State of Florida
Public Service Commission
INTERNAL AFFAIRS AGENDA
Tuesday – October 07, 2025
Immediately Following Agenda Conference
Room 105 – Gerald L. Gunter Building

1. Update on Advanced Nuclear Power Feasibility Report (Attachment 1)
2. Efficiency Committee Update
3. General Counsel's Report
4. Executive Director's report
5. Other Matters

BB/aml

OUTSIDE PERSONS WISHING TO ADDRESS THE COMMISSION ON ANY OF THE AGENDAED ITEMS SHOULD CONTACT THE OFFICE OF THE EXECUTIVE DIRECTOR AT (850) 413-6463.

Attachment 1

State of Florida

Public Service Commission

CAPITAL CIRCLE OFFICE CENTER ● 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: September 26, 2025

TO: Braulio L. Baez, Executive Director

FROM: Cayce H. Hinton, Director, Office of Industry Development and Market Analysis

RE: Update on Advanced Nuclear Technology

CRITICAL INFORMATION: Please place on the October 7, 2025 Internal Affairs. **BRIEFING ONLY.**

At the March 20, 2025, Internal Affairs meeting, staff presented its draft report on the economic and technical feasibility of advanced nuclear generation, seeking the Commission's approval to submit the report to the Governor and Legislature, as required by statute. At that meeting, the Commission requested that staff return in October of 2025 to provide an update on advanced nuclear technology, with specific attention on four areas of concern:

- Advancements at the Nuclear Regulatory Commission (NRC)
- State utility commission and legislative efforts related to advanced nuclear generation
- Developments in federal-state jurisdictional lines
- Hyperscale data centers moving to Florida

What follows provides a general update on developments related to nuclear power in the time since the March 20, 2025, Internal Affairs meeting, along with information regarding the topics listed above where available. This document is intended for informational purposes; staff does not seek Commission action.

Attachment

cc: Mark Futrell, Deputy Executive Director, Technical
Apryl Lynn, Deputy Executive Director, Administrative
Adria Harper, General Counsel

Advanced Nuclear Update

Federal Activity

Executive Orders

On May 23, 2025, President Trump issued a set of five Executive Orders focusing on Nuclear Energy policy.

Executive Order 14299: Deploying Advanced Nuclear Reactor Technologies for National Security

This first executive order establishes a comprehensive national security policy focused on accelerating the development, deployment, and export of United States-designed advanced nuclear technologies. The order addresses a critical national security goal to ensure a resilient, secure, and reliable energy supply for critical defense facilities and other mission capability resources. The policy aims to ensure rapid development and deployment of advanced nuclear technologies to support national security objectives, enable private sector investment and innovation, and coordinate regulatory efforts across the Department of Defense and Department of Energy (DOE). It also aims to establish a program for nuclear energy utilization at military installations. AI data centers at DOE facilities were designated as critical defense facilities. Finally, the order prioritizes the importance of security clearances, making them easier to obtain, in an effort to support the rapid distribution and use of nuclear energy technologies.

Executive Order 14300: Ordering the Reform of the Nuclear Regulatory Commission

This executive order aims to comprehensively reform the NRC to reestablish the United States as the global leader in nuclear energy. The goal includes deploying new nuclear reactor technologies such as Generation III+ and IV reactors, modular reactors, and microreactors, while simultaneously expanding American nuclear energy capacity from approximately 100 GW in 2024 to 400 GW by 2050. The order directs the NRC to undergo significant structural and operational reforms, including reorganization, potential reductions in force, and a wholesale revision of regulations and guidance documents to be completed within the next 18 months. The order fundamentally redefines the NRC's mission to include facilitating nuclear power while ensuring reactor safety. This process will require the commission to consider the benefits of nuclear power to economic and national security alongside traditional safety, health, and environmental considerations.

Executive Order 14301: Reforming Nuclear Reactor Testing at the Department of Energy

This executive order is intended to reform nuclear reactor testing at the DOE and accelerate the development of advanced nuclear technologies for domestic production. The order establishes a comprehensive framework to expedite the review, approval, and deployment of advanced

reactors within the Department's jurisdiction. It requires the Secretary of Energy to revise regulations, guidance, and procedures within 90 days to significantly streamline these processes.

On June 20, 2025, the DOE announced the Reactor Pilot Program, fulfilling this requirement. This program is designed to expedite the testing of advanced reactor designs that will be authorized by the DOE at sites located outside of the national laboratories. The DOE will initially work with 11 advanced reactor projects to move their technologies towards deployment, with the goal to construct, operate, and achieve criticality of at least three test reactors by July 4, 2026.

Additionally, the order mandated environmental review reforms under the National Environmental Policy Act (NEPA) by June 30, 2025, and directs the use of all available authorities to eliminate or expedite environmental reviews for various permits and approvals. On July 3, 2025, a revision of NEPA Implementing Procedures was published in the Federal Register, fulfilling this provision.

Executive Order 14302: Reinvigorating the Nuclear Industrial Base

This executive order aims to reinvigorate America's nuclear energy industrial base in an effort to ensure national and economic security. The order establishes a comprehensive policy to expedite and promote nuclear energy production and operation to provide affordable, reliable, safe, and secure energy to the American people. It also aims to power advanced nuclear reactor technologies, and build associated supply chains that secure global industrial and digital dominance, while also achieving energy independence. The order requires the Secretary of Energy to develop plans for expanding domestic uranium conversion and enrichment capabilities. It also prioritizes work with the nuclear industry to facilitate 5 gigawatts of power uprates to existing reactors and have 10 new large reactors under construction by 2030. The order also emphasizes workforce development by prioritizing nuclear engineering careers and education pathways, while ensuring all activities adhere to legal requirements, nonproliferation obligations, and the highest safety and security standards.

