

# 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 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. In his first term, President Trump said he did not support a repository site at Yucca Mountain; he has not yet said if this stance will change in his second term.

## Small Modular Reactors

SMRs are small nuclear reactors that will be able to generate up to 300 megawatts of power<sup>1</sup> 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. Because of the potential benefits of SMRs, DOE has provided funding for the accelerated development and commercialization of this technology, as well as other forms of advanced nuclear technology. Several public power entities across the country are directly involved in the development of SMRs and other advanced nuclear technologies.

## Congressional Action

The 2021 Infrastructure Investment and Jobs Act (P.L. 117-58) established a \$6 billion financial support program for existing nuclear reactors in competitive wholesale electricity markets that are projected to close due to economic factors. In 2022, DOE announced that the Diablo Canyon Power Plant in California, which was scheduled to decommission its two nuclear reactors in 2024 and 2025, would receive the first round of Civil Nuclear Credit funding, with a conditional award of credits up to \$1.1 billion, allowing the plant to remain open. The 2022 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, will include an elective pay, refundable credit for tax-exempt entities, including public power utilities.

There continues to be bipartisan, bicameral support in Congress for NRC reform legislation, with a particular focus on regulatory reforms to support the development of advanced nuclear reactors, including SMRs, and to strengthen U.S. nuclear leadership. In the 118th Congress, Representatives Jeff Duncan (R-SC) and Diana DeGette (D-CO) introduced H.R. 6544, the Atomic Energy Advancement Act, to require changes at the NRC designed to streamline and speed up the regulatory process and reduce regulatory costs for advanced reactor applicants. The bill was approved in the House in February 2024 but did not advance further.

In 2023, Senate Environment & Public Works (EPW) Committee Chairman Tom Carper (D-DE) and Ranking Member Shelley Moore Capito (R-WV), along with several other senators, introduced S. 1111, the Accelerating Deployment of Versatile Advanced Nuclear for Clean Energy (ADVANCE) Act to streamline the NRC regulatory frameworks and spur the development of advanced nuclear technologies. In June 2024, a conferenced version of the ADVANCE Act that combined portions of S. 1111 and H.R. 6544 was approved by Congress and signed into law by President Biden as part of a larger bill (S. 870, the Fire Grants and Safety Act). 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 December 2024. The ARC Act would direct DOE’s Loan Programs Office (LPO) to provide up to \$3.6 billion to address overruns for at least three “early mover” nuclear energy projects. Project owners would be 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

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<sup>1</sup> “Small Modular Reactors,” Idaho National Laboratory, October 2023

clarifies 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 in the 119th Congress.

## **APPA Contact**

Sam Owen, Government Relations Director, 202-438-6467 / [sowen@publicpower.org](mailto:sowen@publicpower.org)

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 54 million people that public power utilities serve and the 96,000 people they employ.

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