

May 4, 2026

ELECTRONIC SUBMISSION

Attn: NRC-2025-1503

Aaron Kwok
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Dear Mr. Kwok:

On April 2nd, 2026, the U.S. Nuclear Regulatory Commission (NRC) published the proposed rule, “NRC Reviews of Reactor Designs Previously Authorized by U.S. Department of Energy or Department of War.”¹ The proposed rule provides a crucial new pathway for permitting commercial nuclear reactors, which promotes innovation and economic competitiveness while simultaneously ensuring the highest safety standards.

The Notice does so by adding a third approval option to be codified in proposed § 50.43(e)(3), specifically by allowing NRC to use existing Department of Energy (DOE) or Department of War authorizations and successful testing and demonstrations to function as a means to allow NRC license applicants to demonstrate that their design can accomplish the NRC’s required safety functions, without requiring a duplicate regulatory compliance process.²

We are writing this comment letter to register our strong support for NRC’s proposal, and also to make a recommendation on how the proposed regulatory text can be further strengthened to advance the NRC’s goals of ensuring the safe and beneficial employment of civilian nuclear energy technology in the United States.

Discussion

I. Quadrupling America’s Nuclear Energy Capacity

In Section 2(c) of Executive Order 14300, “Ordering the Reform of the Nuclear Regulatory Commission,”³ President Trump has announced the objective of quadrupling America’s nuclear energy capacity to approximately 400 gigawatts by 2050. Such a buildout is ambitious, but the United States has accomplished a similar buildout before, and could do so again with the right reforms in place. America’s first commercial power reactor came online in 1958 in Shippingport, Pennsylvania, having broken ground only about four years earlier. In its first year, Shippingport Nuclear Power Station produced 60 MW of electricity.⁴ By 1970,

¹ U.S. Nuclear Regulatory Commission, “NRC Reviews of Reactor Designs Previously Authorized by U.S. Department of Energy or Department of War,” *Federal Register*, Vol. 91, No. 63, April 2, 2026, p. 16,584.

² 91 Fed. Reg. at 16,585.

³ Exec Order No. 14,300, *Federal Register*, Vol. 90, No. 102, May 29, 2025, p. 22,587.

⁴ “#47 Shippingport Nuclear Power Station.” *The American Society of Mechanical Engineers*.

<https://www.asme.org/about-asme/engineering-history/landmarks/47-shippingport-nuclear-power-station>

nuclear power provided around 6,334 MW of electricity, and by 1990, that amount had surpassed 96,000 MW,⁵ and remains around that level today.⁶

China is currently expanding its nuclear energy capacity at a level similar to what the United States previously accomplished, further underlining the attainability of President Trump's stated nuclear ambitions. China has added 34 gigawatts of nuclear power over the past decade, with an estimated 23.7 gigawatts of additional capacity currently under construction.⁷ Although the United States still maintains the world's largest nuclear fleet, China has built in one decade the same nuclear power capacity that the United States took four decades to build.⁸

The problem for the United States is that nuclear power plants cost too much money, take too much time to build, and processes are biased in favor of incumbent firms and technologies. The result is that few firms are willing to move forward with any new nuclear technologies, or even established technologies, without the financial support of the U.S. taxpayer. Such a heavily subsidized approach may result in the construction of a few new, high-visibility reactors, as demonstrated by the Vogtle Project, America's first new nuclear reactor in 30 years, built with the help of \$12 billion in taxpayer-subsidized loans and loan guarantees.⁹ However, such an approach is prohibitively expensive to scale, and has no chance of achieving the major growth in nuclear energy capacity, which would require the construction of hundreds of nuclear reactors, that the President has called for and which the United States so deeply needs. Indeed, despite Vogtle's much-trumpeted completion, the project only expanded nuclear energy capacity by 2.2 gigawatts,¹⁰ after major cost overruns and delays.¹¹ Scaling this approach to meet the President's stated goal to build 300 gigawatts of new capacity would, if the proportional relationship between capacity growth and cost remained constant, effectively require more than \$1.6 trillion in taxpayer-subsidized loans and loan guarantees

Such subsidies are not only expensive, but they also distort the underlying economics, relieve pressure to enact reforms, and empower politicians and bureaucrats to make private sector business decisions that they are unqualified to make. This has resulted in a regulated industry that is globally uncompetitive and unprepared to withstand the market challenges that all industries ultimately face. To achieve the President's objective, a new strategy is necessary.

NRC's proposed reform offers just such an approach, whilst ensuring that newly built reactors continue to meet the safety standards required by existing regulatory structures. The proposed, additional licensing pathway provides firms with the opportunity to research, develop,

⁵ One gigawatt is equivalent to 1,000 megawatts, so a 96,000 megawatt capacity would equate to 96 gigawatts.

