

May 20, 2025

Honorable Josh Stein
Governor of North Carolina

Subject: Duke Energy has failed 19 times in building nuclear plants, so it wants the public to take the risks for mythical reactors

Dear Governor Stein,

Duke Energy and its subsidiaries have already wasted at least \$8.9 billion on failed nuclear construction projects – and forced its monopoly customers to pay the bulk of that. In fact, Duke and its current subsidiaries have cancelled or closed early at least 19 reactors since the 1970s – while opening and operating 11 plants in the Carolinas.

So it's no wonder that Duke Energy leaders now demand their monopoly-captured customers and federal taxpayers take even more of the financial risks for their speculation on mythical reactor technology. NC WARN urges you to speak out loudly against Senate Bill 261, which would expand Duke's ability to saddle customers with the costs of dozens of new nukes, even if the plants never successfully operate.

Conservative polling shows that, across the political spectrum, voters don't think Duke Energy should be allowed to socialize its business risks by shifting them onto the backs of its customers and federal taxpayers, particularly when the primary driver of this enormous gamble is the hefty 10 percent profit on capital investments it automatically receives under the monopolistic system.

The N.C. Utilities Commission is already allowing Duke to gamble \$440 million in public money on experimental reactors that would not generate a watt of power until at least 2035. Worse still, SB 261 would make it even easier for the monopoly to gouge North Carolinians by raising rates year after year to pay for licensing and construction of those pipe dream projects.

This is déjà vu in the worst way. After multiple waves of construction failures since the 1970s based on similar propaganda, Duke executives and other pro-nuclear profiteers claim that *this time*, they can finally perfect nuclear plant construction – even as experimental designs and cost estimates remain elusive in the real world and competitive marketplaces.

Even greater than the financial risk is that gambling on nuclear flatly defies the rapid action scientists say we need to avoid the worst impacts of the climate crisis. Rather than helping to decarbonize its system, beginning in 2005 Duke Energy and other utilities squandered billions of dollars and two decades trying to build the Westinghouse AP1000 – time and resources that should have been directed toward a genuine transition to clean, safe power, like local solar.

Throughout the decades and at present, Duke executives and other pro-nuclear fanatics insisted new reactors would be straightforward to build, safe and cost effective. They even boasted that nuclear power would be “too cheap to meter.” But 19 times, despite employing the world’s largest engineering and construction corporations, Duke Energy failed.*

Nuclear Plants Cancelled or Shut Down Early by Duke Energy & Subsidiaries

Name	# of Units	Location	Corporation	Designer	Project Years	Money Wasted**
Perkins and Cherokee CANCELLED	6	Mocksville, NC and Gaffney, SC	Duke Power	General Electric	Perkins: 1973-1982 Cherokee: Unit 1 - 1973-1983 Units 2 & 3 - 1973-1982	\$700 million (\$2.3 billion in 2025 dollars)
Shearon Harris CANCELLED	3	Bonsal, NC	Carolina Power & Light	Westinghouse	Unit 2 - 1978-1983 Units 3 & 4 - 1978-1981	\$570 million (\$1.86 billion in 2025 dollars)
South River CANCELLED	3	South River, NC	Carolina Power & Light	Babcock & Wilcox	1973-1978	\$7 million (\$36 million in 2025 dollars)
Shearon Harris AP1000 CANCELLED	2	Bonsal, NC	Progress Energy/ Duke Energy	Westinghouse	2007-2013	\$70 million (\$97 million in 2025 dollars)
Lee AP1000 CANCELLED	2	Gaffney, SC	Duke Energy	Westinghouse	2007-2017	\$558 million (\$735 million in 2025 dollars)
Levy AP1000 CANCELLED	2	Levy County, FL	Duke Energy	Westinghouse	2006-2018	\$1.5 billion (\$2.1 billion in 2025 dollars)
Crystal River SHUT DOWN EARLY	1	Crystal River, FL	Duke Energy	Babcock & Wilcox	1977-2013	\$1.3 billion (\$1.8 billion in 2025 dollars)
Total Costs in 2025 Dollars =						\$8.9 billion

Analysis by NC WARN

*See descriptions of each failed plant attached to the end of this letter.

