AMERICAN PUBLIC POWER ASSOCIATION
Powering Strong Communities

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Nuclear Power

- The American Public Power Association (APPA) supports the continued use of nuclear power, a key source of baseload, emissions-free electricity.
- APPA supports the construction of a consolidated interim storage facility in a willing host community and the construction of a final repository for nuclear waste, including, but not limited to, Yucca Mountain.
- Federal policies should continue to facilitate the construction of new nuclear facilities and further the development of advanced nuclear technologies, including small modular reactors (SMRs).

Background

Nuclear power is the nation's largest source of emissions-free electricity and second largest source of electricity overall, accounting for 47 percent of domestic emissions-free electricity generation and 18.4 percent of total electricity generation in 2023. There are 94 reactors in 30 states. It is a reliable source of baseload (i.e., available most of the time) energy, operating with an average capacity factor greater than 90 percent. Given these characteristics, nuclear power plays a significant part in ensuring reliable, zero-emissions electricity service. In 2023, public power utilities generated 17.9 percent of their electricity from nuclear power. Public power utilities both own and operate nuclear reactors outright, or partner with other utilities to co-own a facility. In addition, public power utilities receive power from nuclear power plants through bilateral contracts, indirectly through electricity markets, or in the case of those located in the Tennessee Valley, by purchasing power generated by the Tennessee Valley Authority (TVA), which owns and operates several nuclear power plants.

Spent Nuclear Fuel

The 1982 Nuclear Waste Policy Act (NWPA) assigned responsibility to the Department of Energy (DOE) to site, construct, and operate a final repository for spent nuclear fuel. In 1987, Congress amended the NWPA and designated Yucca Mountain as the sole site for DOE to consider. As part of the NWPA, a surcharge of one-tenth of one cent was placed on electricity produced from nuclear power plants to fund construction of the final repository. Nuclear energy consumers, through this surcharge, paid a total of $30 billion into the nuclear waste fund. In 2008, DOE began pursuing a license with the Nuclear Regulatory Commission (NRC) to construct a facility at Yucca Mountain. However, despite spending nearly $15 billion on the project, the Obama administration in 2009 eliminated funding for the project and DOE subsequently withdrew its license.

Due to the federal government's failure to fulfill its obligations under the NWPA to construct a repository, the U.S. Court of Appeals for the D.C. Circuit in 2013 ordered DOE to stop collecting the nuclear waste fee. Since 2013, there have been several efforts, both in Congress and through administrative actions, to move forward on the Yucca Mountain facility. These efforts have not been successful and both the issue of Yucca Mountain specifically, as well as the federal government's general obligation to create a permanent repository for spent nuclear fuel, remain unresolved.

The Biden administration did not support long-term storage of nuclear waste at the Yucca Mountain site and instead pursued a consent-based siting process for interim spent fuel storage. In 2022, DOE issued a funding opportunity to provide federal assistance to communities for the consideration of an interim storage facility. In June 2023, DOE announced it had selected 13 awardees from around the country to receive funding to form "consent-based siting consortia" to help DOE engage with local communities, universities, and other stakeholders.

President Trump said he did not support a repository site at Yucca Mountain during his first term. However, in May 2025, the Trump administration released four executive orders (EOs) in support of nuclear energy: "Reinvigorating the Nuclear Industrial Base," "Reforming Nuclear Reactor Testing at the Department of Energy," "Ordering the Reform of the Nuclear Regulatory Commission," and "Deploying Advanced Nuclear Reactor Technologies for National Security." The "Reinvigorating the Nuclear Industrial Base" EO called for the Departments of Defense and Transportation and the Office of Management and Budget to submit recommendations to the President on a national policy to support the management of spent nuclear fuel, the efficient disposal of the waste generated by recycling or reprocessing, and a process for evaluating nuclear waste materials for isotopes of value to national security or the medical, industrial, or scientific sectors.

Small Modular Reactors

SMRs are small nuclear reactors that will be able to generate up to 300 megawatts of power[1] and can be linked together to provide incremental power as load grows. SMRs could yield significant economic, energy security, and environmental benefits. They are expected to be an attractive option for generating electricity from a non-emitting energy source and could provide utilities with flexibility through scalability and plant siting. Several public power entities across the country are directly involved in the development of SMRs and other advanced nuclear technologies.

Congressional Action

The Inflation Reduction Act (IRA)(P.L. 117-169) created a new production tax credit (PTC) of up to $15 per megawatt-hour for electricity produced by existing nuclear power plants through 2032. Importantly for public power, the new nuclear PTC (Internal Revenue Code Section 45U), along with the other energy tax provisions created or bolstered by the IRA, includes elective pay, a refundable credit for tax-exempt entities, including public power utilities. As part of H.R. 1, the One Big Beautiful Bill Act of 2025, that was signed into law in July, Congress accelerated the phaseout of the investment tax credit (ITC) and PTC for clean energy. For nuclear power, this would mean projects construction of which begins in:

- 2033, will receive 75 percent of the otherwise allowed credit;
- 2034, receive 50 percent of the otherwise allowed credit;
- 2035, receives 25 percent of the otherwise allowed credit; and
- 2036 and thereafter, receive no credit.

Lawmakers had also considered accelerating the phase out of the section 45U existing nuclear tax credit but ultimately left the current phaseout for power produced after 2032 in place. However, new "foreign entity of concern" supply chain restrictions included in H.R. 1 could affect the availability of the credit depending on how they are implemented.

In 2024, the bipartisan Accelerating Deployment of Versatile Advanced Nuclear for Clean Energy (ADVANCE) Act was signed into law by President Biden. The law is intended to streamline NRC regulatory frameworks and spur the development of advanced nuclear technologies.

APPA supports efforts to streamline the NRC licensing process, without compromising safety, to ensure nuclear projects are licensed in an efficient manner, reducing the time and cost necessary to bring critical new resources online or to relicense existing plants already safely providing power to customers.

There were also efforts in the 118th Congress to provide federal backstop authority to help utilities and reactor operators cover cost overruns of new nuclear projects. Senator Jim Risch (R-ID) introduced the S. 5421 Accelerating Reliable Capacity (ARC) Act in 2024. The ARC Act would have directed DOE's Loan Programs Office (LPO) to provide up to $3.6 billion to address overruns for at

1 "Small Modular Reactors," Idaho National Laboratory, October 2023

least three "early mover" nuclear energy projects. Project owners would have been responsible for the first 20 percent of cost overruns. LPO would cover 50 percent of the costs above this amount, with a maximum government contribution of $1.2 billion. The bill also includes language, added at the behest of APPA and public power utilities in the Pacific Northwest, to address an issue that can arise when entities partner with a federal agency on a project seeking an LPO loan guarantee. LPO projects are generally blocked from receiving other federal benefits like grants, loans, sales contracts, etc. (a denial of double benefit; no "double dipping"). The bill clarified that partnerships with a Power Marketing Administration or the Tennessee Valley Authority do not preclude LPO financing for a project and would not trigger a denial of double benefit.

The ARC Act did not advance out of the Senate in the 118th Congress. Senator Risch is expected to reintroduce the bill this Congress.

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The American Public Power Association is the voice of not-for-profit, community-owned utilities that power 2,000 towns and cities nationwide. We represent public power before the federal government and protect the interests of the more than 55 million people that public power utilities serve and the more than 100,000 people they employ.