⁶ "Country Profiles: Nuclear Power in the USA." *World Nuclear Ass'n*. <https://world-nuclear.org/information-library/country-profiles/countries-t-z/usa-nuclear-power>

⁷ "China Continues Rapid Growth of Nuclear Power Capacity," May 6, 2024. *U.S. Energy Information Agency*. <https://www.eia.gov/todayinenergy/detail.php?id=61927#:~:text=In%20the%20past%2010%20years,are%20under%20construction%20in%20China>

⁸ *Id.*

⁹ Office of Energy Dominance Financing, "Vogtle," *U.S. Dep't of Energy*. <https://www.energy.gov/edf/vogtle>

¹⁰ *See id.*

¹¹ *E.g.*, Amy, J. (2023, May 25). Georgia nuclear rebirth arrives 7 years late, \$17B over cost. *Associated Press*. <https://apnews.com/article/georgia-nuclear-power-plant-vogtle-rates-costs-75c7a413cda3935dd551be9115e88a64>

demonstrate, and deploy reactors without being required to duplicate the heavy regulatory burden that has contributed significantly to America's atrophied commercial nuclear industry.

NRC's proposed reform does so by taking advantage of DOE's authority to oversee noncommercial reactor development, demonstration, and deployment. This authority has been successfully used for decades to oversee research reactor construction, the deployment of national security related reactors, and other non-commercial reactor projects.

NRC's proposed framework would thus allow private firms to pursue research, development, and demonstration projects under DOE's authority, and then deploy that cutting-edge technology commercially. Unlike past efforts, the private sector rather than the U.S. taxpayer would fund and control the projects, while DOE would simply regulate them. Yet unlike the NRC, whose regulatory approach has historically been heavier and more deterministic, DOE's allows for an atmosphere of greater experimentation and demonstration. This is the kind of work that DOE and its predecessor agencies have performed since the dawn of the nuclear age. Overseeing experimentation, innovation, and demonstration are the DOE's comparative advantages.

The new framework allows the private sector firm to take all the knowledge and information it has developed under the DOE authority for noncommercial reactor development, and seamlessly bring that technology to NRC for commercial review and permitting. Thus, the proposal would allow NRC and DOE procedures and frameworks to complement rather than duplicate each other. If anything, to further strengthen the proposal, NRC should be required to accept DOE's technical conclusions and provide an expedited permit application review, as discussed below.

As proposed, this rule is not simply a rubber stamp from the NRC. The NRC would still be responsible for ensuring that all its requirements for commercial operation are met and authorized to compel the applicant to update its application accordingly. What the proposed rule does is better align the relationship between where responsibilities lie within relevant government agencies, and allows the respective agencies to focus on work where they have an historical comparative advantage. In this case, DOE would focus on research, development, and demonstration whilst NRC would focus on commercial permitting.

Some may argue that nuclear energy presents unique safety challenges, which justifies the current approach and that any diversions will result in unwarranted risks to public health and safety. Whilst it is true that nuclear energy presents unique challenges, the safety record of the commercial nuclear industry throughout its history, including prior to the ratcheting up of the regulatory burden, should provide confidence that a regulatory approach that is less onerous but equally safe can be developed.

This is borne out by experience. Nuclear power has been commercially available since the late 1950s. The nuclear industry demonstrably knows how to build and operate reactors safely. In fact, the first ten commercial reactors built have the same safety record as the last ten, which is the same safety record as every reactor built in between: nobody has ever died or even

been sickened by a radioactive event related to commercial nuclear power in the United States, regardless of whether those new reactors were regulated by the NRC. Notwithstanding this impeccable safety record and the longstanding technical feasibility of commercial nuclear power, the industry has been suffocated in recent decades under a regulatory and cost burden that has ratcheted inexorably upward.

NRC's mission is not to prevent the development of new nuclear reactors, but to ensure that new nuclear capacity is developed, and existing capacity is maintained, in a way that maintains safety for the American public. Thus, it is critically important to return the U.S. to a place where nuclear facilities are being built again. The proposed rule provides an opportunity for the United States to shift the paradigm of how commercial nuclear power plants are designed, built, and operated in such a way as to retain the highest public health and safety standards, whilst also shifting the underlying economic drivers toward efficiency and competitiveness.

II. An Objective Cost/Benefit Analysis Would Support Adoption of the Proposed Rule

In its Proposal, NRC requested comments on any cost and benefit analysis regarding the Proposed Rule.¹² Looking at the history of the development of nuclear power in the United States, including how that development has grinded to a virtual halt in recent decades, along with an understanding of how this regulation would complement DOE's existing processes, confirms that this regulatory move is long overdue.

a) An evolution of commercial nuclear power cost increase and regulation's impact

The greatest obstacle to meeting the President's objective of quadrupling America's nuclear output is cost. Despite the vast benefits of nuclear power, particularly in terms of providing reliable and vast amounts of energy with a minimal environmental footprint, the president's goals to expand nuclear power will be virtually impossible if construction of new power plants is not economical on its own terms, and no amount of taxpayer support or subsidy will change that. Whether it's the new U.S. reactors in Georgia¹³ or recent experiences in France¹⁴ and Finland,¹⁵ costs have been the main headwind against a mass expansion of nuclear energy. Yet there are reasons to be optimistic.

