



2025 Nuclear Energy Executive Orders & Possible Implications for WIEB's Nuclear Committees

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Overview

In May 2025, the Trump Administration issued four executive orders (EOs) – *Reinvigorating the Nuclear Industrial Base*, *Reforming the Nuclear Regulatory Commission*, *Deploying Nuclear Reactor Technologies for National Security*, and *Reforming Nuclear Reactor Testing at DOE* – that attempt a shift in U.S. nuclear energy policy, with the broader goal of quadrupling U.S. nuclear energy capacity by 2050. Together, the EOs signal a more assertive federal posture toward nuclear development and may have implications for WIEB's two nuclear committees: the Waste Isolation Pilot Plant Transportation Technical Advisory Group (WIPP TAG) and High-Level Radioactive Waste Committee (HLRWC). This brief summarizes the parts of the EOs that are most relevant to the work of WIEB's nuclear committees and analyzes some of the implications of these policy shifts, should they be successfully implemented.

In general, if the goals of all four EOs are achieved, then there will be a pronounced increase in nuclear-related activities, including transportation, across the West. The scale and diversity of shipments associated with fuel production, building new reactors, reprocessing, etc., could strain current systems of state and regional transport oversight. In addition, the EOs raise many questions about how waste from these nuclear activities will be dealt with, and which entities have regulatory authority over nuclear power.

WIEB will continue to track and share updates on developments associated with these EOs, particularly those that involve nuclear waste policy, nuclear materials transportation, and any new nuclear facilities that are sited in the West.

EXECUTIVE ORDER 14302: REINVIGORATING THE NUCLEAR INDUSTRIAL BASE

Summary: attempts to initiate a broad revival of the nuclear industrial base through three focus areas: 1) Strengthening the Domestic Nuclear Fuel Cycle; 2) Funding for Restart, Completion, Uprate, or Construction of Nuclear Plants; and 3) Expanding the Nuclear Energy Workforce.

The section on strengthening the domestic nuclear fuel cycle contains the most sub-provisions relevant to the work of the HRLWC and WIPP TAG, including:

- Mandating that the Secretary of Energy, in coordination with the Department of Defense (DoD), the Department of Transportation (DOT) and the Office of Management and Budget (OMB), produce a report within 240 days [by January 18, 2026] that recommends a national policy for managing spent nuclear fuel (SNF) and high-level waste (HLW) and a review of the statutes that might need to be changed to achieve the recommended national SNF/HLW policy.
- The report is also supposed to include: an evaluation of the reprocessing of DoD and Department of Energy (DOE) SNF; how to move commercial SNF to a government owned, privately operated reprocessing facility; recommendations for how to use the uranium, plutonium, and any other useful isotopes generated from reprocessing; and a disposal strategy for reprocessing wastes.
- Directing DOE to develop a plan to expand domestic uranium enrichment and conversion capacity to meet the projected needs of civilian and defense reactors.
- Ordering DOE to halt the surplus plutonium dilute and dispose strategy except with respect to DOE's legal obligations to South Carolina¹; instead, it directs DOE to use this surplus plutonium for fuel production.

Implications for WIEB's Nuclear Committees:

- HRLWC: This is the EO most directly tied to spent fuel strategy. A "new" national policy on managing SNF and HLW could have broad implications for the work of this group; however, implications are unknown until details of the policy are published.
- HRLWC: Reprocessing SNF creates high-level radioactive waste, which would, by law, require disposal in a deep geological repository. The U.S. does not have such a repository, nor even a program to develop one, thus, the wastes will have to be stored until a disposal solution is developed. Once the wastes are ready for disposal, they would have to be transported, which may implicate the Western states if they are at the wastes' origin site(s), destination site(s), or along transportation routes.

¹ Under a settlement agreement reached in 2020 between then Secretary of Energy Dan Brouillette and South Carolina Attorney General Alan Wilson, DOE must remove 9.5 metric tons of plutonium from the state by 2037. For more details, see: <https://www.energy.gov/articles/secretary-brouillette-and-south-carolina-officials-announce-historic-agreement-between>.

- WIPP TAG: Under the dilute and dispose strategy, the surplus plutonium currently being held at the Savannah River Site would have been disposed of at WIPP. The 9.5 MT of material under the SRS/Plutonium Settlement with South Carolina will still go to WIPP; if the rest of the material is turned into nuclear fuel, then the wastes from that process may go to WIPP as well.
- HLRWC and WIPP TAG: All stages of the nuclear fuel cycle, including mining, conversion, enrichment, and fuel fabrication, produce radioactive wastes which must be dealt with; this often involves transportation of some sort. The HLRWC and WIPP TAG have not typically engaged in the transportation of wastes from these parts of the nuclear fuel cycle, but they could become involved in the future, especially if these activities sharply increase in frequency.

Other Implications and Emerging Questions:

- Will the reprocessing technologies being facilitated use the typical PUREX [plutonium-uranium redox extraction] method, which was developed specifically for the recovery of uranium and plutonium, or another, to be determined, method? Different reprocessing methods will produce different waste products; all methods will produce some radioactive, and likely hazardous, wastes which must be stored, and perhaps turned into a safe waste form for disposal.
- Because it is usually used to produce plutonium for nuclear weapons, reprocessing, especially on a large-scale, raises significant proliferation concerns. If the U.S. policy pivots to a focus on reprocessing most of its spent nuclear fuel, how will that change nuclear weapon's related international diplomacy?