**Estimates may not reflect all costs in both Carolinas. Additional losses were incurred but difficult to quantify, such as lost projected revenue at Crystal River.

Of the eleven reactors Duke Energy and its subsidiaries did complete and didn't break, as with Crystal River, all were far over budget and years behind schedule. Most have faced serious safety and/or security scandals and all have generated mountains of deadly nuclear waste that will plague humanity for millennia.

Duke Energy's Currently Operational Nuclear Plants

Name	# of Units	Location	Designer	Reactor Type	First Operating Year
Brunswick	2	Southport, NC	General Electric	Boiling Water Reactor	Unit 1 - 1977 Unit 2 - 1975
Catawba	2	York County, SC	Westinghouse	Pressurized Water Reactor	Unit 1 - 1985 Unit 2 - 1986
Harris	1	New Hill, NC	Westinghouse	Pressurized Water Reactor	1987
McGuire	2	Huntersville, NC	Westinghouse	Pressurized Water Reactor	Unit 1 - 1981 Unit 2 - 1984
Oconee	3	Seneca, SC	Babcock & Wilcox	Pressurized Water Reactor	Unit 1 - 1973 Units 2 & 3 - 1974
Robinson	1	Hartsville, SC	Westinghouse	Pressurized Water Reactor	1971

Analysis by NC WARN

If pro-nuclear corporations had an honest case, they wouldn't be hiding behind deceptive lobbyists and propagandists using the very same hype that was key to the six AP1000 reactors Duke Energy tried but failed to complete between 2005 and 2017. And, if Duke had true confidence in the success of its nuclear plans, it would not shift the financial risk onto the backs of customers and federal taxpayers.

Any credible debate would see nuclear losing to competition from safe, inexpensive and quickly deployable renewable, energy storage and energy-saving technologies. But as history sadly shows, North Carolina regulators slant nearly every debate in Duke Energy's favor.

“SMALL MODULAR” DESIGNS AND CORPORATE COLLAPSE

The latest nuclear relapse has centered on a so-called small modular reactor concept, an effort that continues to be draped in deception. Despite the crafty moniker, SMRs would be multi-billion-dollar machines roughly one-quarter to one-third the size of existing behemoth nuclear power plants, with most of the same safety, security and economic challenges – and the very same intractable nuclear waste liability – as existing nuclear plants.

Since the 2000s, various corporations, including the engineering giant Babcock & Wilcox, have struggled with SMR design challenges, cost escalation, failed deadlines and project collapses despite receiving at least \$3 billion in federal tax subsidies from the Department of Energy.

Despite a massive amount of national propaganda, no U.S. corporation has committed to attempting construction of SMRs. That's mainly due to the huge amount of financial risk that has been demonstrated by the decades-long history of bankruptcies, failures to complete U.S. projects and the 50-year inability to solve the deadly waste issue.

Recent boasts by Google, Amazon and other corporations have created a false impression that the path toward a second nuclear renaissance is clear. However, few, if any, of these corporations will actually risk their own money; most are already insisting on a host of taxpayer and electric customer subsidies that shift the risk off the private sector.

Along with design and construction challenges, and liability for people harmed by nuclear mining, operation and waste handling, risks stem from the uncompetitive price of power if any reactors are ever completed. In a competitive market, who would pay for this more expensive nuclear power?

