NC WARN

BUILDING PEOPLE POWER
FOR ENERGY & CLIMATE JUSTICE

December 4, 2025

Honorable Josh Stein
Governor of North Carolina

cc: Attorney General Jeff Jackson, Duke Energy CEO Harry Sideris

SUBJECT: Duke Energy's massive nuclear buildout is a climate, safety and economic gamble North Carolina should vigorously oppose – with your leadership

Dear Governor Stein,

NC WARN appreciates the October 4 statement shared with several reporters in which you criticized Duke Energy's latest plans to further expand gas-fired power, extend coal-fired power and continue to suppress renewables. We again urge you to broaden and repeat that criticism.

However, we were surprised that you also seemed to criticize Duke leaders for delaying until 2037 their ambition to begin operating new nuclear reactors. This letter outlines the enormous financial, safety and climate risks posed by gambling on experimental nuclear reactors, including the deceptively named "small" modular reactors (SMRs) and the full-sized AP1000 reactor that is stained with a near-complete track record of project failures that bankrupted its manufacturer, Westinghouse, in the previous decade.

NC WARN and allies prevailed against Duke Energy's ill-fated 2005-2017 gamble to build six AP1000s, along with more than 20 "advanced reactors" attempted by other Southeast utilities. That extended debacle was but the latest chapter of Duke Energy and now-subsidiaries failing 18 times while trying to build reactors since the 1970s, costing monopoly-captive customers billions of dollars while failing to generate a single kilowatt of electricity.

Only with monopoly control over state government and electricity users could a super-rich corporation – run by dozens of millionaire executives and board members – hope to build 16,000 MW of high-risk nuclear power plants. That's equal to the power of some 20 Shearon Harris nuclear plants, which now generates 900 MW near Raleigh.

Ironically, Duke and subsidiaries have failed in 5 out of 6 previous attempts to build reactors at Shearon Harris. Yet they want public backing to try again at Harris, as well as at the Belews Creek Power Station in Stokes County, NC and the William States Lee III Nuclear Station in Cherokee County, SC.

Due to multiple hazards to public safety, the ongoing, highly deceptive hype about new reactors, and the industry's demand that taxpayers and electric ratepayers absorb the high risk of repeated project failures, NC WARN and allies will again contest Duke's multibillion-dollar gamble of our climate and economic future.

Among the myriad risks is the likelihood that gambling North Carolina's future on failure-prone technology could leave the state without sufficient power in coming years because Duke continues to suppress energy-saving programs and the transition to renewables. In addition, even if successful, Duke's plans would likely triple most customers' power bills, based on the cost of the latest nuclear power brought online in Georgia and Duke Energy Corporation's plan to spend up to $105 billion on construction by 2030.

We call on you to speak out at this crucial time. Demand that Duke Energy's investors take the financial risk for its executives' mistakes. Corporate stockholders – not monopoly-captive customers – must pay for years of high-risk development of nuclear projects.

DUKE CITES HIGH RISK 65 TIMES

This letter and appendix represent NC WARN's preliminary staff review of Duke Energy's Pro-Carbon Plan, its latest projection of future supply and demand, filed on October 1. We will later produce an engineer's in-depth analysis. Meanwhile, an average high-schooler can see what a reckless gamble it would be if North Carolina allows its monopoly power provider to charge us billions for the longshot chance Duke will complete and open new reactors beginning in 2037. Or ever.

A gouging of the public is already underway. The Duke Energy-friendly NC Utilities Commission has allowed Duke to spend some $440 million in ratepayer money in "predevelopment" costs for "advanced" nuclear by the end of 2026. Under the current trajectory, electricity rates will rise continually unless Duke decides not to keep trying for new nukes.

Your timely action is needed because Duke plans to begin committing larger sums before year-end by applying for a federal Early Site Permit to build experimental reactors at the Belews Creek Power Station in Stokes County, NC, even though it will not even choose a final SMR manufacturer – among six incomplete and unproven designs – until some other "first-mover" utility might potentially demonstrate that any SMR can actually be built.

In its 33-page chapter on new "advanced" reactors, Duke Energy refers to risk of project failure some 65 times along with repeated references to unsolved technical and financial complexities that led to the earlier debacles and new challenges posed by experimental designs. (Page numbers throughout this letter refer to Appendix J: Nuclear of Duke Energy's Pro-Carbon Plan.)

