] *See https://cosmosmagazine.com/science/engineering/small-reactors-dont-add-up/.*
[4] *See https://www.utilitydive.com/news/nuscale-uamps-project-small-modular-reactor-ramanasmr-/705717/.*
[5] *See https://www.knoxnews.com/story/money/business/2024/09/27/tennessee-valley-authority-small-nuclear-reactors-could-cost-billions/74894512007/.*
[6] *See https://www.eia.gov/todayinenergy/detail.php?id=49176.*
[7] *See https://www.lazard.com/media/xemfey0k/lazards-lcoeplus-june-2024-_vf.pdf.*

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Small modular reactors do not solve the problem of radioactive waste.

Small modular reactors (SMRs) would generate less than 300 MW of electricity and be around one tenth the size of a traditional nuclear reactor. Claims have been made that SMRs will generate less or even no radioactive waste. But a 2022 article published in *Proceedings of the National Academy of Sciences* found the opposite.[8] As the study's lead author explained it, an SMR could generate nuclear waste at *two to thirty times* the rate of a large nuclear reactor.[9]

This is especially concerning considering that (1) the United States currently has no solution to the problem of accumulating high-level radioactive waste and (2) the Waste Control Specialists site in Andrews County, TX could become the default dumping ground for this waste if an ill-advised interim storage proposal is approved.[10]

In conclusion, we ask you not to vote HB 14 out of this committee for the following reasons:

- Advanced nuclear reactors are too expensive and too far away from being built.
- The fund would award grants even before projects generate electricity, potentially eating up hundreds of millions of dollars in planning and development costs.
- There is no requirement that projects generate electricity that is put on the ERCOT power grid.
- Advanced nuclear reactors could produce disproportionate amounts of radioactive waste for which there is still no disposal solution.

[8] L.M. Krall, A.M. Macfarlane, & R.C. Ewing, "Nuclear waste from small modular reactors," *Proc. Natl. Acad. Sci. U.S.A.* 119 (23) e2111833119, https://doi.org/10.1073/pnas.2111833119 (2022).
[9] *See* *https://news.stanford.edu/stories/2022/05/small-modular-reactors-produce-high-levels-nuclear-waste*.
[10] *See generally,* *https://www.reuters.com/legal/us-supreme-court-consider-nuclear-waste-storage-dispute-2025-03-05/*.