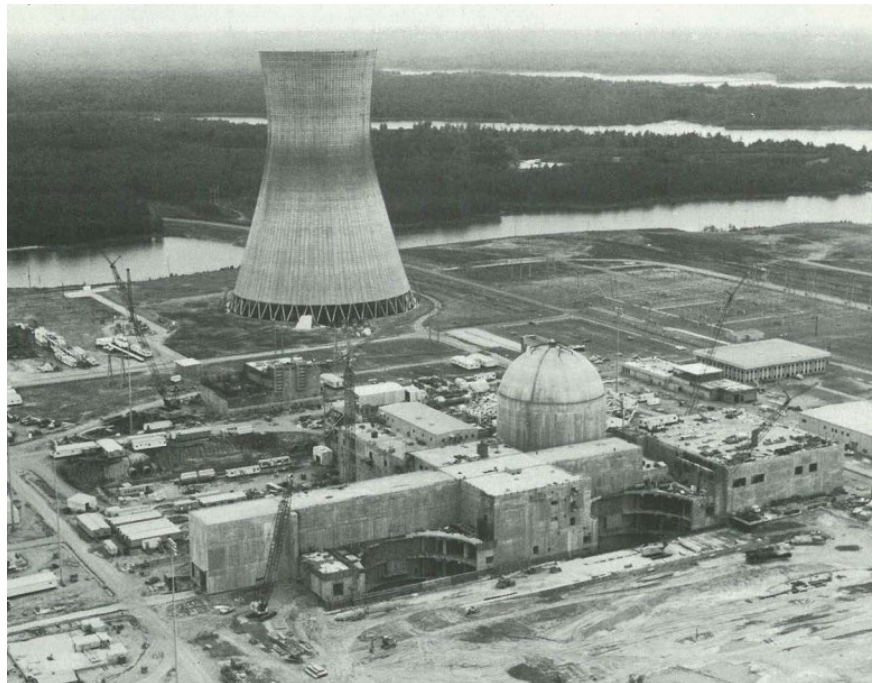
The key “advantage” promoted for new, smaller reactor designs – that “modules” could be built off-site – was exactly the top selling point of the Westinghouse AP1000 design that failed so badly.

Yet again, the public gets stuck footing the bill. With the SMR, Duke Energy has joined a coalition of utilities and vendors seeking an \$800 million U.S. Department of Energy grant to accelerate development of a GE Hitachi SMR. Multiple other taxpayer subsidies for fossil fuels and nuclear power are constantly included in federal budgets and incorporated within news outlets providing free and biased promotion of damaging technologies.

PROJECT FAILURES IN THE EARLY YEARS

During the 1970s and 80s, U.S. corporations completed more than 100 nuclear power reactors—all of which were virtually plagued by years of delay and huge cost overruns, thus high-cost kilowatts. However, scores of units were also cancelled in midstream, largely due to a combination of corporate arrogance, design complexity, uncontrolled cost mechanisms and public opposition.

Duke Energy and utilities now under its corporate umbrella completed 11 reactors in the Carolinas. But along the way, the conglomerate cancelled 18 units in midstream, after years of planning and/or construction and racking up costs that we estimate at nearly \$9 billion in 2025 dollars. Another reactor, Florida's Crystal River III, was mothballed in 2013 when its containment building cracked due to corporate corner-cutting during a maintenance operation.



Duke Energy and its subsidiaries attempted to build six nuclear units at Shearon Harris over the course of four decades, but construction was completed on only one.

NUCLEAR “RENAISSANCE” 2004-2017

Despite the warning by Moody's Financial that utilities attempting new reactors would take a “bet the farm risk,” Duke and other utilities gambled again. Why? Because they were playing poker with federal taxpayers' billions and their captive customers' money, thanks to state politicians allowing the monopolies to charge ratepayers for years of project licensing and planning.

Of the 31 reactors attempted in the U.S., only 2 were completed; Georgia Power's Vogtle project was finally finished seven years behind schedule and with a price tag that doubled to \$35 billion for two "Advanced Passive 1000" reactors built by the formidable Westinghouse. That contentious project would have never gone forward without a \$12 billion subsidy from federal taxpayers – along with state politicians' gift of requiring electric power users to pay in advance for the project.

Duke Energy's heavily hyped, 13-year humiliation with the AP1000 wasted over \$2 billion in Duke ratepayer dollars by 2017 in the Carolinas and Florida. Duke's failure was matched by other utilities across the Southeast, even bankrupting Westinghouse along the way.

NC WARN and Southeast allies sued to prevent the U.S. Nuclear Regulatory Commission from approving the AP1000 design, providing solid evidence that the entire AP1000 effort was predicated on cutting corners to cut costs.

