

December 2, 2022

Dear Chairman McColley, Vice Chair Schuring, Ranking Member Martin, and members of the committee.

I am writing to in opposition to Ohio House Bill 434 that is currently being considered in the Senate Energy and Public Utilities Committee.

I am concerned that HB 434 is specifically geared to benefit eGeneration of Cleveland, a company that exclusively promotes molten salt reactors (MSRs) at an unforetold, substantial expense to Ohio taxpayers with no public oversight. There are also numerous concerns about the safety, security and environmental impacts of these and similar types of non-light-water nuclear reactors (NLWRs), or so-called “advanced” reactors.

The Union of Concerned Scientists published a report in March 2021 that evaluated the industry claims that these NLWR or “advanced” reactors regarding safety and security, the risks of nuclear proliferation and nuclear terrorism, and sustainability (i.e., the ability to “recycle nuclear waste and use mined uranium more efficiently).

The following is a summary of the concerns specific to MSRs in the report:

- This report states that MSRs pose unique safety issues. If cooling is interrupted, the fuel can heat up and destroy the MSR in a matter of minutes. MSRs release large quantities of gaseous fission products, which must be trapped and stored. Some of these released gases quickly decay into radionuclides such as cesium-137, that caused persistent and extensive environmental contamination following the Chernobyl and Fukushima nuclear accidents.
- They further state that, in theory, some MSRs would be able to use natural resources more efficiently and generate lower amounts of long-lived nuclear waste. However, the actual sustainability improvements for most of these reactors are too small, even with optimistic performance assumptions, to justify their high safety and security risks.
- MSRs pose unique challenges regarding nuclear proliferation and terrorism. It would be very difficult to account for nuclear material accurately as the liquid fuel flows through the reactor. Some designs require on-site, continuously operating fuel reprocessing plants that could provide additional pathways for diversion of nuclear-weapon-usable material.
- MSRs could also endanger global nuclear security by interfering with the worldwide network of radionuclide monitors put into place to verify compliance with the Comprehensive Test Ban Treaty when it comes into force. MSRs release vast quantities of the same radioactive Xenon isotopes that are signatures of clandestine nuclear explosions. Whether or not it is feasible to trap and store these isotopes to the degree necessary to prevent this, is an issue that does not seem to be addressed by MSR developers.

During the sponsor testimony, there was no mention of any timeline for the development and implementation of any new reactors. The UCS report also addressed whether non-light-water nuclear reactions (NLWRs) could be safely and securely commercialized in time to contribute significantly to averting the climate crisis. The USC report quoted the DOE in a 2017 report that stated that for MSRs

would require both reduced-scale and full-scale prototypes before a commercial demonstration reactor could be built. This would add \$2 to \$4 billion to the cost and 20 years to the development timeline. Even compared to other NLWRs, MSR's have additional disadvantages.

In conclusion, the USC report recommended that "policymakers, private investors, and regulators fully vet the risks and benefits of these technologies before committing the vast time and resources needed to commercialize them.

I am also concerned that continuing to pursue the option of nuclear power from any source would slow actions on climate change. An analysis of this is available in the article referenced below.

As a citizen concerned about the climate crisis, nuclear proliferation, national security, and the flagrant misuse of taxpayers' funds, I urge you to read the USC report and to vote no on Ohio House Bill 434.

Connie Hammond  
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"Advanced" Isn't Always Better. Assessing the Safety, Security, and Environmental Impacts of Non-Light-Water Nuclear Reactors. Union of Concerned Scientists, March 2021.

[https://www.ucsusa.org/sites/default/files/2021-05/ucs-rpt-AR-3.21-web\\_Mayrev.pdf](https://www.ucsusa.org/sites/default/files/2021-05/ucs-rpt-AR-3.21-web_Mayrev.pdf).

Why Nuclear Power Slows Action on Climate Change, An Analysis by Amory B. Lovins, March, 2021.

[https://beyondnuclearinternational.files.wordpress.com/2021/03/bn\\_talking-points\\_why-nuclear-slows-action-on-climate-change-1.pdf](https://beyondnuclearinternational.files.wordpress.com/2021/03/bn_talking-points_why-nuclear-slows-action-on-climate-change-1.pdf)