EXECUTIVE ORDER 14300: ORDERING THE REFORM OF THE NUCLEAR REGULATORY COMMISSION

Summary: attempts to reform the Nuclear Regulatory Commission's (NRC) culture, staffing, and procedures by:

- Pushing past the ADVANCE Act's² changes to the NRC's mission statement by stating that the NRC's mission is to "facilitate[e] nuclear power while ensuring reactor safety."
- Imposing deadlines such as 18 months for "final decision on an application to construct and operate a new reactor of any type and fixed caps on fee recovery for most licensing decisions.
- Mandating reductions in workforce as well as agency reorganization.

² ["Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy Act of 2023,"](#) which changed the NRC's mission statement to: "The NRC protects public health and safety and advances the nation's common defense and security by *enabling* the safe and secure use and deployment of civilian nuclear energy technologies and radioactive materials through efficient and reliable licensing, oversight, and regulation for the benefit of society and the environment." [emphasis added] "Facilitate" implies more active assistance than "enable."

- Requiring a review and wholesale revision of the NRC’s regulations and guidance documents, within 18 months [by November 2026], in coordination directly with the Department of Government Efficiency and the OMB.
- Requiring the NRC to reconsider reliance on the linear no-threshold (LNT) model for radiation exposure, and the associated “as low as reasonably achievable” standard.

Implications for WIEB’s Nuclear Committees:

- HLRWC: Loosening the NRC’s radiation protection standards may complicate state acceptance of new reactor, fuel cycle, or long-term waste facilities in the West. Also, although DOE would handle most aspects of SNF/HLW transportation under current law, the NRC regulates the SNF transportation casks. A change to these regulations could affect the safety of SNF transportation.
- WIPP TAG: The NRC does not regulate the WIPP site, but as with SNF, they regulate the WIPP transuranic (TRU) waste transportation packages. A change to these regulations could affect the safety of TRU waste transportation.

Other Implications and Emerging Questions: The EO claims these steps will “modernize” the NRC, but critics warn it could compromise the agency’s independence and long-standing reputation for technical rigor. This could erode public confidence in nuclear safety, which could perversely threaten the buildout of new, advanced nuclear power rather than facilitating it.

EXECUTIVE ORDER 14299: DEPLOYING ADVANCED NUCLEAR REACTOR TECHNOLOGIES FOR NATIONAL SECURITY

Summary: mandates the rapid deployment of advanced nuclear technologies for national security objectives such as supporting critical defense facilities and advanced computing for artificial intelligence (AI) by:

- Directing the DoD (with DOE technical assistance) to “commence the operation” of a nuclear reactor regulated by the U.S. Army at a domestic military base or installation by Sept. 30, 2028.³
- Directing DOE to site and authorize the design, construction, and operation of privately funded advanced nuclear reactors at DOE-owned or controlled sites for AI infrastructure or other “critical or national security needs”; first reactor within 30 months [by November 2027] of the EO.
- Directing DoD and DOE to site and authorize the design, construction, and operation of privately funded reprocessing and reactor fuel fabrication facilities at DOE and DoD-controlled sites.

³ For more details, see *Army Announces Janus Program for next-generation nuclear energy*, by U.S. Army Public Affairs, October 14, 2025, <https://www.army.mil/article-amp/288903/army-announces-janus-program-for-next-generation-nuclear-energy>.

- Instructing DOE and DoD to use existing and create new National Environmental Policy Act (NEPA) exclusions to expedite the siting and construction of advanced nuclear reactor technologies.

The EO also encourages the promotion of American nuclear exports using federal levers such as international agreements and the prioritization of nuclear-related security clearances.

Implications for WIEB’s Nuclear Committees:

- HLRWC & WIPP TAG: DOE or DoD sites located in Western states could be selected as sites for the advanced reactors, reprocessing, and/or fuel fabrication facilities that this EO directs be built. If selected, the sites within these Western states would also be host to wastes produced from the nuclear activities, until a permanent disposal site is identified. Nuclear facilities also require nuclear transportation, which will impact Western states if the facilities are sited within the state or if the states are along transportation routes. Both committees and WIEB may need to engage on transportation readiness and increased regional coordination.

Other Implications and Emerging Questions:

- What criteria or regulatory framework will the DoD use to ensure that the nuclear reactor that the U.S. Army will be regulating is safe and secure?
- What regulatory framework will DOE use to site and approve the design, construction, and operation of advanced nuclear reactors at DOE sites? Will DOE act as both the operator and the regulator of these reactors?

EXECUTIVE ORDER 14301: REFORMING NUCLEAR REACTOR TESTING AT THE DEPARTMENT OF ENERGY

Summary: attempts to reestablish U.S. global leadership in next-generation nuclear reactor design by:

- Asserting that advanced reactors under DOE’s “sufficient control,” which are built for research purposes rather than for the production of commercial electric power, are under the jurisdiction of DOE.
- Directing DOE to revise its and the national laboratories’ regulations, procedures, etc., to expedite the review, approval, and deployment of advanced reactors under DOE’s jurisdiction.
- Directing DOE to create a pilot program for reactor construction and operation outside of the national laboratories, with the goal of approving at least three reactors under this pilot program that will go critical by July 4, 2026.

- Directing DOE to “reform” its rules governing compliance with NEPA, as well as to “use all available authorities to eliminate or expedite” its environmental reviews of nuclear reactor applications.

Implications for WIEB’s Nuclear Committees:

- HLRWC: Advanced/prototype nuclear reactors are likely to use fuels and to produce waste streams with novel characteristics; the HLRWC members will need to track these as they are transported, used, and disposed of, in order to help ensure that these activities are conducted safely and securely.

Other Implications and Emerging Questions:

- As above: what regulatory framework will DOE use to site and approve the design, construction, and operation of advanced nuclear reactors under DOE’s jurisdiction?