In Duke's own words, "*Duke Energy is implementing a second-mover strategy that calls for deploying advanced nuclear units after FOAK (first-of-a-kind) projects have sufficiently progressed to allow the reactor designs to mature. SMRs and non-LWRs are not yet commercially available in the U.S.; therefore, no precedent exists for providing confidence in a schedule and cost estimate for these technologies*" (p. 26).

NEAR-TOTAL TAXPAYER SUBSIDIES

Further evidence that Duke executives and other pro-nuclear forces fear yet another series of project failures is their repeated insistence that "advanced" nuclear projects cannot go forward without many layers of financial protection provided by monopoly-captive electricity users and federal taxpayers.

Duke is relying on past and future Department of Energy (DOE) subsidies, plus at least four pots of new federal money recently enacted. Even so, Duke Energy says it *"continues to work with policymakers to secure additional support ... such as increased funding for grant programs or potential construction cost overrun protection"* (p. 21).

Moreover, if allowed to continue, Duke Energy's plans to try yet again to build AP1000s at the Shearon Harris, NC and Lee, SC sites hinge on a **DOE guarantee of up to 80% of total project costs** (p. 19).

The roughly 10% profit on capital investments granted to electric monopolies is precisely intended to account for risk. And a 70-year-old technology should not require any public subsidy; Duke and others are demanding near-total subsidization exactly because they are best-positioned to realize that their gamble is likely to fail yet again.

In Duke's own words, *"without continued federal support, the financial risk of nuclear construction could deter development, slowing, delaying, or eliminating progress"* (p. 25).

NEED FOR YOUR TIMELY ACTION

Governor Stein, our state cannot afford to spend any more years fighting Duke Energy leaders over new nukes, expanded use of gas-fired plants and coal, and its suppression of solar and wind; the climate crisis requires a transition off fossil fuels right now, as dozens of scientists have emphasized directly to you as Governor and, earlier, as Attorney General.

If corporate leaders are allowed to keep charging customers millions annually to "study" new designs, odds are quite high that Duke Energy will yet again cancel projects long before multi-year construction is completed, or even begun. That is exactly what Senate Bill 266 was all about last summer.

Duke will keep spending billions of customer dollars year after year as they wait to see if other utilities might be able to wade through the quicksand of complexity. All the while, they will keep suppressing climate solutions, particularly local solar-plus-storage.

Your direct action is required because the NC Utilities Commission has for decades been heavily biased in favor of Duke Energy. It is the very panel that has enabled Duke Energy to continue suppressing far better, cheaper and fairer alternatives: solar, wind, energy-saving programs and energy storage even as much of the world is rapidly developing those hopeful measures.

Therefore, we again call on you to speak out now against Duke Energy's plans. Break through the long-running deception that Duke Energy is somehow decarbonizing. Help North Carolinians understand we are on the wrong track and massive expansion of fracked gas and nuclear is ruinous.

Use your powerful statewide voice to help North Carolina realize that replacing dirty, dangerous power with a cheaper, safer renewable approach would help our economy and impress the world community that our state can properly assert control over one of the planet's worst climate polluters.

As explained in our September 18 letter, you could begin by leading the installation of solar-plus-storage (SPS) on emergency facilities in storm-prone communities and requiring data centers and other large power users to include maximum SPS when investing in new facilities.

Polling shows that a large majority of conservatives will continue to reject the monopoly capture of our state that underpins this latest, most horrendous gamble.

Your voice and determination can change the regrettable course on which our state is now being dragged by a corporate giant. NC WARN and many others are eager to help you rise to this globally-impacting challenge.

Sincerely,

Jim Warren
Executive Director

Appendix: Experimental Nukes and Proven Failures: Far Too Risky, Expensive, Dangerous and Slow for North Carolina to Gamble On

Duke Energy proposes to build 16,000 MW of new nuclear generation by 2050 (2023 IRP, p. 82). That's equal to the power of some 20 Shearon Harris nuclear plants. These plans come despite Duke's record of 18 failures trying to build nuclear reactors, the lack of qualified reactor designs and the industry's insistence on billions in taxpayer and customer subsidies.