The greatest of these is that nuclear energy has not always been so expensive, so there is no intrinsic reason why current construction costs cannot be brought down. According to the U.S. Energy Information Administration (EIA), the overnight construction costs (costs as if they could occur overnight and not accrue interest) of a nuclear plant in 1967 were \$600 to \$900 per

¹² 91 Fed Reg. at 16,586.

¹³ See *supra*, n.9.

¹⁴ E.g., Hancock, E. (2026, March 31). EU Probes French Plan to Support EDF Nuclear Reactors. *Wall Street Journal*. <https://www.wsj.com/world/europe/eu-probes-french-plan-to-support-edf-nuclear-reactors-1fc58553> (reporting on an EU probe into competition concerns related to announced French governmental subsidy in project to build 6 new nuclear reactors, at cost of € 72.8 billion).

¹⁵ E.g., Gaudiaut, T. (2026, April 24). European Nuclear Projects Face Major Cost Overruns and Delays. *Statista*. <https://www.statista.com/chart/36138/cost-overruns-and-construction-delays-of-epr-nuclear-reactors-in-europe/?srsltid=AfmBOooQRdSrBqa8DKvpOhhwnYbJDI5LLVQRM4D-As4PBD6zciNSSaQ5> (detailing cost and construction time overruns for nuclear projects in Europe, including Olkiluoto 3 in Finland, Flamanville 3 in France, and Hinkley Point C in the United Kingdom).

kilowatt (kW) in 2010 dollars. By the mid-1970s, the overnight cost range had exploded to \$3,000 to \$6,000 per kW.¹⁶ In 2023, the EIA estimated that a new plant in the US today would cost \$7,777 per kW for a light water nuclear reactor, or \$8,349 for a small modular nuclear reactor.¹⁷

Financing costs are another major expense for new nuclear plants—and the longer a project takes, the higher those costs climb. However, there is no intrinsic reason why reactors need to take fifteen years to build, as it took for the Vogtle expansion.¹⁸ In the United States, nuclear reactors used to be built in about five years, or even less.¹⁹ Indeed, the fifteen-year timeframe for Vogtle, the first U.S. power plant to be built in three decades, was nearly double the median timeframe currently achieved globally, showing how much faster nuclear reactors are currently built outside the U.S.²⁰ For major infrastructure projects, in which loans immediately and continually accrue interest until repayment, time is literally money, and any regulatory burden that extends construction timelines thereby adds to the financing costs on top of the overnight costs of construction.

Ultimately, the issue comes down to competitiveness. Thus, the question is whether new nuclear plants can be built and operated cost-competitively with other energy sources at unsubsidized price levels.

Based on recent figures, new nuclear infrastructure is expensive and at best questionably competitive. According to *POWER* magazine, the US reactors recently built in Georgia for a cost of \$35 billion will produce electricity at \$170 to \$180 per MWh.²¹ In 1970, when nuclear technology was newer, a typical 1,000 MW plant cost \$313 million to build (about \$3 billion in 2024 dollars, adjusted for the price inflation of construction materials).²² At this price, assuming today's operating costs, nuclear power would have a levelized cost of electricity of \$50.75 per MWh.²³ This is far lower than the levelized costs of the Vogtle plant, and is competitive with other dispatchable baseload generation sources, such as coal and natural gas.

¹⁶ Lovering, Jessica R., Arthur Yip, and Ted Nordhaus. Historical Construction Costs of Global Nuclear Power Reactors. *Energy Policy* 91 (April 2016): 371–82. <https://doi.org/10.1016/j.enpol.2016.01.011>

¹⁷ U.S. Energy Information Administration (2023, March). Cost and Performance Characteristics of New Generating Technologies. Table 1. *Annual Energy Outlook 2023*. https://www.eia.gov/outlooks/aeo/assumptions/pdf/elec_cost_perf.pdf

¹⁸ U.S. Energy Information Administration (2024, May 1). Plant Vogtle Unit 4 begins commercial operation. *Today in Energy*. [https://www.eia.gov/todayinenergy/detail.php?id=61963#:~:text=Georgia%20Power%20announced%20this%20week,be%20more%20than%20\\$30%20billion.](https://www.eia.gov/todayinenergy/detail.php?id=61963#:~:text=Georgia%20Power%20announced%20this%20week,be%20more%20than%20$30%20billion.)

¹⁹ Cleveland, C. (September 3, 2024). Global nuclear reactor construction starts and duration, 1949-2023. *Boston University Institute for Global Sustainability*. <https://visualizingenergy.org/global-nuclear-reactor-construction-starts-and-duration-1949-2023/> (detailing how global nuclear construction time has expanded from a median of 42-46 months in the 1950s, to 91 months globally today).