Executive Order 14303: Restoring Gold Standard Science

This executive order represents a comprehensive initiative to restore a "gold standard" for science within the U.S. Federal Government. By this order, the Trump Administration aims to ensure that federally funded research is transparent, rigorous, and impactful. Ultimately, the order aims to restore scientific integrity policies, ensure data transparency, acknowledge scientific uncertainties, and promote accurate communication of scientific data to spur innovation and maintain American leadership in technology, especially as advanced nuclear technology is developed.

On July 23, 2025, President Trump released another Executive Order, directed towards AI Data Centers.

Executive Order 14141: Accelerating Federal Permitting of Data Center Infrastructure
This executive order is aimed at accelerating the federal permitting and development of AI data center infrastructure, as part of the Trump Administration's broader initiative to establish American manufacturing and technological dominance. The order specifically targets facilities requiring greater than 100 megawatts of new load dedicated to AI inference, training, simulation, or synthetic data generation, and defines these as "Data Center Projects".[1] The primary objective is to ease federal regulatory burdens to facilitate rapid and efficient buildout of AI data centers and related infrastructure, including high-voltage transmission lines and other equipment. To achieve this goal, the order establishes multiple support mechanisms to launch a financial support initiative for qualifying projects, including the involvement of the Secretary of Commerce. The Environmental Protection Agency (EPA) will expedite permitting processes on both federal and non-federal lands by developing or modifying regulations under major environmental laws including the Clean Air Act, Clean Water Act, and Comprehensive Environmental Response, Compensation, and Liability Act. The current administration will utilize federally owned land and resources for data center development in a manner consistent with serving American prosperity and security.

Federal Legislation

The One Big Beautiful Bill Act (the Act), Public Law 119-21, was signed into law by President Trump on July 4, 2025. The Act modifies several federal clean energy programs, including nuclear tax credits, financing structures, and permitting processes. For Florida, where nuclear generation supplies roughly eleven percent of electricity from four operating units (Turkey Point 3&4 and St. Lucie 1&2), the legislation has several implications.

Tax Credits

The Act makes several changes to energy tax credits with direct relevance to nuclear feasibility. Section 70510 continues the Section 45U Nuclear Production Credit for existing nuclear plants, but explicitly prohibits eligibility for entities with certain foreign ownership structures. Credits are disallowed immediately for “specified foreign entities” and, beginning two years after enactment, for “foreign-influenced entities.”

Section 70512 revises the Clean Electricity Production Credit (Section 45Y). Beginning in 2026, facilities may not claim credits if their construction involves “material assistance” from a prohibited foreign entity. The section introduces detailed definitions of prohibited foreign, foreign-controlled, and foreign-influenced enti ties, as well as a “material assistance cost ratio” that sets increasing annual thresholds for domestic sourcing of components, minerals, and storage technology. The Act also establishes penalties for disallowed credits, misstatements of domestic content, and supplier misrepresentations, while prohibiting the transfer of certain credits to specified foreign entities. It further allows the use of NRC, FERC, RTO/ISO reports, or

[1] AI inference is the ability of trained AI models to recognize patterns and draw conclusions from information that they have not seen before. From https://www.ibm.com/think/topics/ai-inference

independent engineers to verify capacity increases. In addition, Section 70512 expands the definition of "energy community" to include metropolitan areas with at least 0.17 percent direct employment in nuclear-related industries, explicitly covering advanced nuclear facilities.

Section 70513 modifies the Clean Electricity Investment Credit (Section 48E) by imposing similar restrictions on prohibited foreign entities. Credits are unavailable for projects that receive material assistance from such entities after December 31, 2025. This section also establishes domestic content thresholds, recapture rules, and penalties for misstatements.

Section 70514 makes changes to the Advanced Manufacturing Production Credit (Section 45X). While not specific to nuclear energy, it extends foreign-entity restrictions to eligible components and phases out credits for certain critical minerals after 2030 and wind components after 2027. These provisions, by narrowing subsidies for competing technologies, may modestly affect the broader energy market in which nuclear operates.

Other Provisions

The Act expands financing options that may support nuclear projects. Section 70524 permits income from advanced nuclear facilities as "qualifying income" for publicly traded partnerships, effective for tax years beginning after December 31, 2025. This change could broaden the pool of investors and reduce financing costs for advanced nuclear development. In addition, Section 50403 expands the DOE's loan authority under Title XVII, Section 1706, to include projects that increase generation capacity or improve grid reliability. The Act appropriates $1 billion through September 30, 2028, for this purpose.

Section 60026 amends NEPA to allow project sponsors to pay a fee in exchange for expedited environmental reviews administered by the Council on Environmental Quality. Under this "opt-in fee" system, an Environmental Assessment must be completed within 180 days, and an Environmental Impact Statement within one year. While the provision applies broadly to infrastructure projects, it could provide nuclear developers with more predictable licensing timelines if adopted by the NRC or other federal agencies.

