

## HB 434 – Advanced Nuclear Technology Helping Energize Mankind Act

Good morning Chairman McColley, Vice-Chair Schuring, Ranking Member Martin and members of the Committee. Thank you for permitting me to take a few minutes to speak in opposition to HB 434, the “Advanced Technology Helping Energize Mankind” Act or the ANTHEM Act. My name is Lee Blackburn and I am a retired businessman and former Chief Investment Officer for a multi-billion dollar real estate corporation and certainly wouldn’t recommend investing Ohio taxpayer dollars in unproven technology.

As a businessman, I was selected to be a member of the Department of Energy’s Site Specific Advisory Board for the Portsmouth Gaseous Diffusion Plant outside Piketon, Ohio. This is the same facility Mr. Edward Pheil mentioned in his testimony last week which enriched uranium to weapons-grade during the cold war and is currently being used to produce high-assay low-enriched uranium, known as HALEU ([HALEU Production at Portsmouth](#)). The site will also eventually produce high-purity depleted uranium metals for the government’s nuclear weapons programs ([DUF4 production at Portsmouth](#)).

I would like to correct several statements Mr. Pheil made about the facility. He said there are 78,000 tons of Stored Nuclear Fuel and depleted uranium at the site. There is considerably more than 78,000 tons of depleted uranium currently at the site. When the depleted uranium conversion facility restarted operations in October, there was approximately 271,000 metric tons in some 21,000 cylinders according to the Department of Energy, or four times what Mr. Pheil stated ([DOE Conversion Restarted at Portsmouth](#)). In addition, there is no Stored Nuclear Fuel on the site. For that to occur, the fuel would have had to be brought in from elsewhere. While the facility enriched uranium it never fabricated nuclear fuel, so none exists on the site.

Mr. Pheil spoke of a Fast Chloride Molten Salt Reactor, as did Dr. William Thesling of the eGeneration Foundation. I’d like to stop right here and ask you to understand that this is all theoretical, some of this even hypothetical. Pie in the sky if you will. There are no Molten Salt Reactors operating anywhere in the world today and there hasn’t been one operating for over 50 years ([Molten Salt Reactors](#)). As Dr. Thesling said, the only full-fledged Molten Salt Reactor that ever operated in the U.S. did so for just four short years at Oak Ridge National Labs in the 1960s. The reason for the short operating time-frame was due to embrittlement and stress cracks caused by radiation in conjunction with molten salt ([Molten Salt Reactor Were in Trouble in the 1960s](#)).

I would also like to correct another statement Mr. Pheil made in his testimony when he said you can use a fast reactor to consume spent nuclear fuel without reprocessing. In answering a question posed by Senator Martin about how you get rid of the waste from a nuclear facility, Mr. Pheil said we convert the solid fuel into liquid fuel and feed it into the reactor. And while this statement is different from the statement Mr. Pheil made in 2018 when he said “The spent fuel will be split long ways, chopped into pieces and poured into a molten salt vat”, ([Ed Pheil - Titans of Nuclear](#)) by converting spent nuclear fuel from a solid to a liquid, you’re reprocessing and reprocessing is against the law in the U.S. and has been since the 1970’s ([Nuclear Reprocessing Prohibited](#)).

Dr. Thesling spoke at length about how Molten Salt Reactors can be used to create medical isotopes, focusing on what he referred to as Moly-99 and how most Moly-99 is created outside the U.S. and brought in. But Mo-99 is starting to be created right here in the U.S. by companies using linear and particle beam accelerators, such as Shine Technologies which was mentioned by Dr. Thesling, as well as by NorthStar Medical, Northwest Medical and Niowave Incorporated ([U.S. Medical Isotope Production](#)). They’ll be no

need to create Mo-99 in a Molten Salt Reactor once these companies are fully ramped up. And that's sure to happen long before a Molten Salt Reactor could ever become operational.

Why I really came here today though, is to talk about cost and a general lack of any mention of it in HB 434. The only reference to cost is found in Section 4164.04 which mentions the spending of public moneys and the taking of private lands. The latter of which, according to bill sponsor Dick Stein, is NOT eminent domain ([Rep. Stein response to Rep. Lightbody, House floor 3/23/22](#)). Building nuclear reactors can be extremely expensive as can be seen by the inordinate costs for the nuclear reactors currently being built in Georgia. The two Vogtle nuclear reactors were originally projected to cost \$14 billion and come online in 2016 and 2017. The reactors are now projected to cost over \$30 billion and have not yet come online ([Vogtle Costs](#)).

Due to the extremely high costs associated with building nuclear reactors, most proposed reactors today are typically jointly, or mostly, funded by the federal government. Apparently, Mr Pheil of Elysium Industries or Exodys Energy, whichever, along with Dr. Thesling of eGeneration Foundation, having no money and having been unable to secure financing from the federal government, have come hat-in-hand to Ohio looking for the billions they'll need to build a Fast Chloride Molten Salt Reactor.

To operate such a nuclear enterprise, HB 434 creates the Ohio Nuclear Development Authority which was initially to be placed under the Department of Administrative Services. It would appear however, that members of the House Energy and Natural Resources Committee eventually tumbled to the fact that this bill could end up being extremely expensive and perhaps could even lead to billions in losses. But instead of killing the bill, the House Committee amended HB 434 to hide the Ohio Nuclear Development Authority and any potential losses incurred from both the public and the state by placing it under the Department of Development where it can avoid any discovery under the Ohio Sunshine Act, the Open Records Act or the Governmental Immunity Act ([Testimony of Terry J. Lodge, Esq. 2/15/22](#)).

So to summarize, there's no need for a Molten Salt Reactor, since the cost could very well be prohibitive. There's no need for a Molten Salt Reactor to create medical isotopes, since there are at least four companies that'll be churning out Mo-99 long before a Molten Salt Reactor could begin to operate, if at all. There's no need for a Molten Salt Reactor to dispose of spent nuclear fuel, since the spent nuclear fuel would need to be reprocessed, and that's illegal. There's no need for a Molten Salt Reactor, since the technology still doesn't work. Plain and simple; there's just no need for a Molten Salt Reactor.

I'll end with a comment made by Mr. Jon Morrow of eGeneration Foundation, who testified last week in favor of HB 434. During testimony before the House Energy and Natural Resources Committee on HB 104, the predecessor to HB 434, Mr. Morrow said: "While the 1954 Atomic Energy Act clearly provides for States and the Federal entities to work together in creating new nuclear technologies – no States have created an entity to facilitate such collaboration ([Testimony of Jon Morrow 10/16/19](#)). I would recommend Ohio stick with the other 49 states by not creating such an entity.

Thank you. Questions?