

OPPOSITION LETTER to House Bill 434

Dear Chairman McColley, Vice Chair Schuring, Ranking Member Martin, 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 is presented below:

An Ohio Giveaway to a Small Group that has No Backer, No Accountability or Limit to Spending A New Ohio Body with No Public Oversight

AN OHIO GIVEAWAY TO A SMALL GROUP THAT HAS NO BACKERS: HB 434 is specifically geared to benefit one small group, *eGeneration* of Cleveland and the associated *Elysium Industries*. This group has been attempting for years to get federal funding for thorium and molten salt reactor research. eGeneration had a heavy hand in writing HB 434 and is its major beneficiary. In two previous Ohio bills proposing a Nuclear Development Authority, [HB 104](#) in 2019-20 and [HB 771](#) in 2017-18, language was taken directly from the eGeneration website.

HB 434 WOULD CREATE A SECRETIVE NEW OHIO AUTHORITY that would dig into the Ohio treasury for unspecified amounts of money for an unspecified amount of time to support research and development of what is termed an “advanced” nuclear reactor.

HB 434 IS SECRETIVE BECAUSE 6 of its 14 pages are about forming an in-house nominating committee, away from public input and oversight. The governor would be forced to choose the Board from among people submitted by this committee.

HB 434 IS SECRETIVE BECAUSE the new Authority would be under the auspices of the Dept. of Development, which writes contracts for Jobs Ohio. JobsOhio is beyond the reach of the Ohio Open Records Act, Ohio ethics laws, the Sunshine Act, the Ohio Administrative Procedure Act, and other accountability requirements.

IN-HOUSE BOARD MEMBERSHIP: As if this secrecy were not enough, House Bill 434 outlines a complex sequence of appointments that would keep the public off both the board and a Nominating Council that would recommend board members to the governor – ***and HB 434 forces the governor to choose only the people that this Council recommends!***

FOOT-IN-THE-DOOR FOR MORE SECRETIVE AGENCIES? If this model becomes emblazoned into law, it could then move into other fields.

WHAT EXACTLY IS AN OHIO AUTHORITY? The difference between a state agency and an authority can be murky. Even without considering JobsOhio, unlike traditional state agencies,

many state authorities conduct business outside of the typical oversight and accountability requirements for operations such as employment practices, contracts, procurement procedures, and financial reporting. State authorities can issue bonds or dip into public treasuries. [New York had many problems](#) and passed a [Public Authorities Reform Act](#) in 2010.

LACK OF PUBLIC OVERSIGHT: One of the most serious problems with HB 434 is that the Authority would be put under the auspices of the Ohio Department of Development, which writes contracts for JobsOhio. When Ohio Representative and attorney Brian Stewart assured the House Energy and Public Utilities Committee that putting the Authority under the Department of Development would make no difference from being under the Department of Administrative Services, he ignored the **extraordinary limitations on public access to JobsOhio that were written into law more than a decade ago**. JobsOhio is beyond the reach of the Ohio Open Records Act, Ohio ethics laws, the Sunshine Act, the Ohio Administrative Procedure Act, and other accountability requirements.

JOBS ARE NOT MENTIONED: Very few jobs would be created initially, and those would be for researchers. *The public does not have to pay for the salaries or the infrastructure of private solar and wind development.*

HOW LONG WILL OHIOANS PAY? HOW MUCH WILL OHIOANS BE PAYING? HB 434 specifies neither length of time nor how deep it will dive into the Ohio treasury. Bill promoters have given no hint – and the public would not be able to find out – who is being paid; what is being developed; or where radioactive materials are being shipped.

NUCLEAR RESEARCH CAN COST BILLIONS. The federal government is spending billions on nuclear research and development. How can Ohio, with no experience, do a better (or even good) job of oversight and running of research reactors? Why does Ohio need to compete with the feds?

WALL STREET WON'T SUPPORT NUCLEAR POWER: Investment bank [Lazard has a new report](#) showing that the cost of new nuclear power is 4 to 5 times higher than wind and solar, which are ready to go now. And their fuel is free. Cost estimates for building the NuScale Utah SMR have jumped [from \\$58/MWh to as much as \\$100/MWh](#).

WALL STREET WON'T FUND IT: No new nuclear reactors will be researched, developed, or built without public funding. Nuclear power is expensive and always has massive cost overruns. Private entities won't risk their own money to fund their own proposals. The nuclear industry brags that lobbying legislators and getting government handouts is a “good business model”. And if their schemes die out, the industries will have profited from public handouts all along the way. What do they have to lose?

OHIO TAXPAYERS WOULD PAY FOR RADIOACTIVE “CLEANUP”. Since the proposed Authority will be a public entity, Ohio would be responsible for all costs associated with the Authority, including reactor decommissioning, dismantling and disposal of waste and damages resulting from spills and accidents.

