Testimony of
Paul Gunter, Reactor Oversight Project, Beyond Nuclear
Vermont House Committee on Energy and Digital Infrastructure
May 12, 2026

Overview of the White House plan to alter the commercial nuclear regulatory platform for the promotion of a nuclear power resurgence in the United States

Good afternoon,

My name is Paul Gunter. I am the Director of the Reactor Oversight Project at Beyond Nuclear. We are a 501(c)3 non-profit, public interest advocacy organization based in Takoma Park, Maryland working for a sustainable, renewable energy-powered world free from nuclear power.

Thank you for the invitation to provide testimony that examines the renewed enthusiasm for nuclear power and the enabling of a regulatory transformation that intends to sweep in another "Nuclear Renaissance," also known as the "New Nuclear Age," or "Nuclear Resurgence", often misleadingly termed "Clean Energy."

I've been asked to provide testimony from the Beyond Nuclear perspective on the status of the nation's development of new advanced reactor designs as well as on the proposed changes to the nuclear regulatory platform refashioned by Congress and the White House to incentivize, streamline and accelerate new reactor development, construction, deployment and commercial operation in the U.S. and for commercial export.

Nuclear power is not the answer

Let me start by introducing Beyond Nuclear's "Ten Reasons to Reject Nuclear Power." [1] If there is any takeaway from today's testimony by Beyond Nuclear, it is most concisely addressed in our footnoted publication:

1) Nuclear power is too expensive;

[1] "Ten Reasons To Reject Nuclear Power," Beyond Nuclear, April 2026, https://beyondnuclear.org/wp-content/uploads/2026/05/Ten-Reasons-leave-behind-1.pdf

2) Nuclear power is too slow;
3) “Low carbon” is a red herring;
4) Nuclear power is not reliable;
5) Nuclear power will not deliver on jobs;
6) Nuclear power produces long-lived lethal waste;
7) Nuclear power is harmful to human health;
8) Nuclear power violates human rights;
9) Nuclear power is dangerous;
10) Nuclear power is a pathway to nuclear weapons [2]

Small Modular Reactors remain unproven on all accounts

There are presently more than 30 different domestic designs for numerous commercial applications for new reactors under review by the U.S. Nuclear Regulatory Commission (NRC), the U.S. Department of Energy (DOE) and the U.S. Department of Defense (DOD). Many of these designs make claims beyond electricity production, including industrial and manufacturing heat processing and desalinization. Small Modular Reactors (SMR) are currently rated from 350 megawatts electric MWe all the way down to 1 MWe.

The DOE’s U.S. Energy Information Administration has produced an extensively updated list of “Small modular reactors and microreactors under development in the United States.”[3] The EIA list breaks down these emerging reactor into categories: 1) Light water-cooled reactors (9 listed designs); 2) High-temperature gas reactors (10 listed designs); 3) Molten salt reactors (4 listed designs); 4) Sodium-cooled gas reactors (4 listed designs), and; 5) Other designs (3 listed designs).

[2] Ibid, Ten Reasons, https://beyondnuclear.org/wp-content/uploads/2026/05/Ten-Reasons-leave-behind-1.pdf
[3] “Small modular reactors and microreactors under development in the United States,” US Energy Information Administration (EIA) a division of the US Department of Energy, April 27, 2026, https://www.eia.gov/todayinenergy/detail.php?id=67584

The U.S. Department of Energy (DOE) has published it claims for the projected benefits of commercialization of SMRs.[4] Our "Response" is as follows:

Modality Refers to the ability for assembly line type fabrication of major component parts of the reactor and steam supply system in a factory environment that can be shipped to the point of use.

Response: Numerous studies have projected that small modular reactors will face serious economic challenges of "diseconomies of scale" where reduced size often results in the higher cost per unit of power when compared to gigawatt sized commercial power reactors. The SMRs reduction in physical size will likely result in the higher cost of materials, components, and labor for each megawatt of capacity. Former NRC Chairwoman Allison Macfarland, a co-author of a January 2026 study concludes, "It is likely that both overnight capital and O&M [operation and maintenance] costs for SMRs will surpass those of standard large LWRs, [Light Water Reactors] due to diseconomies of scale. Consequently, the electricity cost from SMRs is anticipated to exceed that from standard large LWRs."[5]

Lower capital investment Refers to the assertion that modular components and factory fabrication can reduce construction costs and time to completion.

Response: There is a common understanding recognized as "Order Book Catch-22." This is a potentially significant financial hitch applied to any unproven commodity, including first-of-a-kind nuclear reactors. Promised cost savings rely upon factory mass production, but to establish these, the factories will require a massive volume of pre-orders that the industry has not yet secured and may not exist. This a tremendous financial risk.