The Act also includes several appropriations with implications for the nuclear fuel cycle and defense-related applications. Section 20005(a) provides $125 million for the acceleration of small, portable modular nuclear reactors for military use. Section 20008(b) allocates $120 million for domestic uranium enrichment centrifuge deployment, $10 million for evaluation of spent fuel reprocessing technology, and additional funds for facility modernization and artificial intelligence integration within the National Nuclear Security Administration. While these measures are defense-oriented, they may indirectly affect civilian nuclear feasibility by supporting supply chain development and technological advancement.

Florida Implications

For Florida's existing nuclear fleet, the Section 45U Nuclear Production Credit remains available, provided ownership structures do not trigger the foreign-entity restrictions. Turkey Point and St. Lucie are expected to remain eligible for continued support.

For future development, the availability of new financing mechanisms through publicly traded partnerships and DOE loan guarantees may improve the feasibility of nuclear projects or power uprates at existing facilities, particularly when combined with the potential for expedited environmental reviews under NEPA. Market conditions may also be affected by the termination of wind and solar credits after 2027, along with the phase-out of manufacturing incentives for competing technologies such as wind components and metallurgical coal. These provisions may modestly enhance the relative position of nuclear power in resource planning. However, nuclear feasibility in Florida will still depend primarily on capital costs, regulatory approvals, and demand growth in the state's electricity markets.

Nuclear Regulatory Commission (NRC)

The NRC aims to complete its review of Terra Power's construction permit application for Kemmerer Power Station Unit 1 by the end of 2025. The review for this Unit located in Kemmerer, Wyoming, could be completed six months ahead of the original schedule. The NRC is planning to issue the final safety evaluation and the final environmental impact statement by December 31, 2025. While the NRC's management and the Advisory Committee have streamlined their reviews to meet the new deadline, they noted there remain several technical topics that remain to resolved[2]:

- Materials qualification, appropriate identification of special treatments for design, systems, and components.
- Treatment of preventative controls under the licensing modernization project (LMP).
- Documentation supporting the probabilistic risk assessment used in the LMP and other licensing programs.
- Design and safety classification of the pool immersion cell and associated systems.
- The safety basis for non-safety-related with special treatment seismic/structural design approaches.

U.S. Department of Energy (DOE)

On June 30, 2025, the DOE announced the final NEPA action for Idaho National Laboratory's (INL) Demonstration of Microreactor Experiments (DOME) test bed. The experiment will use the repurposed EBR-II site to evaluate a succession of micro-reactors. The first experiment will start as early as spring 2026. However, DOME can host only one reactor at a time for a testing campaign and the experiment is estimated to take up to six months.[3]

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[2] https://www.ans.org/news/2025-07-07/article-7172/more-good-news-for-terrapower-on-kemmerer-construction-permit/
[3] https://www.ans.org/news/2025-07-01/article-7165/doe-issues-new-nepa-rule-and-proceduresand-accelerates-dome-reactor-testing/

On July 16, 2025, the DOE announced the start of a new pilot program to accelerate the development of advanced nuclear reactors and strengthen domestic supply chains for nuclear fuel. They are seeking qualified U.S. companies to build and operate nuclear fuel production lines using the DOE authorization process. The agency is currently reviewing potential applicants and anticipates selecting at least three advanced reactor designs that have the potential to achieve criticality by June 4, 2026. As of August 4, 2025, the DOE conditionally selected Standard Nuclear of Oak Ridge, Tennessee, as the first U.S. company accepted into the fuel line pilot program.[4]

Initial applications were due by August 15, 2025, with subsequent applications allowed on a rolling basis.[5] This initiative is intended to help end America's reliance on foreign sources of uranium and critical materials, while opening the door for private sector investment in America's nuclear renaissance. Per the application, the DOE considered companies that already have a design, a site, a staff, and funding that can meet the following thresholds:

- A design to support imminent development and documented safety analysis.
- Established fuel fabrications plans to utilize a qualified fuel form.
- Adequate financial resources and mature supply chain to complete design, build, commissioning, operation and decommissioning, as appropriate.
- Execution readiness, qualified staffing to support all project phases, and the procurement or manufacture of all fuel line material, systems and components.[6]

On August 12, 2025, the DOE unveiled the names of 11 companies selected for the Nuclear Reactor Pilot Program, which will create a new pathway that will allow reactor authorization through a streamlined process that is intended to fast-track licensing for commercial demonstration projects.[7] They are as follows:

- Aalo Atomics Inc.
- Antares Nuclear Inc.
- Atomic Alchemy Inc.
- Deep Fission Inc.,
- Last Energy Inc.
- Natura Resources
- Oklo Inc.
- Natura Resources LLC
- Radiant Industries Inc.
- Terrestrial Energy Inc.
- Valar Atomics Inc.

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[4] https://www.energy.gov/articles/energy-department-announces-first-pilot-project-advanced-nuclear-fuel-lines
[5] https://www.energy.gov/articles/energy-department-announces-pilot-program-build-advanced-us-nuclear-fuel-lines-and-end
[6] https://www.ans.org/news/2025-07-21/article-7209/test-reactor-fuel-fabrication-will-be-fasttracked-by-doe-under-new-pilot-program/
[7] https://www.energy.gov/articles/department-energy-announces-initial-selections-new-reactor-pilot-program

State Activity

Legislation

The following states have passed legislation related to nuclear generation in 2025:

Arkansas passed SB 307, allowing utilities to recover costs for certain projects prior to being placed in service if they are considered strategic investments, which includes certain nuclear projects.