THE PUBLIC COULD NOT SUE FOR DAMAGES: HB 434 is worded to remove the State of Ohio from any responsibility for accidents and radioactive contamination. Residents living near any Ohio Nuclear Development Authority facility handling radioactive materials would have no recourse if an accident or spill harmed or contaminated them or their property. The same would be true for workers.

MAJOR CONCERNS ARE UNADDRESSED: Regulation? Nothing in HB 434 suggests regulation, only commercialization and promotion. The Nuclear Development Authority does not have Nuclear Regulatory Commission-defined responsibilities. Nothing on paper about watchdogs. The necessary staffing levels and technical expertise required of a regulatory agency would involve expensive personnel – engineers, health physicists, chemists, regulatory lawyers, and more. What about nuclear weapons proliferation safeguards?

MAJOR CONCERNS ARE UNADDRESSED: Costs of contamination, cleanup, and decommissioning. There is nothing in 434 that discusses covering the costs of the inevitable spills, leaks, discharges, or accidents causing radioactive contamination; property damage; public health disasters; or remediation of contaminated soil and water. By comparison, those things are addressed in federal legislation covering the Nuclear Regulatory Commission and the Department of Energy. Neither is what happens at the back end addressed: decommissioning and site cleanup and nuclear waste disposal.

SECURITY: How would this research project be protected from theft or malfeasance? Would it become a target for a terrorist or an opportunist? How many guards would be needed? Guards are not needed for windmills, solar panels, or geothermal units.

NO OTHER STATE WANTS OWNERSHIP OF NUCLEAR WASTE. Spreading nuclear research and development from federal to state entities is unprecedented, removing federal public oversight for cost and safety. HB 434 would authorize Ohio to take ownership of high-level nuclear waste – see the next point.

UNPRECEDENTED USE OF HIGH-LEVEL RADIOACTIVE WASTE: HB 434 would allow the Authority to take high-level radioactive waste from the Davis-Besse and Perry reactors in Ohio and attempt to use it as fuel for a new nuclear reactor. Spent fuel would have to be disassembled under very stringent safety/heat/containment protocols. Zirconium cladding, flammable if exposed to air, must be removed. This was described by HB 434 proponents as “just chopping it up”. Regardless of denials by Ohio legislators, somewhere along the experimental line some type of processing (aka reprocessing) would be needed. Reprocessing has been a disaster wherever it has occurred: [West Valley](#), NY; [Sellafield](#), England; [Rokkasho](#), Japan; [La Hague](#), France; [Kyshtym](#) in Russia. This is how high-level nuclear waste is “reduced”. Do you want this in your backyard?

ISOTOPES? HB 434 mentions “isotopes” 7 times. *Extracting isotopes from the waste of a yet-to-be-developed reactor is a secondary industry.* It is also outdated. American companies and hospitals are already making medical isotopes using cyclotrons, which are far safer and cheaper, with no nuclear reactors needed. Due to the rapid breakdown of medical isotopes, it is much

better to have them generated onsite and avoid shipping. Additionally, positron emission tomography (PET) produces sharper images, again with no need for nuclear reactors or waste.

MOLTEN SALT REACTORS are the only type that eGeneration, the actor behind HB 434, is promoting. These were attempted in the 1960s and none has been built for over 50 years. Reactors that use sodium or molten salts for cooling or fuel destroy their internals rapidly, then leak. There is a constant need for replacement of parts. The only functioning molten salt reactor **operated at Oak Ridge, Tennessee** for only 4 years, and is not cleaned up yet, with \$32 million having been spent so far. Now they are proposing to entomb it in place, with no other solution being found.

- Nuclear Regulatory Commission and Dept. of Energy technical meetings report that the sodium-bonded Fermi 1 melted fuel (from the accident in 1966), currently in “interim storage” (for the past half-century) at Idaho National Labs, is so volatile, and corrosive, that it will require its own repository. It would be too high-risk to dispose of it alongside other irradiated fuel containers in a common repository. A separate repository would cost a pretty penny. Too cheap to meter?!
- The Fermi 1 Liquid Metal Fast Breeder Reactor that used liquid sodium as a coolant had a partial core meltdown in 1966, generating the book “**We Almost Lost Detroit**”.
- M.V. Ramana breaks it down: **Nuclear power: Why molten salt reactors are problematic and Canada investing in them is a waste (9-2021)** and **Molten salt reactors were trouble in the 1960s—and they remain trouble today (Bulletin of Atomic Scientists 6-2022)**

UNFOUNDED PROMISES: Small Modular Reactors (SMRs) solve none of the challenges of nuclear power and make climate change and proliferation worse. This article addresses cost, timeline, safety, waste, and proliferation.

HOW ABOUT 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 high-level 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. “All of the above” is not an energy plan. It is time for Ohio to move into the 21st Century and support the essential move to wind and solar.

Sincerely,
Susan Kuehn
Toledo, Ohio