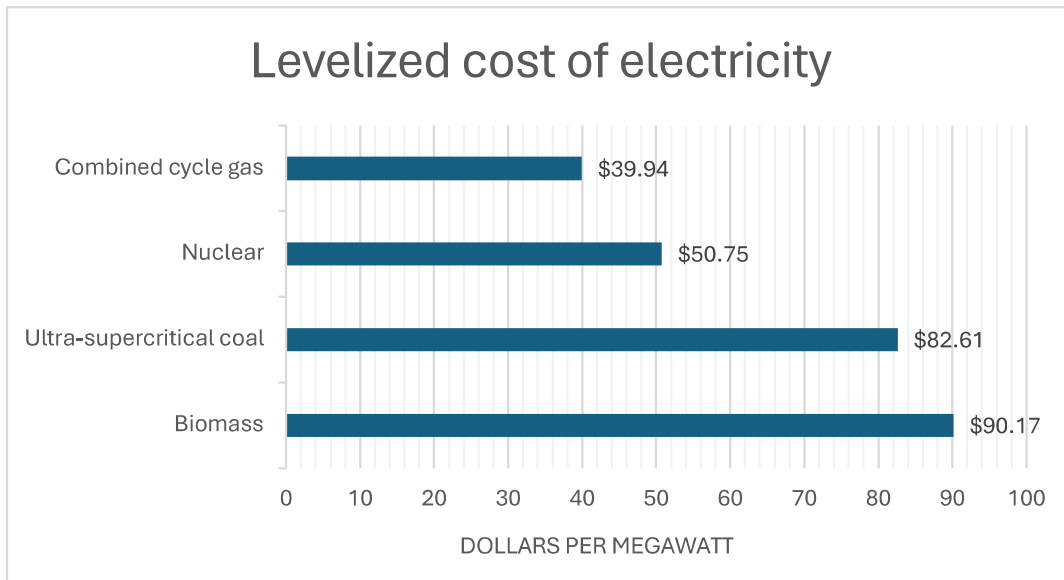
²⁰ *Id* (showing how the median nuclear reactor construction time for new reactors globally was 91 months, which equates to 7 years and 7 months, over the most recent 2021-23 timeframe).

²¹ Durand, Patty. n.d. “Plant Vogtle: Not a Star, but a Tragedy for the People of Georgia.” *POWER Magazine*. <https://www.powermag.com/blog/plant-vogtle-not-a-star-but-a-tragedy-for-the-people-of-georgia/>

²² U.S. Bureau of Labor Statistics. 1947, January 1. “Producer Price Index by Commodity: Special Indexes: Construction Materials.” *FRED, Federal Reserve Bank of St. Louis*. <https://fred.stlouisfed.org/series/WPUSI012011>

²³ “NUCLEAR COSTS in CONTEXT.” 2021. <https://nei.org/CorporateSite/media/filefolder/resources/reports-and-briefs/Nuclear-Costs-in-Context-2021.pdf>. The levelized cost of electricity (LCOE) is calculated based on an

The idea that nuclear energy is inherently expensive should be outright rejected, in light of copious past experience that illustrates how low nuclear energy prices have been in the past, and *could* be with the right policies in place. The figure below provides an estimate of the cost of electricity generated by nuclear power plants (if the cost of constructing these plants simply increased from the 1970 level at the same rate as general construction costs), alongside the estimated costs of other technologies entering service in 2027.²⁴



b) The costs of constructing commercial nuclear reactors do Not need to be so high

Despite the commercial nuclear industry’s impeccable safety record, it has been subject to an ever-increasing regulatory burden, which has led to massive cost escalations for constructing nuclear power plants. These cost escalations are particularly unfortunate because the United States used to build reactors in reasonable amounts of time, and at a reasonable cost. Between 1954 and 1967, the industry controlled and, in some cases, reduced the costs associated with building its first thirty-two nuclear power plants. The next forty-eight that came online before the Three Mile Island incident were progressively more expensive to build, with a total increase of 190 percent. This cost increase is both unnecessary and unfortunate, but arguably manageable. However, the fifty-one reactors completed after Three Mile Island experienced further price increases of between 50 and 200 percent.²⁵

installed capacity of 1,117 MW with a 91% capacity factor, an operating cost of \$26.86 per MWh, a 60-year lifespan, and a 7% cost of capital.

²⁴ See U.S. Energy Information Administration. 2026. *Electric Power Monthly*.

https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_6_a

²⁵ Lovering, Jessica R., Arthur Yip, and Ted Nordhaus. 2016. “Historical Construction Costs of Global Nuclear Power Reactors.” *Energy Policy* 91 (April): 371–82. <https://doi.org/10.1016/j.enpol.2016.01.011>

The United States experienced the highest cost increases over that general timespan, but France, Japan, and West Germany shared a similar trend. In contrast, for the nine foreign-designed reactors it built between 1972 and 1993, South Korea achieved a cost *reduction* of 25 percent. For the subsequent nineteen domestically designed reactors built between 1989 and 2008, the reduction was 13 percent.²⁶

The South Korean experience refutes the argument that the cost of building new nuclear plants necessarily increases over time. The U.S. was able to control costs as part of its initial nuclear program, and South Korea has done so in more recent years. Notwithstanding these examples, the narrative that nuclear energy is inherently too expensive persists, so historic context is helpful when looking for ways to fix the longstanding problem of high costs.