Indiana passed several bills that will address nuclear generation:

- HB 1007 provides a 20% tax credit for qualified investments in SMR manufacturing in Indiana.
- SB 0423 establishes the SMR Partnership Pilot Program for eligible utilities to facilitate the development of SMRs and reduce costs of a project among one or more eligible partners.
- SB 0424 allows a utility to petition the Indiana Utility Regulatory Commission for project development costs of an SMR, before obtaining a certificate of public convenience and necessity,

Kentucky passed SB 179, creating the Nuclear Energy Development Grant Program within the Kentucky Nuclear Energy Development Authority to supply grants for the advancement and location of nuclear energy ecosystem projects.

Louisiana passed SB 127, allowing a federal permitting parity program for advanced nuclear power generation applications submitted by electric public utilities for development and construction of a small modular reactor.

Maryland passed HB 1035, requiring the Maryland Energy Administration to pursue cost-sharing agreements with the federal government and neighboring states for the development of new nuclear generating stations.

Montana passed HB 696, establishing regulations for approval for the siting of uranium conversion and enrichment facilities.

North Carolina passed S266, allowing utilities to recover financing costs of baseload generating assets through Construction Work in Progress (CWIP) mechanisms on an annual basis.

Rhode Island passed H5575, allowing a utility in the state to participate in, procure, and enter into long-terms contracts for nuclear power, and apply for said projects with the regulatory commission.

Texas passed SB 1535, establishing an advanced nuclear energy workforce development program through the Texas Workforce Commission.

Washington passed HB 1461, raising certain sealed bidding thresholds to include nuclear generation projects and allowing for nuclear generation projects to use competitive negotiation to replace defaulted or terminated contracts. Washington also passed HB 1253, allowing consumer-owned utilities to enter into joint use agreements with other utilities in the state for energy projects, including nuclear.

West Virginia passed HB 2014, establishing a microgrid program to build and operate energy infrastructure, including nuclear generation, within microgrid districts free from utility and PSC regulation.

Furthermore, laws related to certain policies that will affect nuclear generation were passed by multiple states:

- **Allowing nuclear energy to qualify as clean energy:** Colorado, Indiana, Kentucky, Louisiana, New Hampshire, Ohio, Tennessee, Virginia, and Wisconsin
- **Conducting studies on advanced nuclear:** Arkansas, Delaware, Hawai'i, Louisiana, North Dakota, Oklahoma, South Carolina, Texas, Utah, Wisconsin
- **Passing resolutions related to nuclear power:** Alabama, Arizona, Montana, Nevada, New Hampshire, South Carolina, Texas, Utah
- **Addressing nuclear waste policies:** Montana, Nebraska, North Dakota, Texas, Utah
- **Providing direct funding for nuclear programs or projects:** Tennessee, Texas, Utah
- **Limiting the retirement of existing generation, including nuclear:** Arkansas, Ohio
- **Permitting reform:** Connecticut, Indiana, Maryland, West Virginia

NRC Lawsuit

On December 30, 2024, the states of Texas and Utah, alongside Last Energy Inc., filed suit against the NRC in the Eastern District of Texas. The lawsuit argues that the NRC lacks the authority to require owners of certain SMRs and microreactors to undertake the NRC's nuclear production facility licensing process. The lawsuit includes a discussion of the history of the NRC's regulatory authority, an argument alleging that the NRC has overstepped its regulatory authority, an explanation of the alleged harms faced by the parties, and a request for remedy by requiring the NRC to change its regulations to allow certain small nuclear facilities to be exempt from the licensing process.[8]

The lawsuit alleges that current NRC licensing rules present a barrier to states and companies looking to meet increasing energy demand through building nuclear facilities. In the lawsuit, the complainants assert that the NRC's 'Utilization Facility Rule', which defines production (utilization) facilities, does not comply with the Atomic Energy Act (AEA) of 1954.[9] The AEA defines a production facility subject to the NRC's licensing process as "any equipment or device… determined by rule of the Commission to be capable of making use of special nuclear

[8] State of Texas, State of Utah, and Last Energy, Inc. vs. United States Nuclear Regulatory Commission (2024).
[9] Ibid.

material in such quantity as to be of significance to the common defense and security, or in such manner as to affect the health and safety of the public."[10]

However, the Atomic Energy Commission (AEC), the predecessor of the NRC, promulgated regulations in 1956 that used a broader definition. The AEC's, now NRC's, Utilization Facility Rule defines a production facility as "any nuclear reactor other than one designed or used primarily for the formation of plutonium or U-23."[11] The lawsuit alleges that the definition provided by the AEA excludes certain types of nuclear facilities from the NRC's licensing process. The plaintiffs argue reactors like that of Last Energy Inc. should fall outside the NRC's authority because they have passive safety features and produce only small amounts of uranium. They contend that certain SMRs and microreactors do not make use of special nuclear material in such quantities as to affect the health and safety of the public.

