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ONE HUNDRED NINETEENTH CONGRESS

Congress of the United States
House of Representatives
COMMITTEE ON ENERGY AND COMMERCE
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WASHINGTON, DC 20515-6115
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MEMORANDUM January 2, 2026

TO: Members of the Subcommittee on Energy
FROM: Committee Majority Staff
RE: Hearing titled "American Energy Dominance: Dawn of the New Nuclear Era."

I. INTRODUCTION

The Subcommittee on Energy has scheduled a hearing for Wednesday, January 7, 2026, at 10:15 a.m. (ET) in 2123 Rayburn House Office Building. The hearing is entitled, "American Energy Dominance: Dawn of the New Nuclear Era." The hearing will examine developments in the nuclear industry relating to licensing, deployment, implementation of recently enacted federal laws, and administration policies to facilitate the expansion of nuclear energy resources to meet the nation's urgent energy and security demands.

II. WITNESSES

- **Maria Korsnick,** President and CEO, Nuclear Energy Institute;
- **John Williams,** Senior V.P., Technical Services & External Affairs, Southern Company;
- **John Wagner,** PhD, Director, Idaho National Laboratory; and
- **Judi Greenwald,** President and CEO, Nuclear Innovation Alliance

III. BACKGROUND

Nuclear energy is essential for ensuring a diverse, secure energy mix. It provides reliable, baseload generation that maintains stability of the grid while also producing the largest portion of carbon free electricity in the United States. Nuclear energy is vital for national security, the delivery of reliable power, and for fostering international relationships and U.S. global leadership.

In many respects, the nuclear industry today reflects the success of U.S. nuclear policy dating to congressional determination following World War II to foster peacetime development of "atomic" energy. At the genesis of the nuclear industry in the mid-twentieth century, Congress focused on managing national laboratory research and development (R&D), the production infrastructure for

nuclear weapons through the Atomic Energy Act of 1946,[1] and the development of nuclear reactors for power production and naval propulsion. In time—and in keeping with President Eisenhower's 1953 Atoms for Peace proposal—Congress fundamentally revised the Atomic Energy Act to remove barriers to the peaceful, civilian application of nuclear technology. The Atomic Energy Act (AEA) of 1954[2] established a national policy that "the development, use, and control of atomic energy shall be directed so as to promote world peace, improve the general welfare, increase the standard of living, and strengthen free competition and private enterprise."[3]

The U.S. nuclear industry experienced tremendous growth in the four decades following the AEA's enactment. The U.S. government assisted to construct nuclear industrial infrastructure for fuels and technologies and private industry pioneered developments.[4] At the same time, the United States embarked on expanding international nuclear relationships, through establishment of the International Atomic Energy Agency[5] and through AEA section 123 agreements,[6] as well as related nuclear treaties—all serving to establish the United States as a global leader in nuclear technology, nuclear safety, and non-proliferation safeguards.

The Atomic Energy Act also assigned regulation and licensing of nuclear energy to the Atomic Energy Commission (AEC), which oversaw development of the nuclear industry into the 1970s. In the Energy Reorganization Act of 1974,[7] Congress abolished the AEC and assigned the regulation and licensing of nuclear energy and nuclear materials to the Nuclear Regulatory Commission (NRC). Remaining functions relating to the development and promotion of new nuclear technologies were assigned to what is now the Department of Energy (DOE).[8]

Today, the United States maintains the world's largest nuclear power industry. With 94 operating reactors (down from 112 in 1990), the U.S. domestic industry produces 97 gigawatts of electricity, accounting for 19 percent of U.S. electrical output.[9] The current fleet of reactors is operated by 21 different power companies at some 54 sites, across 28 different states.[10] This energy

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[1] P.L. 79-585.
[2] P.L. 83-703.
[3] 42 U.S.C. § 2011.
[4] Westinghouse designed the first fully commercial pressurized water reactor (PWR), developed by Argonne National Lab (including at what is now Idaho National Lab), and GE designed a prototype boiling water reactor (BWR), also developed by Argonne, in 1960—designs which account for some 89% of world capacity; *see* World Nuclear Association, Outline History of Nuclear Energy (Jul. 17, 2025), https://world-nuclear.org/information-library/current-and-future-generation/outline-history-of-nuclear-energy.aspx.
[5] International Atomic Energy Agency, *History*, IAEA, https://www.iaea.org/about/overview/history, (last visited Dec. 17, 2025).
[6] U.S. Department of Energy, *123 Agreements for Peaceful Cooperation,* U.S. DOE (Jul. 11, 2025), https://www.energy.gov/nnsa/123-agreements-peaceful-cooperation.
[7] P.L. 93-438.
[8] Department of Energy maintained regulatory authority over certain DOE nuclear energy projects, as well as over safety and security of facilities within the nuclear weapons complex.
[9] U.S. Energy Information Administration, *The United States operates the world's largest nuclear power plant fleet*, U.S. EIA (Apr. 24, 2025), https://www.eia.gov/todayinenergy/detail.php?id=65104.
[10] U.S. Nuclear Regulatory Commission, *2022-2023 Information Digest*, U.S. NRC (Feb. 2023), https://www.nrc.gov/docs/ML2304/ML23047A371.pdf.