[4] "The Benefits of Small Modular Reactors," US Department of Energy, government promotional information,(DOE) April 27, 2026, https://www.energy.gov/ne/benefits-small-modular-reactors-smrs

[5] "Challenges of small modular reactors: A comprehensive exploration of economic and waste uncertainties associated with U.S. small modular reactor designs," Kim and Macfarland, Science Direct, January 2026, https://www.sciencedirect.com/science/article/abs/pii/S0149197025003877

Siting flexibility Refers to SMRs that are expected to be attractive options for the replacement or repowering of aging/retiring fossil fuel plants, or to provide an option for complementing existing industrial processes or power plants with an energy source that does not emit greenhouse gases.

Response Regulatory and licensing delays will remain a wild card. For example, TerraPower's Natrium sodium-cooled fast reactor is sited on a retired coal burning electric facility in Wyoming. TerraPower is proceeding before the NRC under the old 10 CFR 50 regulations, a two-part licensing proceeding process that requires getting federal approval by successfully fulfilling the construction permit specifications before submitting an application for the operating license. Part 50's regulatory history has focused on light water reactors. Sodium cooled reactor designs have a more complicated global history. The NRC completed its safety evaluation for the construction permit in December 2025 and issued a final environmental impact statement in October 2025. While the NRC found the preliminary design sufficient to proceed for a construction permit, it noted that design details remain "preliminary" and will still need to be resolved through ongoing research and development with the clock running.

Greater Efficiency Refers to SMRs coupling with other energy sources including renewables and fossil energy to increase grid stability and security. Some advanced SMR designs can produce a higher temperature process heat for either electricity generation or industrial applications.

Response While SMRs can theoretically operate with renewables to stabilize the grid, many reactor designs are less responsive to "fast cycling" (rapid fluctuations, starting and stopping of power generation from two different sources) that can be technically challenging and may not economically match renewable output, limiting the goal of true synergy.

Security safeguards and non-proliferation Refers to SMR designs having the distinct advantage of factoring in current safeguards and security requirements and potential nonproliferation benefits to the United States and the wider international community.

Response Many of the SMR designs are designed to use High Assay Low Enriched Uranium (HALEU) which increases the enriched U_{235} to just under 20% rather than the 3% to 5% U_{235} nuclear fuel typically used in conventional large gigawatt-sized light water reactors. The increased 20% enrichment of U_{235} presents a significant nuclear weapons grade proliferation risk recognized by the non-proliferation community. Other non-light water SMR designs, including the TerraPower Natrium sodium cooled fast reactor and the Oklo Aurora Powerhouse sodium cooled fast reactor use metallic HALEU nuclear fuel. Both the Natrium and Aurora Powerhouse sodium cooled fast reactors are also recognized as proliferation risks because they are highly efficient at breeding or converting materials into plutonium-239, a key component for thermonuclear weapons, rather than simply consuming fuel.[6]

Radioactive Waste Refers to the highly radioactive, long-lived and extremely biohazardous material generated by nuclear power station operations

Response: While this feature is conveniently left out of the DOE descriptions of the "Benefits of SMRs", research from Stanford University indicates that SMRs may produce up to 2 to 30 times more radioactive waste per megawatt-hour than large conventional gigawatt-sized nuclear reactors, due to their design and higher neutron leakage. The long-term management of high-level radioactive waste (irradiated nuclear fuel rods) remains unresolved.

As of July 2025, there were 127 SMR proposed designs in 30 countries under development around the world beyond the designs emerging from the United States.[7] It should be noted that Congress passed the "Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy Act (ADVANCE Act) of 2024[8], which was signed into law by President Biden in July 2024. Among many significant US nuclear energy

[6] "Advanced reactors, fast reactors, nuclear proliferation," November 29, 2021, Non-Proliferation Policy Education Center Letter to Secretary of Energy Jennifer Granholm, US Nuclear Regulatory Commission, ML21335A048, https://www.nrc.gov/docs/ML2133/ML21335A048.pdf

[7] "There are now 127 different SMR designs, finds NEA report," World Nuclear News, July , 2025, https://www.world-nuclear-news.org/articles/there-are-now-127-different-smr-designs-finds-nea-report

[8] "About the ADVANCE Act," US NRC, July 2025, https://www.nrc.gov/about-nrc/governing-laws/advance-act/about-advance-act

policy changes, the Act now allows for foreign ownership, control, or domination (FOCD) of operational nuclear power facilities in the US. The ADVANCE Act changes allow for investors from 37 nations to own a majority controlling stake in U.S. commercial nuclear reactor operations. For decades, the Atomic Energy Act of 1954 banned FOCD in the US as a national security issue.