Duke is proposing to build both experimental, so-called Small Modular Reactors (SMRs) and larger Advanced Passive 1000s (AP1000s), and it has already named three spots across the Carolinas where it's developing plans for new reactors: Belews Creek Power Station in Stokes County, NC, William States Lee III Nuclear Station in Cherokee County, SC and the Shearon Harris Nuclear Power Plant in Wake County, NC.

"Small" Modular Reactors (SMRs) Aren't Small

"The 'small' part refers to their reduced output and physical footprint, while 'modular' means they [would be] built in factories, shipped to sites, and installed as needed, supposedly making them cheaper and faster to deploy than traditional reactors." – Arnie Gundersen, engineer with more than 50 years of nuclear power oversight and engineering experience

SMRs are water-cooled nuclear reactors that would be configured to total around 350 MW or less per interconnected unit. Duke Energy is planning to apply for an early site permit by the end of 2025 to begin the development of SMRs at the Belews Creek Power Station. Duke aims to have the first SMR unit operational by 2037, but has no idea which, if any, SMR design will be viable in the future; Duke's application will contain 6 possible experimental designs. If successful, Duke plans to build multiple additional units at Belews Creek.

In Duke's words: "*The six reactors chosen to be included in the [application] are those that the Companies considered the furthest along from both a design and U.S. licensing perspective*" (p. 18).

Duke refers to the risks of pursuing advanced nukes over 60 times in a 33-page chapter of its latest Pro-Carbon Plan. In Duke's words: "*The first and second movers for the next advanced reactor projects will be assuming construction risks and therefore* ***will need some form of insurance to protect customers***" (emphasis added, p. 25). As Duke Energy will charge for construction before these plants are online, what Duke executives really mean is that they need insurance to protect their shareholder profits.

"Advanced Passive" 1000s (AP1000s)

By 2005, Westinghouse and utilities such as Duke Energy were boasting that the new AP1000 reactor would avoid the huge cost overruns and mid-stream cancellations that plagued the first generations of US nuclear power. That promise – key to the much-hyped "nuclear renaissance" – was largely

based on plans for off-site construction of various facility modules that could then be pieced together at each site. That same failed promise is now key to the hype around SMRs.

AP1000s are around 1100 MW, among the typical size of many US nuclear reactors now in operation. Duke Energy is planning to try again to build AP1000s at the sites of previous nuclear failures by attempting to revive licenses for twin units at the William States Lee III Nuclear Station and the Shearon Harris Nuclear Power Plant.

Among the Many Problems with Nuclear Power

Too Expensive

SMRs: *"SMRs show every sign of the kind of cost escalation that has plagued larger nuclear reactors for decades. That's why a March 2025 Financial Times analysis labeled SMRs 'the most expensive energy source.'"* – Joseph Romm, climate expert and former US Department of Energy official

AP1000s: Of the 31 "advanced nuclear" reactors attempted in the U.S. between 2005 and 2024, 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 the twin reactors, making it *"the most expensive power plant ever built on earth."* Duke Energy alone attempted six AP1000s, wasting over $2 billion that it was allowed to force customers to cover.

In Duke's words, *"We still need to figure out what we're going to do with cost overrun protection and how we're going to protect our investors and our customers from overruns,"* Duke CEO Harry Sideris said on an earnings call earlier this month. *"Nothing [is] going forward until we have those other items resolved."*

Dependent on Subsidies

Duke Energy's nuclear plans are heavily reliant on state and federal subsidies. Specifically, its plans to try again to build AP1000s at the Lee Site in SC hinges on a DOE loan guarantee program for 80% of total project costs (p. 19).

In Duke's own words, *"Without continued federal support, the financial risk of nuclear construction could deter development, slowing, delaying, or eliminating progress despite the substantial potential benefits of new nuclear generation for customers"* (p. 25).

The contentious Vogtle 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 construction costs as the beleaguered project proceeded year after year. Now, the subsidies continue; the Trump administration just pledged another $80 billion to Westinghouse to support the construction of AP1000s. That's in addition to billions of dollars of Department of Energy subsidies over the years.