Thus, the complainants argue the Court should hold unlawful and set aside the Utilization Facility Rule promulgated by the NRC at least with respect to small, non-hazardous reactors, declare the NRC's actions in maintaining the rule to be unlawful, and declare exemptions from the NRC's utilization facility licensing requirements for certain reactors, including Last Energy's proposed SMRs and microreactors as well as particular University-owned research reactors. Importantly, the lawsuit clarifies that these small reactors would still be subject to applicable state-level requirements if the Court holds the Utilization Facility Rule unlawful.[12]

On March 17, 2025, the NRC filed a motion to dismiss the case. In the motion to dismiss, the NRC argues that the plaintiffs' claims are without merit and are inconsistent with the Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy (ADVANCE) Act of 2024. In the ADVANCE Act, Congress required the NRC to develop comprehensive guidance to license and regulate microreactors pursuant to section 103 of the AEA. Congress enacted the legislation to facilitate the NRC's licensing process with respect to the smaller reactors referenced in the lawsuit. In addition, the motion argues that the plaintiffs' case should be dismissed because the lawsuit was brought to the wrong court. The motion asserts that the Administrative Orders Review Act (or Hobbs Act) confers exclusive jurisdiction over issues regarding the NRC's licensing rules and regulations to the courts of appeals. Even if it is determined that the Court has jurisdiction, the NRC maintains that the case should be dismissed on the grounds that Texas is not a proper plaintiff because its claims are time-barred. The Administrative Procedure Act (APA) states that civil actions against the United States are barred if they are filed more than six years after the right of action first accrues. The NRC asserts that while Texas had the right to challenge the rule when it was published, or when Texas began operating a nuclear reactor subject to the rule in 1957, Texas's claims are now barred because the APA statute of limitations has passed.[13]

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[10] Atomic Energy Act. Pub. L. No. 83-703, 68 Stat. 919. (1954). https://www.congress.gov/bill/83rd-congress/house-bill/9757/text.
[11] Utilization Facility Rule, 10 CFR §50.2 (1956).
[12] State of Texas, State of Utah, and Last Energy, Inc. vs. United States Nuclear Regulatory Commission (2024).
[13] Ibid.

On April 7, 2025, the states of Florida and Louisiana, Deep Fission, Inc., Valar Atomics Inc., and the Arizona State Legislature joined the lawsuit as plaintiffs. The plaintiffs released an updated complaint, which includes an explanation of the alleged harms faced by the state of Florida as a result of the NRC's licensing process. The updated complaint alleges similar harms to the prior complaint, arguing that requiring microreactors to undergo the licensing process prevents Florida from fully exercising its lawful authority to license and regulate generating sources without unnecessary delays or permitting.

On April 8, 2025, the Court denied the NRC's March 17 motion to dismiss as moot because of the filing of the amended complaint. On April 28, 2025, the NRC filed a motion to dismiss the amended complaint.[14]

On April 30, 2025, the parties put forward a joint motion to stay the case for 60 days to allow time to consider alternatives to pursuing the case further, which was granted on May 1, 2025. On May 30, 2025, the parties submitted a joint status report. The status report explains that the parties are assessing how the recent executive orders made by President Trump (E.O. Nos. 14299, 14300, 14301, and 14302) impact the case and are working together on a potential path forward without further litigation. On June 27, 2025, the parties put forward a joint motion to stay the case for an additional 90 days, which was granted on June 30, 2025. On August 14, 2025, the parties submitted another joint status report. The joint status report states that the parties are still in discussions regarding a potential amicable resolution of the case. As of September 4, 2025, there are no further updates on the case.[15]

[14] State of Texas; State of Utah; State of Louisiana; Arizona State Legislature, by and through President of the Arizona Senate Warren Petersen and Speaker of the Arizona House of Representatives Steve Montenegro; Last Energy Inc.; Deep Fission, Inc.; and Valar Atomics Inc. vs. United States Nuclear Regulatory Commission (2025).
[15] Ibid.

Projects Update

Future Deployment

The federal government is encouraging deployment through the Advanced Reactor Demonstration Program (ARDP).[16] The ARDP has supported the demonstration of two advanced nuclear reactors, X-energy's XE-100 and TerraPower's Natrium reactor.[17] On August 13, 2025, the DOE announced that it has officially selected 11 advanced nuclear reactor projects as part of its Nuclear Reactor Pilot Program. The DOE will support the projects under this program to construct, operate, and achieve criticality of at least three test reactors using the DOE authorization process by July 4, 2026. Selected companies include Aalo Atomics Inc., Antares Nuclear Inc., Atomic Alchemy Inc., Deep Fission Inc., Last Energy Inc., Oklo Inc., Natura Resources LLC, Radiant Industries Inc., Terrestrial Energy Inc., and Valar Atomics Inc. Each company will be responsible for all costs associated with designing, manufacturing, constructing, operating, and decommissioning its test reactors.[18]

In addition to the federal projects, energy companies have recently announced plans for advanced nuclear deployments. PacifiCorp, a regulated utility, announced a joint feasibility study with TerraPower of deploying up to five Natrium SMR reactors in its service territory that includes areas in Oregon, Washington, California, Utah, Idaho, and Wyoming. PacifiCorp and TerraPower also plan to build a demonstration reactor in Wyoming.[19] On July 1, 2025, the NRC notified TerraPower that it is trimming seven months from an ongoing environmental review and safety evaluation of the Wyoming Natrium reactor plant; the NRC will complete its final environmental impact statement for a construction permit by December 31, 2025.[20]

On January 17, 2025, Duke Energy announced its participation in a multi-joint public-private application for the DOE's U.S. Gen III+ small modular reactor technology grant. If received, the grant would support Duke as a member of a proposed U.S. coalition on SMRs working to assess risks and foster U.S. heavy manufacturing and supply chain capabilities. This coalition could result in cost reductions and increased collaboration across deployments. Duke also announced an agreement with GE Hitachi to invest in activities to advance the standard design and licensing