The passage of the ADVANCE Act also raises the questionable nuclear industry claims that advanced SMRs, non-light water reactors and micro-reactors are "inherently safe" or "walk away safe" from a catastrophic severe nuclear accident. On December 31, 2025, the Price-Anderson Act was scheduled to sunset. The ADVANCE Act expanded the Price Anderson Act of 2024 from 20 to 40 years.

The Price-Anderson Act uniquely indemnifies the nuclear power industry from its full liability for damages incurred from a catastrophic nuclear accident and widespread radiological contamination. The indemnification by limited liability is extended to all commercially licensed nuclear power plant operators and manufacturers, new and old alike. The renewed Act limits liability to just over $16 billion per accident.[9] The catastrophe radiological releases from the 1986 Chornobyl nuclear accident in Ukraine and the 2011 Fukushima Daiichi nuclear accident in Japan continue to mount now into hundreds of billions of dollars and will do so indefinitely.

Creating a Dangerous Self-Regulated Commercial Nuclear Power Industry?

In another major seismic shift in US commercial nuclear power development and oversight, on May 23, 2025, President Trump signed four White House Executive Orders. We look at two orders, (EO-14300[10] and EO-14301[11]) that create an

[9] "Biden approves extension of Price-Anderson Act," Beyond Nuclear website, March 2024, https://beyondnuclear.org/biden-approves-extension-of-price-anderson-act/

[10] "Ordering the Reform of the Nuclear Regulatory Commission," The White House, Executive Order, May 23, 2025, https://www.whitehouse.gov/presidential-actions/2025/05/ordering-the-reform-of-the-nuclear-regulatory-commission/

[11] "Deploying Advance Nuclear Reactor Technologies for National Security," The White House, EO-1403, May 23, 2025, https://www.whitehouse.gov/presidential-actions/2025/05/deploying-advanced-nuclear-reactor-technologies-for-national-security/

unprecedented situation where, along with the US Nuclear Regulatory Commission (NRC), the US Department of Energy (DOE), is now also authorized to license new commercial reactors. The DOE has long served as a promoter of nuclear power, while the NRC, under the executive orders, has effectively been shifted into this role. This means that both agencies have a clear conflict of interest in providing reasonable assurance of public safety, security and environmental protection.[12]

EO-14300 mandates a rapid overhaul of the NRC to accelerate nuclear reactor deployment. It requires the NRC to cut bureaucratic barriers, set strict 12–18 months licensing deadlines, and revise safety regulations to prioritize efficient, technology-inclusive licensing.

EO-14301 drastically reforms and streamlines the national laboratory processes for reactor testing at the Department of Energy and directs the DOE to start a new pilot program[13] to expedite the testing, certification and DOE prioritized licensing of advanced commercial nuclear reactor designs.

The two White House Orders, intended to "unleash" the nuclear power industry from "overly burdensome" regulatory oversight and enforcement, essentially opens the door to industry self-regulation. This has prompted actions from a broad range of public stakeholders at the state level, and from public interest groups, industry, academics and the general public. Critics of the Orders have alleged that the subsequent outcome has raised serious questions of legal compliance with federal laws that include: the Atomic Energy Act of 1954 as amended, the Energy Reorganization Act of 1974, the National Environmental Policy Act (NEPA), and the Administrative Procedures Act (APA) as well as independent stakeholders' constitutional guarantees to due process.

[12] "DOGE told regulator to 'rubber stamp' nuclear," E&ENews by Politico, July 7, 2025, https://www.eenews.net/articles/doge-told-regulator-to-rubber-stamp-nuclear/

[13] "U.S. Department of Energy Reactor Pilot Program," U.S. Department of Energy https://www.energy.gov/ne/us-department-energy-reactor-pilot-program

For example, on February 2, 2026, the DOE posted "A Notice by the Energy Department" to the Federal Register announcing the "Categorical Exclusion for Advanced Nuclear Reactors". This allows for the conditional exemption of nuclear power licensees from providing environmental reviews for major federal actions otherwise required by federal law under NEPA and the APA. By DOE's interpretation, a NEPA review for new commercial reactor designs will be deemed to "not significantly affect the quality of the human environment and therefore does not require preparation of an environmental assessment or environmental impact statement."[14]

Moreover, the DOE's exclusionary action was made effective immediately without any prior DOE communications, independent reviews or providing an opportunity for comments from state governments, stakeholders and the public. The effective immediately DOE Notice did however open a "voluntary" public comment period, after the fact.