"No private investor will touch nukes with a ten-foot uranium rod." – Gundersen

Too Dangerous

SMRs: *"Let's not be fooled by the word 'small.' Even a single SMR is a massive, highly radioactive industrial machine, capable of powering a mid-sized city and containing a radioactive inventory far greater than the bombs dropped on Hiroshima and Nagasaki."* – Gundersen

AP1000s: These reactors produce very large amounts of highly radioactive waste that will be dangerous for thousands of years, and there's no current disposal solution despite decades of trying to find one. The reactor and on-site spent-fuel storage are just as dangerous as existing reactors despite all the corporate deception.

Both types of reactors would also rely on vast amounts of water. In Duke's own words, *"water availability is one of the most important factors"* in nuclear plant siting (p. 17).

High Risk of Continued Project Failures

SMRs: The industry, Department of Energy and others have wasted over 20 years and billions of public dollars trying to find a viable SMR design – including repeated failures by Babcock & Wilcox and other engineering giants.

Duke plans to be a "second-mover" on SMRs. In other words, Duke leadership wants to wait for others to attempt the complex process of bringing SMRs online – after which *"many initial design, licensing, and construction risks"* (p. 1) will somehow be resolved – and charge customers for research, development and engineering in the meantime.

"The first U.S. SMR project, led by NuScale, was cancelled in 2023 after its projected cost was 300% higher than planned." – Gundersen

AP1000s: By 2017, Duke Energy had squandered over 2 billion dollars and 13 years failing to license and build six experimental nuclear reactors (at Harris in NC, Lee in SC, and Levy in FL) it had insisted would avoid the massive construction failures of the 1970s. Duke Energy abandoned the last of its three failed twin reactor projects in 2017, with impunity. State politicians and regulators arranged to let Duke charge ratepayers over $2 billion for its blunders in the Carolinas and Florida. Duke's failure was matched by other utilities across the Southeast, even bankrupting Westinghouse along the way.

In addition to the 6 failed AP1000 reactors, Duke Energy has failed on 12 other nuclear projects that never became operational. A 19th failure resulted when Duke ruptured the containment building at the Crystal River Nuclear Plant in 2009, causing its permanent closure.

Too Slow to Help

Duke Energy says that if all the complexities are solved, its first new nuclear plants would not be operational until 2037 at the earliest, and it would take until 2050, at best, to build the 16 GW it plans. Scientists say we must be phasing out fossil fuels in the 2020s.

In Duke's words, "*Duke Energy is implementing a second-mover strategy that calls for deploying advanced nuclear units after FOAK (first-of-a-kind) projects have sufficiently progressed to allow the reactor designs to mature. SMRs and non-LWRs are not yet commercially available in the U.S.; therefore,* ***no precedent exists for providing confidence in a schedule and cost estimate for these technologies***" (emphasis added, p. 26).

"*Every dollar spent on SMRs is a dollar not spent on proven, less expensive, rapidly deployable renewable energy sources. Worse still, the delays and overruns that have plagued nuclear projects mean that SMRs cannot be built in time to meet urgent climate goals. Meanwhile, wind, solar, and storage are already delivering reliable, affordable, and clean power to the grid.*" – Gundersen

Shifts Risks onto Monopoly-Captive Customers

The 2025 NC Senate Bill 266 would allow Duke to raise power bills annually until at least 2037 as it tries to license, engineer and construct its first SMR – even if the plant is never completed. Duke is trying to force the risks onto customers because its leaders are scared to gamble stockholders' money (which includes its corporate executives and the board of directors) on such high-risk projects.

In reference to Duke's dubious projection to someday use hydrogen-capable gas turbines, NC Utilities Commissioner Donald Van Der Vaart said, "*The Commission should not rely on speculative technology assumptions to justify present-day expenditures*" (p. 52). The same is true of nuclear power.

Duke Energy's leaders are helping hype the idea that data centers targeted for North Carolina will require a buildout of nuclear power plants. That's despite growing warnings by investment analysts of an impending "AI Bubble" that's luring investment dollars into a scandal that could far eclipse the "Dot-Com" disaster of the late 1990s and be many times worse than the 2008 economic crash. That's why NC WARN has called on Gov. Stein to require data centers and other large power users to invest in on-site renewables rather than place demand on the grid for their operation.