Advancing U.S. Nuclear Energy in an Age of Disruption

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By Jackie Toth

The consensus is that President Trump's first term was good for nuclear energy. His second term could even be great. But that will depend on the interest of the administration and Congress in moving "energy dominance" from slogan to reality.

Quite possibly, the best thing the administration can do for nuclear is to stay the course. Federal nuclear policy advancements in the past 10 years have started to address the largest financial and regulatory hurdles facing U.S. nuclear expansion. Over that period, the rationale for the U.S. to champion nuclear energy has only deepened: The U.S. now faces future electricity demand that might rise by up to 50% by 2040.

At home and abroad, the U.S. can still claim a larger share of the future global civil nuclear economy, but not if it moves too quickly to disrupt existing institutions and norms for disruption's sake. The year is off to a shaky start. But there is a path forward that would enable the U.S to bolster its energy and national security by strengthening and nurturing its nuclear sector.

Tailwinds

Nuclear is in the enviable position of benefiting from bipartisan support that coalesced during President Trump's first term and continues today. As a nuclear journalist at the time, I covered what became three pivotal, consecutive nuclear innovation laws — NEICA in 2018, NEIMA in 2019, and much of NELA (in the 2020 Energy Act). These were bills with support from Republicans and Democrats. Congress enacted them, respectively, by voice vote under suspension of the rules; on a House vote of 361-10 under suspension; and on a Senate vote of 92-6. The 2024 ADVANCE Act kept the drumbeat alive on nuclear policy and had the distinction of being the only clean energy legislation enacted last session. Already this year, the House Financial Services Committee has advanced bipartisan legislation that would encourage the World Bank to support civil nuclear energy projects, which looks to be in the cards.

While the nuclear-inclusive tax credits that Congress passed in 2022 have not fully solved nuclear's financing problem, they've greatly improved its competitiveness. These incentives are important to lightwater and advanced reactor developers and buyers. Lawmakers from both parties are eager to deploy new nuclear. Hopefully, Congress retains these credits during reconciliation negotiations.

Energy Secretary Chris Wright has confirmed that the U.S. Department of Energy (DOE) will work in support of nuclear, and it was great to see the DOE Loan

Programs Office (LPO) in March approve a loan payment to Holtec International for the restart of the Palisades Nuclear Plant. The LPO will now reportedly focus on nuclear and certain other energy sources, which is not much of a change from 2019, when the LPO, otherwise inactive, helped to complete the Vogtle plant expansion.

Finding Their Way

In January, nuclear development consultant Paul Murphy, in a look-ahead for this Expert Brief series, rightly anticipated that things would be "a little bumpy in the beginning" of 2025 for the nuclear sector. No coherent theory of the case for energy dominance seems to be guiding the federal government's current approach.

Someone in control must have dozed off in Politics 101. A refresher: Achieving federal policy goals requires federal programs, which require federal employees to run them. The firing and subsequent reinstatement of employees across the government has disrupted programs that the administration would theoretically support in the name of energy dominance. Travel and spending freezes have prevented the normal course of business for officials whose work to advance American nuclear interests involves interfacing with everyone from local communities to foreign allies. Some contractors, who constitute a wide majority of the workforce supporting DOE, have had their hours cut and job security upended as the department restricts payment on some bills. There are certainly steps that DOE could take to become more efficient. None of them requires causing public servants mental anguish.

The breadth and uncertainty of new tariffs will continue to trouble the nuclear industry. For several weeks, Canadian uranium imports have been subject to a 10% tariff, which has weighed on uranium markets. The administration rightly recognizes the importance of uranium, but U.S. uranium production, which boomed in 2024, still cannot replace Canadian uranium, which constituted over a quarter of U.S. uranium imports in 2023.