output also represents about 43 percent of the nation's carbon dioxide-free power generation, accounting for most of the clean power production in some of these states.[11]

The U.S. nuclear industry has over 4,500 years of operational experience. Drawing on lessons learned through this experience, the U.S nuclear fleet is operating at the highest levels of performance and safety in its history and has been ranked as the highest performing nuclear industry in the world. Safe operations—leading to longer run times and more efficient operations—enabled the industry to produce record levels of power in recent years, even with fewer operating plants.[12] Capacity factors surpass 90 percent, more than any other generating source, which underscores the role nuclear plays in the reliable production of power.

Despite this performance, growth of the U.S. nuclear industry, including its role in international nuclear commerce, has experienced a period of stagnation and decline. While the industry saw tremendous growth starting in the mid-twentieth century, only two new reactors have come online since 1996.[13] On the international front, the United States has been largely absent from a market estimated to be worth $500 billion to $740 billion this decade, with Russia and China leading on plans to construct upwards of 70 reactors across multiple countries.[14]

The prospect of a U.S. nuclear industry resurgence has been increasing. Unprecedented electricity demand growth, coupled with commitments to invest in clean, dispatchable power generation to support AI datacenters, advanced manufacturing, and reshoring of heavy industrial manufacturing has driven renewed interest in nuclear. Meanwhile, investment focused on next generation nuclear technologies is coming to fruition on a number of fronts, buoyed by federal energy policies and support, raising the possibility that a resurgence of American nuclear deployment will involve a range of technologies by the end of the decade.

Advanced reactor designs use combinations of new and existing technologies and materials to improve upon earlier generations of reactors. The current fleet of U.S. nuclear power plants uses "light-water technology" and a once-through fuel cycle to generate electricity. Dozens of companies are developing alternative designs, using "small modular reactor" (SMR) designs and in many cases materials other than water as a coolant, such as molten salt or helium. They offer potential advances that combine attributes relating to improved cost, safety, security, waste management, fuel recycling, and versatility.[15]

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[11] Fact Sheet, Nuclear Energy Institute, Nuclear Energy Fast Facts, NEI (Apr. 2025), https://www.nei.org/getContentAsset/0325fd3d-356b-47d9-91ec-ded1dcc27cc1/8d8ff8d6-b2ae-401b-a63c-f6b108e809d2/Nuclear-Energy-Fast-Facts-2025.pdf?language=en-US&disposition=inline.

[12] Nuclear Energy Institute, *The Nexus Between Safety and Operational Performance in the U.S. Nuclear Industry*, NEI (Mar. 2020), https://nei.org/CorporateSite/media/filefolder/resources/reports-and-briefs/NEI-20-04-The-Nexus-Between-Safety-and-Operational-Performance-in-the-US-Nuclear-Industry.pdf.

[13] U.S. Energy Information Administration, The United States operates the world's largest nuclear power plant fleet (Apr. 24, 2025), https://www.eia.gov/todayinenergy/detail.php?id=65104.

[14] U.S. Department of Energy, *Restoring America's Competitive Nuclear Energy Advantage A Strategy to Assure U.S. National Security* (Apr. 2020), https://www.energy.gov/articles/restoring-americas-competitive-nuclear-energy-advantage#:~:text=The%20Strategy%20to%20Restore%20American,the%20entire%20U.S.%20nuclear%20enterprise.