The commercial nuclear industry emerged in its early days from strong cooperation between the public and private sectors. Some have argued that this early support from the U.S. government constituted a broad subsidization without which the nuclear industry could never have been established.²⁷ It is certainly true that commercial nuclear power would not have been available when it was, if at all, had the government not developed the underlying technology for national security purposes. Yet this early public–private cooperation put the nuclear industry on a trajectory that made the American nuclear industry vulnerable to government intervention and locked into technological approaches like the light-water reactor that primarily define the industry and policy today. As a result, the industry did well only for as long as public and political support remained strong. However, the antinuclear movement’s success in undermining this support led to a broad reevaluation of how government institutions were set up to interact with the industry, in ways that ultimately created the counterproductive impediments that this rule is working to undo.

For example, in Congress, the Joint Committee on Atomic Energy was disbanded in 1977,²⁸ and oversight responsibility for nuclear activities was transferred to multiple other committees.²⁹ This led to decentralized oversight and a weakening of nuclear policy overall. It also provided additional avenues for antinuclear lobbyists to influence Congress. Meanwhile, in the executive branch, the Atomic Energy Commission, which both advocated for and oversaw the nation’s nuclear activities, was abolished³⁰ and replaced in 1975 by the Nuclear Regulatory Commission (NRC), whose sole function was to regulate the nuclear industry.³¹ Advocacy responsibilities ultimately went to DOE.³² In the years since, Congress’s loss of enthusiasm for nuclear energy led to more aggressive regulation, and because jurisdiction over nuclear issues is now divided among multiple committees, there is no unified congressional stance. The result has been an expansion of the regulatory environment that persists today.

²⁶ *Id.*

²⁷ *E.g.*, Goldberg, Marshall, Carl Weinberg, Armond Cohen, R Dewey, Christine Donovan, C Associates, Karl Gawell, et al. n.d. “FEDERAL ENERGY SUBSIDIES: NOT ALL TECHNOLOGIES ARE CREATED EQUAL BOARD of DIRECTORS.” <https://www.earthtrack.net/sites/default/files/repp-subsidies.pdf>

²⁸ 42 U.S.C. § 2258.

²⁹ 42 U.S.C. § 2259.

³⁰ 42 U.S.C. § 5814(a).

³¹ 42 U.S.C. § 5841.

³² *See* Department of Energy Organization Act, Pub. L. No. 96-91, 91 Stat. 565 (1977) (codified as amended at 42 U.S.C. §§ 7101-7375).

Policy is statutorily set by such cornerstone pieces of legislation as the Atomic Energy Act of 1954³³ and the Energy Reorganization Act of 1974,³⁴ but nuclear activities in the United States must also comply with a wide variety of laws, including the National Environmental Policy Act of 1969,³⁵ the Federal Water Pollution Control Act of 1972,³⁶ the Clean Air Act of 1977,³⁷ the Inspector General Act of 1978,³⁸ and the Nuclear Waste Policy Act of 1982.³⁹

This haphazard statutory framework, which NRC did not contribute to but which creates the legal context that NRC and its regulated stakeholders must be aware of and in which they must operate, has created numerous opportunities for antinuclear groups to file noncompliance suits. Regardless of whether the groups' concerns were legitimate, regulators often responded with additional mandates, which were very easy to establish. A regulator could compel a change in plant design, for example, simply by deciding that such a change would add "substantially" to public health or safety. The problem was that NRC statutes do not define "substantial." Because the interpretation of NRC regulations was left to the discretion of individual technical reviewers, each license application often resulted in unique, unpredictable requirements.

This inconsistency increased costs, further souring Congress on nuclear power and leading to an endless spiral of legislation, regulation, and still more added costs. Between 1975 and 1983, 430 lawsuits were brought against the NRC, leading to 2,349 proposed rules and regulations—each of which required an industry response. The additional and unexpected controls created industry-wide uncertainty and raised questions about the long-term economics of nuclear power.⁴⁰

The NRC created this proliferation of regulatory requirements even without possessing adequate information, which the agency acknowledged. The commission recognized as early as 1974 that it was issuing regulations without sufficient risk-assessment training or cost considerations. The NRC did not even have a program to train employees in how to conduct a review using NRC guidance. Yet the commission continued to issue extensive new regulations.⁴¹

³³ Atomic Energy Act of 1954, Pub. L. No. 83-703, 68 Stat. 919 (codified as amended at 42 U.S.C. §§ 2011-2297h-13).

³⁴ Energy Reorganization Act of 1974, Pub. L. No. 93-438, 88 Stat. 1233 (codified as amended at 42 U.S.C. §§ 5801-91).

³⁵ Nat'l Environmental Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (codified as amended at 42 U.S.C. §§ 4321-4370m-12).

³⁶ Federal Water Pollution Control Act Amendments of 1972 (Clean Water Act), Pub. L. No. 92-500, 86 Stat. 816 (codified as amended at 33 U.S.C. §§ 1251-1388).

³⁷ Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685 (codified as amended at 42 U.S.C. §§ 7401-7671q).

³⁸ Inspector General Act of 1978, Pub. L. No. 95-452, 92 Stat. 1101 (codified as amended at 5 U.S.C. §§ 401-24).

³⁹ Nuclear Waste Policy Act of 1982, Pub. L. No. 97-425, 96 Stat. 2201 (codified as amended at 42 U.S.C. §§ 10101-10270).

