

Dear Chairman Stephens, Vice Chair Stewart, Ranking Member Weinstein and members of the committee,

Thank you for allowing me to submit testimony in OPPOSITION to House Bill 434 (HB 434), Ohio's, *Advanced Nuclear Technology Helping Energize Mankind Act* (“ANTHEM Act”)

My OPPOSITION TESTIMONY to HB 434 is presented in summary below, followed by supportive facts and reasons:

**IN SUMMARY:**

1. The committee should not be considering legislation that benefits a single corporation or entity.
2. Ohioan taxpayers should not be forced to lose control over public safety and accountability, subsidize research and development, assume responsibility for any and all costs associated with any nuclear development entity - including decommissioning, dismantling, and disposal of hazardous wastes and damages from spills and accidents, or liability associated with any & all risks. This does not exemplify a competitive market. The cost of nuclear generation is on the rise—a stark contrast to the decreasing costs of renewable energy forms such as solar and wind.
3. Thorium reactors have never been commercially viable and remain unproven on a commercial scale. Like all nuclear power production, they rely on extensive taxpayer subsidies; the only difference is that with thorium and other breeder reactors these are of an order of magnitude greater, which is why no government has ever continued their funding.
4. **OHIOANS DESERVE A REAL SOLUTION FOR OHIO'S ENERGY NEEDS:** Contrary to industry propaganda being taken at face value, **nuclear power is NOT “low carbon” or “carbon free” or “emissions free.”** When the nuclear fuel cycle is included, nuclear has a high carbon footprint. And this does not include the energy that will be needed to attempt to isolate tens of thousands of tons of radioactive waste for millennia to come. **Efficiency and renewable energy cost less and produce more jobs. Jobs and the grid are decentralized, eliminating major blackouts.**

A. **ONE COMPANY ALONE, eGENERATION, BENEFITS FROM HB 434.** A single small **private entity**, *eGeneration of Cleveland*, whose focus is on Molten Salt Reactors (MSRs), will reap the benefits from HB 434. HB 434 would create an Ohio Nuclear Development Authority (NDA) that would oversee work performed under the bill. And through a complex sequence of appointments **that would keep the public out of the NDA**, a Nominating Council would be formed to choose a specifically-designed list of appointees to the NDA. Narrowing the scope of appointees even more, the Nominating Council would consist of 7 members, 5 of whom would be from the Ohio State University's Nuclear Engineering External Advisory Board.

- David Amerine, a project consultant for eGeneration Foundation, testified in favor of HB 434 before the House Energy and Natural Resources Committee on Dec. 8, 2021. Amerine is also a member of the Ohio State University's Nuclear Engineering External Advisory Board, **making him eligible to sit on the NDA's Nominating Council.**
- Five of the 7 testifying in favor of HB 434 on Dec. 8 have direct ties to eGeneration. Besides Amerine, there were two eGeneration representatives testifying – William Thisling and Jon Morrow. The 2 latter also testified 4 times in favor of HB 104. Eugenio Villaseca is listed by eGeneration as a professor and academic advisor. Edward Pheil is co-founder of Elysium Industries, a company seeking to develop and commercialize the Elysium Fast Chloride Molten Salt Reactor. Elysium coordinates with eGeneration.
- If a few of Morrow's 10 points on "*Why Ohio Legislators should support new nuclear development*" were a reality, dozens of new reactors would be under construction and financed by private capital.

B. **LACK OF PUBLIC OVERSIGHT.** The convoluted process described above for filling positions in the NDA and the Nominating Council circumvents public involvement and oversight.

C. **WALL STREET WON'T FUND IT:** eGeneration and Energy from Thorium Foundation were two organizations made up of the same few individuals. The Energy from Thorium Foundation became eGeneration Foundation in 2015. In a convoluted

process that Wall Street won't fund, thorium has been proposed as an element that would be bombarded with neutrons in a complicated radioactive process to make fuel for Molten Salt Reactors. Predecessors of HB 434 specifically mentioned thorium and Molten Salt Reactors.

**D. NO OTHER STATE IN THE ENTIRE COUNTRY FUNDS NUCLEAR POWER.**

Spreading nuclear research and development from federal to state entities is unprecedented, again removing public oversight for cost and safety while retaining public liability as well as losing regulatory control over radioactive materials and waste.

**E. OHIOANS WOULD PAY FOR RADIOACTIVE "CLEANUP".** Since the proposed Nuclear Development Authority will be a public entity, Ohio would be responsible for all costs associated with the NDA, including reactor decommissioning, dismantling and disposal of waste and damages resulting from spills and accidents.

**F. HOW LONG will Ohioans pay? HOW MUCH will we end up paying?** HB 434 specifies neither length of time nor how deep it will dive into the Ohio treasury.

**G. MAJOR CONCERNS ARE LEFT UNADDRESSED:** HB 434 lacks basic parameters and fails to address major concerns such as public health and safety; reactor siting requirements; reactor construction; decommissioning and site cleanup; the inevitable spills, leaks, discharges or accidents causing radioactive contamination; liability caps; nuclear waste disposal and nuclear weapons proliferation safeguards.

**H. NONE OF THE SO CALLED "ADVANCED" REACTORS** will be researched, developed or built without public funding. This is the reason that the industry is reaching out to Ohio. New reactors are still in the design phase – if they have gotten that far. It would take over a decade for even the first one to be sited, licensed, and built. And if the process dies out somewhere along the way, the industries will have profited from public handouts all along the way. What do they have to lose?

**I. THE INTENT IS TO BUILD THORIUM AND/OR MOLTEN SALT REACTORS.**

eGeneration and Energy from Thorium Foundation were two organizations made up of the same few individuals. The **Energy from Thorium Foundation** became the eGeneration Foundation in 2015. Though eGeneration and Thorium are no longer mentioned in this bill, HB 434 is still about eGeneration developing either or both a molten salt or Thorium "advanced" nuclear reactor. The nuclear industry has proven

itself dirty and dangerous and cannot rebrand itself as new and innovative using terms like “advanced.” No Thorium reactor has ever been built because no entity has wanted to pay for it.

J. **REPROCESSING OF HIGH-LEVEL RADIOACTIVE WASTE (HLRW)** is necessary to obtain the fuel for a Thorium reactor. HB 434 uses the term “recycling” to refer to a technology that adds nitric acid to HLRW, making a much-harder- to-contain and more voluminous *liquid* from which components can be extracted. Re-processing has been a disaster wherever it has occurred: See **West Valley**, NY; **Sellafield**, England; **Rokkasho**, Japan; **La Hague**, France; **Kyshtym** in Russia. This is how radioactivity is “reduced” in recycling.

Respectfully submitted by,  
Member, Ohio Nuclear Free Network