[15] *Id.*

For the past several Congresses, Energy and Commerce Committee Members have developed legislation that led to enactment of statutory reforms to assist nuclear development and deployment. These reforms provide a policy framework to foster a more efficient, predictable licensing process able to meet the demand of growing licensing activity anticipated in the coming years. The reforms also focused on aligning federal licensing work necessary to maintain public trust and assure safety of nuclear technologies with the core goals of the AEA, "to make maximum contribution to the general welfare."[16] Further, these statutory reforms provide a more secure nuclear fuel infrastructure, including for the advanced fuels needed for next generation technologies. Several legislative initiatives in the 118th Congress are also pertinent to this hearing.[17]

Most significantly, on July 9, 2024, the Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy Act (ADVANCE Act) was signed into law.[18] (The House version of this legislation was H.R. 6544, the Atomic Energy Advancement Act.[19]) The ADVANCE Act establishes requirements for the NRC to license and regulate nuclear technology in an efficient, predictable, and timely manner while maintaining proper public safety. Additionally, it requires the NRC to align its mission statement with the foundational goals of the AEA and directs it to conduct efficient and predictable licensing processes while regularly updating metrics to measure timely licensing performance and efficiency. The law updates NRC hiring authorities, reduces fees collected from applicants for advanced nuclear reactors licenses, directs NRC to identify measures to facilitate licensing of reactors at brownfield sites, and directs the NRC to implement measures to increase efficiency of environmental reviews. On the international side, the law improves global nuclear cooperation through enhanced DOE and NRC technical support for U.S. allies and reduced barriers to investment in U.S. projects, and it requires the DOE to update its nuclear export review policy.

On May 13, 2024, the Prohibiting Russian Uranium Imports Act was signed into law.[20] While the U.S. maintains the largest market globally for nuclear fuels, domestic fuel infrastructure has atrophied in recent years, to the point that Russia has been supplying up to a quarter of nuclear fuel used in the U.S. reactor fleet. The Ukraine invasion exposed, and magnified, this vulnerability. The Prohibiting Russian Uranium Imports Act provides a date certain, after which no Russian sourced enriched nuclear fuel will be available for U.S. nuclear reactors. This will create the market conditions for the long-term commercial contracts that domestic fuel producers need to invest in new U.S. supply capacity, including uranium conversion and enrichment capacity, which has atrophied substantially over the past decade.

On March 23, 2024, the Further Consolidated Appropriations Act, 2024, was signed into law with provisions from H.R. 6544 that extend Price-Anderson Act nuclear indemnity coverage for the nuclear industry by 40 years, to expire in 2065.

Prior to the ban on Russian fuels, on December 14, 2023, the Nuclear Fuel Security Act of 2023 was signed into law. Provisions of this law provided funding and other support to assist the domestic development of advanced and conventional nuclear fuel supplies.

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[16] 42 U.S.C. § 2011
[17] *See* P.L. 115-439, P.L. 116-260, P.L. 117-58, and P.L. 117-169 for other recently enacted nuclear provisions.
[18] P.L. 118-67.
[19] H. Rept. 118-391.
[20] P.L. 118-62.

The Trump Administration issued four Executive Orders (EO) on May 23, 2025, to provide for further development and deployment of U.S. nuclear technology, as well as U.S. engagement in nuclear commerce with other nations: Deploying Advanced Nuclear Reactor Technologies for National Security;[21] Ordering Reform of the Nuclear Regulatory Commission;[22] Reforming Nuclear Reactor Testing at the Department of Energy;[23] and Reinvigorating the Nuclear Industrial Base.[24]

The EOs establish policies that are consistent with many of the policies recently enacted by Congress. Implementation of the EOs and of recently enacted nuclear legislation, particularly the ADVANCE Act, is presently underway at both NRC and DOE.

IV. ISSUES

- Implementation of the ADVANCE Act and similar Congressional priorities.
- Implementation of nuclear related Executive Orders.
- Challenges associated with nuclear supply chains, and nuclear fuels.
- Role of the Department of Energy.
- Role of the Nuclear Regulatory Commission.
- Factors to consider for successful deployment of nuclear technology.
- Status and prospects of advanced nuclear technology.
- AI and advanced manufacturing-driven demand for electricity; emerging opportunities for nuclear expansion.

V. STAFF CONTACTS

If you have any questions regarding this hearing, please contact Peter Spencer, Andrew Furman, or Mary Martin of the Committee Staff at (202) 225-3641.

[21] Exec. Order No. 14299, 90 Fed. Reg. 22581 (May 29, 2025).
[22] Exec. Order No. 14300, 90 Fed. Reg. 22587 (May 29, 2025).
[23] Exec. Order No. 14301, 90 Fed. Reg. 22591 (May 29, 2025).
[24] Exec. Order No. 14302, 90 Fed. Reg. 22595 (May 29, 2025).