On the topic of nuclear fuels, DOE must move quickly to issue existing appropriations for building new domestic nuclear fuel infrastructure. The directorate within the Office of Nuclear Energy that handles the fuel cycle has apparently shrunk by about half since the beginning of the year, with presumptive repercussions to the office's ability to execute on billions of dollars in crucial funding for domestic uranium conversion, enrichment, and transportation. Likewise, the U.S. ban on Russian uranium imports is crucial to reshoring the front end of our nuclear fuel cycle. While the ban is enshrined in law, discussions are reportedly underway to consider lifting some sanctions on Russia.

Past administrations, including during Trump 1.0, worked to foster American civil nuclear export projects as a tool of diplomacy, economic gain, and nuclear security. We now appear to be veering off course. The U.S. Development Finance Corporation, which is equipped to finance civil nuclear projects abroad, is reportedly unspared from layoffs and terminations. At the end of February, the Commerce Department shut down the Civil Nuclear Trade Advisory Committee (CINTAC), which advised the Secretary on how to foster civil nuclear exports. The prospect of closure facing multiple U.S. embassies around the world and the dissolution of the U.S. Agency for International Development mark in the starkest terms a national retreat from foreign influence. These actions will limit the U.S.' ability to establish, through soft power, the bilateral relationships that foster civil nuclear and other development projects that are in our mutual economic and security interests. Even our historically closest relationships may be at risk; there is speculation, however idle, that frustration over cross-border tariffs could eventually nix the GE-Hitachi-Ontario Power Generation small modular reactor collaboration in Canada.

I continue to have confidence in the NRC's ability to review, permit, and license what Chairman David Wright has termed a "waterfall" of new reactor applications in the coming years — if and when those applications are well-written and complete. I would have less confidence in the agency if it were to lose its political independence, to the real or perceived detriment of safety. Chairman Wright calls safety the NRC's "strike zone over home plate." While I resolve never to use sports metaphors, he's right.

Moving Forward

Prognostication is an art. Regrettably, most of us are not Rodin. But a review of the past two and a half months suggests that the U.S. is entering a prolonged period of policy and financial uncertainty of the type that threatens to preclude large infrastructure projects, including nuclear. U.S. manufacturers are already canceling projects at an unprecedented rate, and the sector is in contraction.

For the U.S. nuclear economy to grow and thrive, several steps are necessary. Congress must continue to fund — and DOE must implement — the Advanced Reactor Demonstration Program (ARDP), whether it remains housed in the Office of Clean Energy Demonstrations, moves back to the Office of Nuclear Energy, or otherwise. It remains one of the U.S.' best shots at deploying first-of-a-kind, next-generation reactors.

Tariffs should not unduly risk making new nuclear projects more uneconomical. The administration should now consider uranium carve-outs to energy tariffs and provide relief from tariffs on steel and other materials crucial for nuclear construction.

Financing new builds remains the largest hurdle to new domestic nuclear deployment. The LPO should continue to support these new projects, as well as restarts. I am increasingly of the opinion that new domestic nuclear builds will require meaningful investments from the power-hungry tech titans and industrial giants that need them most. The MOUs are flying, and these companies are stating that they want to triple nuclear energy, but I'll be watching whether they put forward enough real capital — individually or as part of a consortium — to build them. Tax credits for nuclear energy production and investment must be preserved to maintain and expand the U.S. nuclear market.

If and when he is confirmed, I have high hopes for Ted Garrish in the Assistant Secretary for Nuclear Energy role. I had the good fortune to serve with him on the CINTAC. He is an adept former statesman who cares about advancing U.S. nuclear energy and maintaining a positive influence within the international nuclear community.

The policy-focused non-governmental organizations now have a particularly vital role to play. Amid the pullback of some nuclear-forward philanthropic donors, NGOs must step up and do more with less. They must distinguish the actual hurdles facing domestic and international civil nuclear expansion from the red herrings and continue to propose worthwhile policy interventions to the administration and Congress.

In an age of disruption, nothing is inevitable. Expanding the U.S. nuclear economy will require the same intelligent, concerted policy focus of the past decade. With it, the U.S. can reemerge as a leader and valuable partner in nuclear energy for the rest of the century.

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