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[16] U.S. Department of Energy, "Advanced Reactor Demonstration Program", https://www.energy.gov/ne/advanced-reactor-demonstration-program, accessed November 5, 2024.
[17] U.S. Department of Energy, "Advanced Reactor Demonstration Projects", https://www.energy.gov/oced/advanced-reactor-demonstration-projects-0, accessed November 5, 2024.
[18] US Department of Energy, "Department of Energy Announces Initial Selections for New Reactor Pilot Program", posted August 12, 2025, https://www.energy.gov/articles/department-energy-announces-initial-selections-new-reactor-pilot-program, accessed August 21, 2025.
[19] PacifiCorp, "TerraPower and PacifiCorp announce efforts to expand Natrium technology deployment," posted October 27, 2022, https://www.pacificorp.com/about/newsroom/news-releases/additional-Natrium-reactors.html, accessed October 14, 2024.
[20] WyoFile, "Feds speed up review for Natrium nuclear power plant in Wyoming," posted July 2, 2025, https://wyofile.com/feds-speed-up-review-for-natrium-nuclear-power-plant-in-wyoming/, accessed August 21, 2025.

for GE Hitachi's BWRX-300 SMR technology.[21]

On February 25, 2025, Holtec, a supplier of equipment for nuclear generators, announced that it has made substantial progress on two 300 MW SMRs at its Palisades site in Michigan. These developments include:

- detailed site and environmental studies to choose a location for the plant within the Palisades property
- establishment of a groundwater monitoring program
- completion of soil borings

Holtec has invested over $50 million in the SMR-300 site development and environmental activities, staying on schedule to start the formal NRC construction permitting process early next year.[22,23]

On September 2, 2025, the federally owned electric utility Tennessee Valley Authority announced that it had reached an agreement with ENTRA1 Energy to develop six plants providing up to 6 GW throughout its seven-state region (AL, GA, KY, MS, NC, TN, VA) using NuScale Power's SMRs.[24]

On August 25, 2025, TerraPower, the Utah Office of Energy Development, and Flagship Companies announced the signing of a Memorandum of Understanding to explore the potential siting of a Natrium reactor and energy storage plant in Utah.[25]

Data Centers

Updates and announcements of advanced nuclear technology support for data centers since the previous report are listed below.

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[21] Duke Energy, "To accelerate the exploration of new nuclear technologies, Duke Energy joins industry group vying for DOE grant", posted January 17, 2025, https://news.duke-energy.com/releases/to-accelerate-the-exploration-of-new-nuclear-technologies-duke-energy-joins-industry-group-vying-for-doe-grant, accessed August 21, 2025.

[22] Holtec International, "First Two SMR-300 Units Slated to be Built at Michigan's Palisades Site for Commissioning by Mid-2030", posted December 4, 2023, https://holtecinternational.com/2023/12/04/first-two-smr-300-units-slated-to-be-built-at-michigans-palisades-site-for-commissioning-by-mid-2030/, accessed October 28, 2024.

[23] Holtec International, "Holtec Launches "Mission 2030" to Deploy America's First SMR-300s at the Palisades Site in Michigan", posted February 25, 2025, https://holtecinternational.com/2025/02/25/hh-40-05/, accessed August 21, 2025.

[24] Tennessee Valley Authority, "TVA and ENTRA1 Energy Announce Collaborative Agreement in Landmark 6-Gigawatt NuScale SMR Deployment Program –Largest in U.S. History", posted September 2, 2025, https://www.tva.com/news-media/releases/tva-and-entra1-energy-announce-collaborative-agreement-in-landmark-6-gigawatt-nuscale-smr-deployment-program--largest-in-u.s.-history, accessed September 3, 2025.

[25] TerraPower, "Utah Office of Energy Development, TerraPower and Flagship Companies Sign MOU to Explore Siting of Advanced Nuclear Reactor", posted August 25, 2025, https://www.terrapower.com/utah-office-of-energy-development-terrapower-and-flagship-companies-sign-mou-to-explore-siting-of-advanced-nuclear-reactor, accessed September 3, 2025.

Endeavour Energy

On January 7, 2025, Endeavour Energy, a U.S. sustainable infrastructure developer, announced that it is partnering with Deep Fission, an SMR developer, for 2 GW of nuclear energy to supply Endeavour's global portfolio of data centers which operate under the Endeavour Edged brand.[26] The company has data centers across the US and the Iberian peninsula, with facilities in operation or development in Madrid, Barcelona, Lisbon, and across the US, including Missouri, Arizona, Texas, Georgia, Iowa, Ohio, and Illinois. The first reactors are expected to be operational by 2029.[27]

Equinix

On August 15, 2025, Equinix announced that it had signed a deal and submitted deposits for the purchase of 20 Kaleidos microreactors from Radiant Industries Incorporated.[28] Radiant was one of eight microreactor companies selected in April 2025 as eligible to receive funding under the Advanced Nuclear Power for Installations program, which allows for the design and construction of fixed on-site microreactor nuclear power systems at select military installations.[29]

Fermi America

On August 21, 2025, Fermi America, a company specializing in gigawatt-scale private grid infrastructure for hyperscale AI, and Westinghouse Electric Company announced that they are collaborating to finalize the COLA to deploy four AP1000 reactors at Fermi America's Amarillo, Texas hyperscale campus.[30]

Google

On August 18, 2025, Google and Kairos announced that the first deployment under the agreement will be a 50 MW Hermes 2 reactor in Oak Ridge, Tennessee; the Tennessee Valley

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[26] Deep Fission, "Deep Fission and Endeavour Partner to Speed Delivery of Low-Cost Nuclear Power for Hyperscalers, Targeting 5-7 Cents Per kWh," posted January 7, 2025, https://deepfission.com/deep-fission-and-endeavour-partner-to-speed-delivery-of-low-cost-nuclear-power-for-hyperscalers/, accessed August 21, 2025.

