Committee: **Economic Matters**
Testimony on: **HB505 – ENERGIZE Act**
Submitting: **Deborah A. Cohn**
Position: **Unfavorable**
Hearing Date: **February 21, 2025**

Dear Chair and Committee Members:

Thank you for allowing my testimony today on HB505.

I appreciate that HB505 affirms the state goal of achieving 100% clean electricity and is intended to address the need for electric energy reliability and the significant increase in utility rates that ratepayers are experiencing.

Ensuring electric energy reliability at reasonable rates is both a near term (1-3 years) and longer term challenge. HB505 does not offer near-term solutions which other bills address. When addressing long term reliability, HB505 does not adequately take into account certain solutions that could provide long-term reliability at lower costs while also avoiding fossil fuel emissions.

Other bills and policies offer no-regrets solutions more likely to result in cost effective near-term and long-term reliability improvements while also allowing Maryland to reduce greenhouse gas emissions. These include, for example, (i) incentives and procurements for utility scale battery storage and utility scale and community solar, (ii) opportunities for low income ratepayers in one utility's service area to subscribe to community solar in another utility's service area, and (iii) more efficient utilization of the existing grid through grid enhancing technologies and reconductoring. These types of provisions need to be enacted this year.

HB505 proposes to add nuclear energy to the renewable portfolio standard and create a procurement policy and structure for new nuclear generation without providing for an actual procurement. Small modular reactors may well be able to contribute to a long-term solution to increasing reliability of the electric energy supply, but before moving in this direction we need to ask two questions:

- In the time it would take to bring on new nuclear energy, can we construct or access sufficient industrial scale storage capacity to provide us equivalent reliability at a lower cost and without the risks entailed in long-term on-site storage of spent nuclear fuel?
- Second, are we willing to store spent nuclear fuel indefinitely in our own neighborhoods, and if not, can we ethically impose that risk on anyone else?

Time and Cost of New Nuclear Power: New traditional nuclear power plants likely will not bring new generation to Maryland for years if not decades. The Georgia Power Vogtle Units 3

and 4 took 15 years to build and cost $36.8 billion, more than twice the project timeline and cost.[1] Indeed, a 2014 academic study[2] looked at 401 electricity projects around the world, including 180 traditional nuclear power projects. It found that 175 of the traditional nuclear projects exceeded the initial budget by an average of 117% and took, on average, 64 percent longer to build than estimated, making traditional nuclear reactors the riskiest technology in terms of mean cost escalation as a percentage of budget and frequency. Small nuclear reactors have not fared better in terms of time or cost. The Utah Associated Municipal Power Systems NuScale Power small modular nuclear reactor project was initially projected to cost $3 billion and ultimately rose to $9.6 billion at which point the project was shelved.[3]

Solar power can now be produced for one-third the cost of nuclear energy[4] and, when coupled with industrial-scale, thermal energy storage for at least 10 and up to several hundred hours, can provide low cost, reliable electric power. Recent developments permit use of off-peak, low-price electricity to super heat salt, rocks or concrete, with the stored heat being converted as needed to release electricity to the grid. A storage facility using sand, the lowest cost alternative, would cost only $4-10 per kWh of capacity, significantly less than a lithium-ion battery, and would, thus, add only a trivial amount to the cost per kWh delivered to users.[5]

Integrated Resource Planning Should Precede Proposed High Cost and Technologically Risky Solutions: It seems premature to offer long-term and extremely expensive nuclear energy solutions without conducting the integrated energy resource planning envisioned in SB909/HB1037 Energy Resource Adequacy and Planning Act and expressly considering newer technologies for long-duration energy storage. More reliable and lower cost solutions, such as those proposed in HB398/SB316 the Abundant Affordable Clean Energy Act, HB1233/SB1022 Community Solar Energy Generating Systems – Subscription Eligibility, HB1225/SB908 Public Utilities – Electric Distribution System Plans- Establishment (Affordable Grid Act), and HB829 Public Utilities-Transmission Lines-Advanced Transmission Technologies, and developing long-duration industrial scale storage technologies, may be available.

For these reasons, I urge an **UNFAVORABLE** report in Committee.

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[1] https://thirdact.org/georgia/2024/06/09/plant-vogtle-the-true-cost-of-nuclear-power-in-the-u-s/; https://www.nonukesyall.org/pdfs/Truth%20about%20Vogtle%20report%20May%2030%20release.pdf

[2] Sovacool, Gilbert and Nugent, "Risk, Innovation, Electricity Infrastructure and Construction Cost Overruns: Testing Six Hypotheses," https://www.sciencedirect.com/science/article/abs/pii/S0360544214008925

[3] https://www.utilitydive.com/news/nuscale-uamps-project-small-modular-reactor-ramanasmr-/705717/

[4] https://www.lazard.com/media/xemfey0k/lazards-lcoeplus-june-2024-_vf.pdf

[5] "Solution to Energy Storage May Be Beneath Your Feet" (March 28, 2024), National Renewable Energy Laboratory (NREL) https://www.nrel.gov/news/features/2024/solution-to-energy-storage-may-be-beneath-your-feet.html