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On Behalf Of:

Committee: Senate Committee On Energy and Environment

Measure, Appointment or Topic: SB216

All SMNRs utilize a nuclear fission process and this will always result in the production of radioactive substances. Radioactive elements found in SMNRs, including uranium isotopes, plutonium and thorium pose dangers due to radioactive emissions, chemical toxicity, long-lived waste and potential for accidents and misuse. There are risks to public health and worker health at every stage of the nuclear fuel cycle.

Exposure to radiation can be acute, chronic and cumulative. It can result in radiation sickness, genetic defects, birth defects, liver and kidney damage, thyroid disease, leukemia, other cancers and death.

There is no known safety record for SMNRs because there are none in the US. However, experts say that health risks may not be lower than those associated with conventional reactors. (Remember Three Mile Island, Chernobyl, Fukushima.)

Many radioactive materials used in SMNRs have long half-lives; they remain hazardous for thousands to millions of years.

SMNR sites will be temporary (and potentially permanent) nuclear waste repositories, contaminating drinking water sources, agricultural lands, and harming the health of nearby residents and “downwinders.”

Nuclear energy is inherently risky due to the potential for catastrophic accidents from human error, malfunctions, or natural disasters like earthquakes and extreme weather. The Fukushima and Chernobyl disasters highlight the severe consequences. Climate-related disasters, like drought and fire, further elevate these risks.

New nuclear reactors combined with decreased safety regulations, smaller staff and smaller safety perimeters will increase the risk of sabotage and terrorism.

Radioactive materials may be stolen in order to create a nuclear weapon. Also, Trump just assaulted the independence of the nuclear regulator. What could go wrong? See the Bulletin of the Atomic Scientists

<https://thebulletin.org/2025/02/trump-just-assaulted-the-independence-of-the-nuclear-regulator-what-could-go-wrong/>

COSTS

Nuclear power plants require enormous taxpayer subsidies for construction, operation, and decommissioning, adding to the financial burden of Oregonians. The cost of treatment and disposal of radioactive waste will further strain public resources. This financial burden harms consumers already facing high energy costs. We must consider the lost opportunity costs. Nuclear plants take decades to build and cannot provide a timely solution to our climate emergency. The nuclear fuel cycle—mining, milling, processing, transporting, constructing, reacting, and disposing

of waste—is neither clean nor sustainable. Investment in nuclear power starves scalable, affordable and safe renewable energy resources of funds necessary to continue their rapid development and deployment.