[27] Data Center Dynamics, "Deep Fission to supply Endeavour data centers with 2GW of nuclear energy from "mile-deep" SMR," posted January 7, 2025, https://www.datacenterdynamics.com/en/news/deep-fission-to-supply-endeavour-data-centers-with-2gw-of-nuclear-energy-from-mile-deep-smr/, accessed August 21, 2025.

[28] World Nuclear News, "Equinix signs further agreements with SMR developers," published August 15, 2025, https://world-nuclear-news.org/articles/equinix-signs-further-agreements-with-smr-developers, accessed August 20, 2025.

[29] Department of Defense: Defense Innovation Unit, "To Secure U.S. Energy Dominance, the Department of Defense Selects Eligible Companies for the Advanced Nuclear Power for Installations Program," published April 10, 2025, https://www.diu.mil/latest/DOD-selects-eligible-companies-for-the-Advanced-Nuclear-Power-for-Installations-Program, accessed August 20, 2025.

[30] Westinghouse, "Fermi America™ Partners with Westinghouse to Support Licensing for Four AP1000® Units," published August 21, 2025, https://info.westinghousenuclear.com/news/fermi-america-partners-with-westinghouse-to-support-licensing-for-four-ap1000-units, accessed August 21, 2025.

Authority has agreed to purchase 50 MW from the reactor to supply power to Google's data centers in Montgomery County, Tennessee, and Jackson County, Alabama.[31]

On May 5, 2025, Google signed an agreement with Elementl Power Inc. to pre-position three sites for advanced nuclear energy. Google will provide early-stage development capital to advance the development of three projects. Each project would generate at least 600 MW of power capacity, with the option for commercial off-take once complete. Google and Elementl Power will work collaboratively with utility and regulated power partners to identify and advance new projects.[32]

Sabey Data Centers

On January 21, 2025, Sabey Data Centers (SDC) and TerraPower announced that they had signed a Memorandum of Understanding (MoU) to explore the development and deployment of TerraPower's Natrium microreactors into SDC's current and future data center operations. As part of the MoU, the two companies will explore the deployment of the Natrium plants in the Rocky Mountain region and Texas.[33]

Unspecified Data Centers

On February 28, 2025, Last Energy announced that it will build 30 microreactors in Haskell County, Texas to serve American data center customers across the state. The company plans to build its microreactors on a 200 acre site and provide power to offtakers via a mix of private wire and grid transmission.[34]

Military

On May 23, 2025, Executive Order 14299 was signed to establish a series of milestones aimed at advancing nuclear energy initiatives. The order specifically focuses on the deployment of Advanced Nuclear Reactors to support national security objectives. It directs that by January 18, 2026, designated Cabinet Secretaries submit recommendations for legislative proposals and regulatory actions concerning the distribution, operation, replacement, and decommissioning of advanced nuclear reactors, as well as the management of spent nuclear fuel on military

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[31] CNBC, "Google, Kairos Power plan advanced nuclear plant for Tennessee Valley Authority grid by 2030", posted August 18, 2025, https://www.cnbc.com/2025/08/18/google-kairos-nuclear-smr-tennessee-valley-authority-tva-data-center-ai.html, accessed August 20, 2025.

[32] PR Newswire, "Elementl Power and Google Sign Strategic Agreement to Develop Locations for Advanced Nuclear Projects", posted May 7, 2025, https://www.prnewswire.com/news-releases/elementl-power-and-google-sign-strategic-agreement-to-develop-locations-for-advanced-nuclear-projects-302447957.html, accessed August 20, 2025.

[33] TerraPower, "TerraPower and Sabey Data Centers Developing Strategic Collaboration Agreement for Wide-Scale Deployment of Natrium® Plants," posted January 21, 2025, https://www.terrapower.com/terrapower-and-sabey-data-centers-agreement-for-natrium-wide-scale-deployment, accessed August 21, 2025.

[34] Last Energy, "Last Energy Announces Plan to Deploy 30 Microreactors in Texas," posted February 28, 2025, https://www.lastenergy.com/news-press/last-energy-announces-plan-to-deploy-30-microreactors-in-texas, accessed August 21, 2025.

installations. Furthermore, by September 30, 2028, at least one nuclear reactor regulated by the U.S. Army must be operational at a domestic military base or installation.[35] These milestones are critical to the Department of Defense's (DOD) ongoing nuclear energy projects initiated by the 2019 and 2021 National Defense Authorization Acts, and represent a significant step toward ensuring military base power grids remain operational and mission-ready during emergencies.

Defense Innovation Unit's Advanced Nuclear Power for Installations Program

On April 10, 2025, the Defense Innovation Unit (DIU) announced it had extended Other Transaction (OT) agreements to eight companies to design and construct fixed microreactors at designated military bases for future deployment as part of the Advanced Nuclear Power for Installations (ANPI) Program.[36] While the companies have been selected to participate in the program, specific installation sites have not yet been designated. Three of the companies selected (BWXT, Radiant, and Oklo) are also involved in other military projects that are discussed later in this section. Below are the eight companies that were offered an OT agreement by the DIU.

