Don't let the perfect be the enemy of the good

In a recent letter to the **Aiken Standard**, the author argued that "the government needs to prioritize a safe permanent storage site before issuing any more certificates for new or renewed nuclear power plant operations licenses, rather than continuing to develop more temporary storage methods like vitrification."

For the last 28 years, the engineers and scientists as SRS have been converting the high level liquid waste stored in tanks into a durable glass, encased in stainless steel canisters. This is not a temporary expedient – the radioactive species are permanently bound to the glass. The durability of these glasses has been exhaustively tested at a variety of temperatures in environments ranging from pure water to dilute groundwater to highly dense salt brines. This testing provides strong evidence that the radionuclides will stay in the glass for at least tens of thousands of years, until the radioactivity has decayed back to the level of the ore from which they came.

The author correctly states that used nuclear fuel is residing at nuclear plants around our country. Unfortunately, the author does not mention the care taken to ensure its safe storage. The durable ceramic uranium fuel pellets are contained in metal fuel rods that are placed inside metal canisters that reside in a metal reinforced concrete outer container. Think of a Russian Matryoshka doll to visualize how the used uranium fuel pellets are encapsulated to safely store them.

While we agree that the government should develop a permanent disposal system for both used fuel and vitrified waste, we strongly disagree with the author's contention that this should precede licensing of nuclear power plants. Quite simply, the country needs the reliable – and green – baseline power these plants provide. Our nation's demand for electricity is exploding. GoldmanSachs estimates that by 2030, data centers will increase our nation's demand for electricity by at least 5%. Here in Aiken, Meta recently announced it is locating a new data center in Aiken County, boosting local demand. Continued penetration of electric vehicles will also increase demand, as will the government's push for all-electric appliances. Vitrification and the safe storage of used nuclear fuel give us the freedom to satisfy our nation's thirst for power while we deliberately develop a permanent disposal system.

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