The DOE notification prompted ten state Offices of Attorneys General (including the VT OAG) and the District of Columbia to submit collective comments citing the potential violations of federal law.[15] The OAGs findings make a number of important legal distinctions:

First, the OAGs find, "In order to support the informed and transparent development of nuclear power, DOE must meet its obligations for analysis of environmental impacts under the National Environmental Policy Act (NEPA) in promulgating a categorical exclusion that would exempt advanced nuclear reactors from environmental review."[16]

[14] "Categorical Exclusion for Advanced Nuclear Reactors," February 2, 2026, Federal Register, 91 FR 4550, https://www.federalregister.gov/documents/2026/02/02/2026-02071/categorical-exclusion-for-advanced-nuclear-reactors

[15] "Comments of Attorneys General of Washington, California, Illinois, Maryland, Massachusetts, Minnesota, New Mexico, New York, Nevada, Oregon, Vermont and the District of Columbia," Offices of Attorneys General, https://oag.ca.gov/system/files/attachments/press-docs/2026_03_04_FINAL_DOE.CatExCommentLetter.pdf

[16] Ibid, OAG

Second, the OAGs allege, “DOE’s rulemaking process is unlawful and arbitrary and capricious by reaching a predetermined outcome before receiving and reviewing public comments.[17]

Third, the OAGs find, “DOE also exceeds its statutory authority in proposing to apply the CE (categorical exclusion) to ‘power production and industrial applications’ because authority over those types of facilities rests with the Nuclear Regulatory Commission, not DOE.”[18] [emphasis added]

Nuclear Power’s Apparent “Bridge to the Future” is Extreme License Renewals

There are critical lessons being both learned and unlearned at our peril that need to be scrutinized regarding reactor licensing oversight. One particular area of Beyond Nuclear’s concern regards the nuclear industry’s most apparent “bridge to the future”. This is the NRC’s current granting of increasingly extreme operating licensing extensions for an aging reactor fleet well beyond its original 40-year license.

Of the nation’s current fleet of 94 operating reactor units, 94.6% (89 units) have now been relicensed by the NRC with an “initial” 20-year operating license renewal. By regulatory law, NRC can issue these renewals as much as 20 years in advance of the actual license expiration date. Most US reactors are now operating within that 40- to 60-year relicensing period that extends into the 2030s and 2040s. Of those 94 units, the NRC is now additionally scheduling relicensing reviews and issuing “subsequent” 20-year extensions presently approved for 23 reactor units, extending operations beyond 60 years to 80 years projected into the 2050s and 2060s. Discussions are underway at NRC Headquarters, with the nuclear industry now preparing the application process for a second “subsequent” 20-year operating license extension stretching out 80 to 100 years of operation.

[17] Ibid, OAG
[18] Ibid, OAG

Renewable Energy with Electrical Storage is the Path to Sustainable Energy

In closing, there is good news. Renewable energy, predominantly solar and wind power increasingly backed up with battery energy storage systems, is no longer considered an alternative energy.[19] It is now a fact that a kilowatt of unsubsidized utility-grade solar power is significantly less expensive than generating electricity by nuclear power.[20] Utility-grade renewable energy technology with battery storage is the fastest to manufacture deploy in comparison to natural gas and nuclear power.[21] Moreover, due to a long-term trend in unsubsidized technological costs, renewables offer a higher carbon-reduction return per dollar invested compared to new-build natural gas or nuclear power plants.[22]

Thank you,

Paul Gunter
Reactor Oversight Project
Beyond Nuclear
7304 Carroll Avenue #182
Takoma Park, MD 20912
Tel. 301-270-2209
www.BeyondNuclear.org
paul@BeyondNuclear.org

[19] "New U.S. electric generating capacity expected to reach a record high in 2026," US Energy Information Administration, February 20, 2026, https://www.eia.gov/todayinenergy/detail.php?id=67205

[20] "Lazard's Levelized Cost of Energy A Analysis—Version 18.0," June 2025, Levelized Cost of Energy Comparison, p.8, https://www.lazard.com/media/uounhon4/lazards-lcoeplus-june-2025.pdf

[21] "Despite the Political Headwinds, Strong Growth by Solar, Wind, and Battery Storage Continues," Solar Today, January 21, 2026, https://ases.org/despite-the-political-headwinds-strong-growth-by-solar-wind-and-battery-storage-continue/

[22] "Wind and Solar Energy Are Cheaper Than Electricity from Fossil-Fuel Plants," Scientific American, June 17, 2025, https://www.scientificamerican.com/article/wind-and-solar-energy-are-cheaper-than-electricity-from-fossil-fuel-plants/