⁴⁰ Magali Delmas and Bruce Heiman, "Government Credible Commitment to the French and American Nuclear Power Industries," *Journal of Policy Analysis and Management*, Vol. 20, No. 3 (Summer 2001), p. 447.

⁴¹ U.S. General Accounting Office, *Nuclear Powerplant Licensing*, pp. 17-21. See also "Report to the Congress of the United States: Nuclear Powerplant Licensing: Need for Additional Improvements." 1978. April 27, 1978. <https://www.gao.gov/assets/emd-78-29.pdf>

At the same time, State and local governments expanded their oversight functions. States often claimed influence over construction and operations permits, as well as environmental regulation. For example, while the Federal Water Pollution Control Act (as amended by the Clean Water Act of 1977),⁴² the Clean Air Act, and the Solid Waste Disposal Act⁴³ mandated that States enforce minimal federal environmental standards, many States choose to adopt additional regulations. Environmental standards that varied from jurisdiction to jurisdiction created a regulatory patchwork that imposed additional costs and opened additional avenues for antinuclear activists to exploit.

The shifting regulatory environment gave rise to additional reviews from numerous public institutions. Once permits were obtained, additional design changes were often mandated—even during construction. Between 1966 and 1970, this inefficient process increased the time required to build a nuclear power plant by 42 percent (from 86 months to 122). From 1974 to 1984, the average construction delay was nearly 40 months, and between 1956 and 1979, the average time for construction permit review increased fourfold.⁴⁴ The average time required to bring a plant online from the order date increased from four years to 14 years during a similar period.⁴⁵ This significantly increased both the cost of each plant and the risks to the investors financing these projects. Even as the need for and consumption of electricity has increased, lengthy delays further undermined public confidence in the viability of nuclear power.

During the 1970s, regulatory mandates also drastically increased the quantity of materials required to build a plant. Steel requirements increased by 41 percent, concrete by 27 percent, piping by 50 percent, and electrical cable by 36 percent.⁴⁶ Even though experience demonstrated that these increases were unnecessary to maintain safe operations, regulatory relief never followed. In some instances, builders even added safety features that were not mandated in hopes of preempting further stoppages.

More inspections were required, and delays often resulted from a lack of personnel to carry them out. Workers had to spend inordinate amounts of time waiting for inspections rather than building projects. The changing construction specifications also led to additional complexity and mistakes, which created further delays. Even after construction was complete, the delays often continued—sometimes at a cost of up to \$1 million per day.⁴⁷

The additional regulations also caused operations and maintenance costs to increase. For example, from 1981 to 1988, operations and maintenance costs increased by 80 percent, and 30

⁴² U.S. Environmental Protection Agency. (2026, February 23). *Summary of the Clean Water Act*. <https://www.epa.gov/laws-regulations/summary-clean-water-act>

⁴³ Solid Waste Disposal Act, Pub. L. No. 89-272, 79 Stat. 997, as amended by the Resource Conservation and Recovery Act of 1976, Pub. L. No. 94-580, 90 Stat. 2795 (codified as amended at 42 U.S.C. §§ 6901-92k).

⁴⁴ Spencer, Jack. “Competitive Nuclear Energy Investment: Avoiding Past Policy Mistakes.” The Heritage Foundation. November 15, 2007. <https://www.heritage.org/environment/report/competitive-nuclear-energy-investment-avoiding-past-policy-mistakes>

⁴⁵ Potter, Brian. “Why Does Nuclear Power Plant Construction Cost so Much?” Institute for Progress. May 1, 2023. <https://ifp.org/nuclear-power-plant-construction-costs/>

⁴⁶ Bernard L. Cohen, *The Nuclear Energy Option* (New York: Plenum Press, 1990), Chap. 9, at www.phyast.pitt.edu/~blc/book/chapter9.html (Accessed April 29, 2026).

⁴⁷ U.S. Energy Information Administration. (1986). “Analysis of Nuclear Power Plant Construction Costs.” *U.S. Dep’t of Energy*. <https://www.osti.gov/servlets/purl/6071600>

to 60 percent of this increase was the direct result of NRC regulation. In total, almost 75 percent of working hours were spent dealing with NRC bureaucracy. In any given week, this included eleven hours lost due to unavailable tools and materials, eight hours lost to work area overcrowding and coordination issues, and just under six hours lost to redoing work.⁴⁸

c) *Constantly Rising Regulations Have led to Higher Costs, but Not More Safety*

From 1971 to 1980, regulations increased the overall costs of constructing a nuclear power plant fourfold.⁴⁹ That might have been justified if the increased regulatory burden had been rooted in scientific and technical analysis. Regrettably, this change was largely driven by antinuclear activists, agenda-driven politicians, activist regulators, and unsubstantiated public fear.⁵⁰ A fascinating 1990 study by Dr. Bernard Cohen, who was widely published and won awards for his nuclear physics research, sets forth in excruciating detail the price escalations that occurred during the 1970s and 1980s. Dr. Cohen found that the typical cost for a nuclear plant in the 1970s, adjusted for 2024 dollars, was around \$1.2 billion (\$170 million nominal). By 1983, those costs had escalated to around \$5.4 billion (\$1.7 billion nominal). And by the late 1980s, prices had risen to as high as \$13.5 billion (\$5 billion nominal).⁵¹

The problem of overregulation is thus nothing new and has generally been recognized as a serious barrier to building new nuclear plants. Efforts by Congress and various administrations to clear some of the regulatory hurdles to construction have been ongoing for decades.⁵² For example, the Energy Policy Act of 1992⁵³ allows utilities to combine their construction and operations licenses, which should have streamlined much of the regulatory process.