- Antares Nuclear
- BWXT Advanced Technologies
- General Atomics
- Kairos Power
- Oklo, Inc.
- Radiant Industries
- Westinghouse Government Services
- X-Energy

Project Pele

BWXT, the company contracted by the DOD to design and construct the Pele microreactor, will transport it to the DOE's INL in 2026 for final preparation and testing, with plans for the microreactor to be operational at a military base by September 2028. On July 24, 2025, BWXT announced a key milestone in the design process by stating it had begun fabrication of the reactor core.[37] As a participant in both Project Pele and the ANPI program, BWXT believes the Pele microreactor offers a competitive edge among firms aiming to meet the Executive Order deadline of September 30, 2028, for microreactor operations at military installations.[38]

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[35]The White House, Executive Order 14299, "Deploying Advanced Nuclear Reactor Technologies for National Security," signed May 23, 2025, https://www.presidency.ucsb.edu/documents/executive-order-14299-deploying-advanced-nuclear-reactor-technologies-for-national, accessed August 22, 2025.
[36]DIU, "To Secure U.S. Energy Dominance, the Department of Defense Selects Eligible Companies for the Advanced Nuclear Power for Installations Program," posted April 10, 2025, https://www.diu.mil/latest/DOD-selects-eligible-companies-for-the-Advanced-Nuclear-Power-for-Installations-Program?utm_source=LinkedIn&utm_medium=Social, accessed August 22, 2025.
[37] BWXT, " Project Pele Begins Taking Shape with Start of Core Manufacturing," posted July 24,2025, https://www.bwxt.com/project-pele-begins-taking-shape-with-start-of-core-manufacturing/, accessed August 28, 2025.
[38] BMXT, "Project Pele Begins Taking Shape with Start of Core Manufacturing," posted July 24, 2025, https://www.bwxt.com/project-pele-begins-taking-shape-with-start-of-core-manufacturing/, accessed August 22, 2025.

Hill AFB, Utah

Radiant partnered with the Air Force through a Small Business Innovation Research (SBIR) award from the DOD in March 2023. As part of this collaboration, the company has been conducting simulation tests at Hill AFB to evaluate the site's suitability for a microreactor. If the results are favorable, Radiant could be selected to deploy its Kaleidos microreactor at Hill AFB.

To support deployment objectives, Radiant has signed an OT agreement under the ANPI program that has positioned the company to deliver the Kaleidos microreactor to an Air Force base by 2028. Development is proceeding on schedule, with steady progress underway. Notably, on July 2, 2025, Radiant announced that the DOE had conditionally selected the Kaleidos microreactor for initial testing at INL, with delivery to the lab expected by spring of 2026.[39]

Eielson AFB, Alaska

On June 11, 2025, the U.S. Air Force announced plans to issue a Notice of Intent (NOI) to award a contract to Oklo, Inc. Oklo was previously identified as the intended recipient of the NOI in August 2023; however, the Air Force rescinded the offer in September 2023 following a bid protest filed with the Government Accountability Office, which led to a review of additional proposals. Contract negotiations with Oklo are now underway; upon successful receipt of an NRC license, the company is expected to be awarded a 30-year fixed-price contract.[40]

If finalized, Oklo will build its Aurora Advanced Fission Clean Energy Plant at Eielson AFB. The company's design goals include a plant that can generate about 1.5 megawatts of electricity and usable heat within a facility called the Aurora powerhouse.[41] Furthermore, the plant will be compact, operate for decades without refueling, require no cooling water, and will be capable of converting nuclear waste into clean energy.[42] Oklo is actively working with the NRC to obtain approval for its advanced fission license application, and it expects to bring its first plant online by the end of the decade.[43]

Joint Base San Antonio, Texas

The Air Force remains in the Request for Information (RFI) phase for its energy project. The type of energy used to power the base has yet to be decided.

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[39] Radiant, "Radiant Signs Agreement Designed to Deliver Nuclear Microreactor to U.S. Military Base in 2028," posted August 8, 2025, https://www.radiantnuclear.com/blog/diu/, accessed August 22, 2025.
[40] Eielson AFB, "Microreactor pilot reaches major project milestone," published June 11, 2025, https://www.eielson.af.mil/News/Display/Article/4213214/microreactor-pilot-reaches-major-project-milestone/, accessed August 22, 2025.
[41] Oklo, "Oklo Selected as Intended Awardee to Provide Clean, Reliable Power to Eielson Air Force Base in Alaska," posted June 11, 2025, https://oklo.com/newsroom/news-details/2025/Oklo-Selected-as-Intended-Awardee-to-Provide-Clean-Reliable-Power-to-Eielson-Air-Force-Base-in-Alaska/default.aspx, accessed August 28, 2025.
[42] Oklo, "Oklo Announces its Aurora Advanced Fission Clean Energy Plant, posted December 2, 2019, https://oklo.com/newsroom/news-details/2019/Oklo-Announces-its-Aurora-Advanced-Fission-Clean-Energy-Plant/default.aspx, accessed August 28, 2025.
[43] Oklo, FAQ, https://oklo.com/investor-faqs/default.aspx, accessed August, 28, 2025.

Department of the Navy (DON)

The DON also remains in the RFI phase for its nuclear energy project.