However, state and federal regulators chose to keep going along with utilities' repeated promises that success was just around the corner. Now, it's happening all over again.

N.C. POLITICAL & REGULATORY CAPTURE

Governor Stein, this matter requires your personal attention as Duke Energy continues – for many decades and under both major political parties – to wield massive and damaging corporate influence over elected and regulatory officials, along with other powerful voices.

In fact, under its (Pro) Carbon Plan docket, the N.C. Utilities Commission has already approved for Duke Energy to spend – and charge customers – \$440 million "to incur project development costs for advanced nuclear resources" despite the enormous uncertainty and the commission's mandate to operate in the public interest.

The table is being set for Duke Energy to bleed its captive customers year after year while promising that someday, SMRs just might become viable.

Please speak out to leaders of both political parties: Do not allow Duke Energy to foist the financial risk for high-stakes nuclear speculation onto the backs of electric ratepayers. Investors – not captive customers – should bear the risks for gambling by corporate executives and boards of directors.

Sincerely,



Jim Warren
Executive Director

cc. Attorney General Jeff Jackson
NC Senate President Pro Tempore Phil Berger
NC House Speaker Destin Hall
NC Senate Democratic Leader Sydney Batch
NC House Democratic Leader Robert T. Reives, II

Attachment:

Nuclear Plants Cancelled or Shut Down Early by Duke Energy & Subsidiaries

Perkins (Mocksville, N.C.) and Cherokee (Gaffney, S.C.): Duke Power planned to build two three-unit nuclear plants in the early 1970s as a “six pack;” the units would be constructed identically and simultaneously. Duke ran into difficulties – the corporation was hitting a financial crisis, and the demand for electricity was not rising nearly as fast as Duke had predicted. In 1982, Duke cancelled five of the six units. The sixth unit was also cancelled the following year after construction had reached 17% completion.

Shearon Harris (Bonsal, N.C.): Duke Energy and its subsidiaries attempted to build six nuclear units at Shearon Harris over the course of four decades, but construction was completed on only one. In the early 1980s, three of four nuclear units planned for the site were cancelled due to rising costs from design and construction problems along with public pressure. In 2008, Duke submitted plans to expand the site with two AP1000 reactors. After years of delays, Duke cancelled the project in 2013, citing slow growth forecasts and a lack of need.

South River (South River, N.C.): Carolina Power & Light proposed to build a three-unit nuclear plant in 1973, but the project was canceled in 1978 due to the preferred predictability of coal-fired plants and diminished demand forecasts. All costs were passed to ratepayers.

Lee (Cherokee, S.C.): Duke Energy told regulators that its plans for a twin-reactor nuclear plant in Cherokee County, SC would cost \$5-6 billion. By 2011, Duke had raised its estimate to \$11 billion; electric demand had dropped significantly, and fracked gas was much cheaper than nukes. Three months after Duke received its operating license from the Nuclear Regulatory Commission (NRC) in December 2016, Westinghouse – the maker of the nuclear reactors Duke planned to use – went bankrupt due to huge cost overruns from other plants under construction in Georgia. Duke cancelled its plans to build the Lee plant.

Levy (Levy County, F.L.): Progress Energy estimated that its plan for the Levy nuclear plant in Florida would cost \$5-6 billion. By the time Progress merged with Duke Energy in 2012, the project’s estimated costs had increased to \$24 billion, and the projected in-service date had been delayed 8 years to 2024. After receiving a license from the NRC in 2016, Duke announced the cancellation of the project.

Crystal River (Crystal River, F.L.): The Crystal River plant first became operational in the late 1970s. It was originally owned by Florida Progress Corporation, which was bought by Carolina Power & Light to form Progress Energy, which eventually merged with Duke Energy. In 2009, Progress began replacing steam generators at the site. The utility planned to save money by self-managing the work and taking shortcuts despite multiple warnings. Progress was directed to loosen 97 steel tendons within the walls of the containment dome but only loosened 27, leading to cracks in the containment structure and permanent shutdown of the plant.