Efforts to reform the system have proven unsuccessful. While they have solved certain discrete issues, the time and costs required to build new plants remain prohibitive. The Energy Policy Act of 2005⁵⁴ attempted to mitigate the risks by allocating money to protect plants under construction from regulatory delays.⁵⁵ Ultimately, this effort only served to transfer the costs of overregulation from the owners and operators of nuclear power plants to taxpayers, without fixing the underlying issues.

Many congressional leaders continue to offer legislative reform packages to relieve the nuclear industry of the bureaucratic burden imposed by federal regulation. Congressman Byron Donalds, for example, has introduced countless pieces of legislation to help modernize how the

⁴⁸ Brian Potter, “Why Does Nuclear Power Plant Construction Cost So Much?,” The Institute for Progress, May 1, 2023, <https://ifp.org/nuclear-power-plant-construction-costs/>

⁴⁹ Cohen, *supra*, n. 46.

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² Carlone, Ralph. 1978. “STATEMENT of RALPH v. CARLONE, ASSOCIATE DIRECTOR ENERGY and MINERALS DIVISION.” July 20, 1978.

⁵³ Energy Policy Act of 1992, Pub. L. No. 102-486, 106 Stat. 2776 (codified as amended at 42 U.S.C. §§ 13201 *et seq.*).

⁵⁴ Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (codified as amended at 42 U.S.C. §§ 15801 *et seq.*).

⁵⁵ Mark Holt and Carol Glover, *Energy Policy Act of 2005: Summary and Analysis of Enacted Provisions*, Cong. Research Serv., Order Code RL33302 (March 8, 2006).

US regulates nuclear power.⁵⁶ Other recent examples include the Nuclear Energy Innovation and Modernization Act, the Atomic Energy Advancement Act, and the ADVANCE Act—all of which aim to make it easier and faster to build and operate new nuclear power plants.⁵⁷ Each of these bills is designed to simplify the rules and processes for approving new nuclear commercial activities, speed up the decision-making for licensing, and ensure that environmental reviews are done quickly and efficiently.

It remains to be seen whether these most recent efforts will ultimately help, but past efforts did little for long-term predictability. Instead, they provided just enough regulatory relief and taxpayer support to ensure that a small number of plants (two in the last 48 years, to be exact) would be built. There was no nuclear renaissance because each of these efforts continue to rely on the same basic system of regulation. These past failures do not negate the possibility of savings in future deregulatory efforts, such as those within the proposed rule. If anything, these past challenges demonstrate without question that the current approach to nuclear regulation imposes extreme costs on the industry, entirely out of proportion to any societal benefit. Thus, providing an alternative pathway to permitting new reactors that have proven effectiveness outside of the current regulatory system at least provides an opportunity to do things differently, in a more streamlined approach, using technology that has already been successfully demonstrated to DOE or the Department of War. Thus, the proposed rule is an important step in the right direction.

Suggested Change to Proposal

Align Language of Proposed § 50.43(e)(3) More Closely to Language of Executive Order 14300

We broadly support the addition of the new approval pathway that NRC has proposed. However, we would strengthen the proposal, by adding the following sentence to the end of proposed § 50.43(e)(3): “NRC review shall focus solely on risks that may arise from new applications permitted by NRC licensure, rather than revisiting risks that have been addressed in the Department of Energy or Department of Defense processes.”

Thus, in full, the new regulatory paragraph would read, “The application includes consideration of relevant information gathered from a design that has been previously authorized by the Department of Energy or the Department of Defense as a utilization facility and that has been tested and has demonstrated the ability to function safely. Any reference to such a design must identify how attributes of the authorization satisfy NRC regulations. NRC review of such designs shall focus solely on risks that may arise from new applications permitted by NRC licensure, rather than revisiting risks that have already been addressed in the Department of Energy or Department of Defense processes.”

⁵⁶ Donalds, Byron. 2023. “Representative Byron Donalds.” Donalds.house.gov. July 18, 2023.

<https://donalds.house.gov/news/email/show.aspx?ID=7MZIWNT4N4RXW>

⁵⁷ Senate Passes Bipartisan Nuclear Energy Bill from Capito, Carper, Whitehouse.” U.S. Senate Committee on Environment and Public Works. July 27, 2023. <https://www.epw.senate.gov/public/index.cfm/2023/7/senate-passes-bipartisan-nuclear-energy-bill-from-capito-carper-whitehouse#:~:text=%E2%80%9CThe%20ADVANCE%20Act%20would%20help>

The added sentence is largely taken, with minor modifications, from the language of the second sentence of section 5(d) of Executive Order 14300.⁵⁸ This added language would have the benefit, not only of aligning the proposed section more closely to the relevant language within the Executive Order that has prompted NRC's regulatory review, but also of ensuring, by the force of regulation, that any NRC review would be restricted to examining new risks that the Departments of Energy or Defense have not already addressed.

This added language would help ensure that future administrations do not undermine this proposal by second-guessing conclusions that the Departments of Energy or Defense have already reached, and would also reinforce the effect of this proposed regulation, in ensuring that regulatory burdens remain streamlined, and that commercial operators are not required by future administrations to meet duplicative regulatory requirements in a roundabout way.

Expedited Permit Review

In Section 5(a) of the Executive Order 14300, the President has called for a deadline of no more than 18 months for final decisions on applications to construct and operate new reactors.⁵⁹ Similarly, while the Nuclear Energy Innovation and Modernization Act of 2019⁶⁰ did not require any specific timelines, the legislation does require NRC to develop performance metrics and milestone schedules for its activities,⁶¹ which would include the granting of new licenses. NRC already provides the existing milestone schedule on its website,⁶² and thus already has the information necessary to anticipate what a reasonable, streamlined timeline would be.

To ensure that the NRC abides by the Executive Order's timeliness goal, NRC may want to consider adding a deadline into the proposed regulation, to ensure that applications that use the new pathway are treated in a timely manner as envisioned. The President's declared 18-month goal may be appropriate, but given that the envisioned pathway should be significantly faster given that the heaviest work would already have been done for DOE or the Department of War, an even faster timeline may be desirable. Even if NRC is uncomfortable promising to act within a pre-set deadline, NRC could perhaps include secondary consequences (such as prohibiting NRC fee collection on overdue permit applications), to ensure the speedy permit review envisioned in this proposal.

Conclusion

At the dawn of the nuclear age, the United States embarked on a promising period of almost unprecedented energy expansion; in the course of 24 years between 1954 and 1978, the United States authorized the successful construction of 133 civilian nuclear reactors at 81 power plants.⁶³ In the 48 years since 1978, only the two new units at Vogtle (Units 3 and 4) have been

⁵⁸ 90 Fed. Reg. at 22,589.

⁵⁹ 90 Fed. Reg. at 22,588.

⁶⁰ Nuclear Energy Innovation and Modernization Act, Pub. L. No. 115-439, 132 Stat. 5565 (codified as amended at 42 U.S.C. § 2215).

⁶¹ 42 U.S.C. § 2215(c)(1).

⁶² U.S. Nuclear Regulatory Commission. (2025, August 28). *NEIMA Milestone Schedules of Requested Activities of the Commission*. <https://www.nrc.gov/about-nrc/generic-schedules#ftn2>

⁶³ 90 Fed. Reg. at 22,587.

built; the few others that came online since 1978 were all begun in the 1970s. Yet the prolific expansion of nuclear power plants that characterized the dawn of the nuclear age, without major Federal subsidies, proves that there is no inherent technical or economic reason why a greater expansion of nuclear energy capacity would not be possible. However, the regulatory burden has rendered prohibitive the costs of construction of new nuclear reactors, and any mass expansion will be impossible without significant regulatory reform from the NRC.

NRC’s statutory mission was never to suppress the construction of new nuclear power plants, but rather to ensure that the construction of such new power plants occurred in a way that protected the safety of the American public. As recently as 2024, Congress reconfirmed NRC’s statutory mandate to promote safe nuclear development, and expressed its concern that NRC was failing to live up to this mandate, when Congress enacted legislation mandating that NRC’s “licensing and regulation of the civilian use of radioactive materials and nuclear energy be conducted in a manner that is efficient and does not unnecessarily limit – (1) the civilian use of radioactive materials and deployment of nuclear energy; or (2) the benefits of civilian use of radioactive materials and nuclear energy technology to society.”⁶⁴

Thus, Congress has effectively endorsed the continued use of nuclear energy, and recognized the benefits of civilian use of nuclear energy. Moreover, the NRC’s authorizing statutes require the NRC *not* to unduly restrict nuclear power, while still protecting the health and safety of the American public. NRC’s proposal meets both these goals well. Without undermining NRC’s safety priorities, the new regulation would remove duplicative regulatory requirements for reactors that have already demonstrated their utility and safety to the Departments of Energy and/or War, even whilst ensuring that NRC retains the discretion to address new risks that would arise specifically from NRC licensure. Although we would make the additional change noted above, NRC’s proposal represents an important effort to balance its statutory imperatives by fostering the growth of nuclear power while protecting the health and safety of the American people, and we look forward to NRC finalizing this proposal.

We are excited by this proposal, and grateful for the opportunity to comment.

Respectfully yours,

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⁶⁴ Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy Act of 2024, Pub L. No. 118-67, § 501(a), 138 Stat. 1447 (2024).

⁶⁵ Institutional affiliation provided for identification purposes only. These comments are submitted in my personal capacity, and do not necessarily represent the views of The Heritage Foundation.

⁶⁶ *Id.*