

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, accounting for 49 percent of domestic emissions-free electricity generation and 18.7 percent of total electricity generation. There are 92 reactors in 28 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 2021, public power utilities generated 17.5 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 dollars on the project, in 2009, the Obama administration 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 does not support long-term storage of nuclear waste at the Yucca Mountain site and instead plans to pursue a consent-based siting process for interim spent fuel storage. In 2021, DOE issued a request for information seeking public input on the best approaches to siting an interim storage facility for spent nuclear fuel and in September 2022, released a funding

opportunity to provide federal assistance to up to eight 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.

Small Modular Reactors

SMRs are small nuclear reactors that will be able to generate up to 300 megawatts of power and 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-greenhouse gas 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, including the Utah Associated Municipal Power Systems, Grant County Public Utility District, TVA, and Energy Northwest, are directly involved in the development of SMRs and other advanced nuclear technologies.

Congressional Action

The Infrastructure Investment and Jobs Act (P.L. 117-58), signed into law in November 2021, 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 April 2022, DOE released more information about the financial support program for existing nuclear reactors, called the Civil Nuclear Credit Program (CNC), including that the first funding cycle would only be available to nuclear reactors that had previously announced plant retirements. In November 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 CNC funding, with a conditional award of credits up to \$1.1 billion, allowing the plant to remain open. Future CNC awards, however, including a second award cycle planned for the first quarter of fiscal year 2023, will not be limited to nuclear reactors that have already publicly announced intentions to close.

The Inflation Reduction Act (IRA)(P.L. 117-169), which was signed into law in August 2022, 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 is bipartisan, bicameral support in the 118th 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. 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 the Accelerating Deployment of Versatile Advanced Nuclear for Clean Energy (ADVANCE) Act. The ADVANCE Act includes titles on international nuclear programs, promoting advanced nuclear reactors and related fuels, regulatory changes at the NRC, and nuclear power supply chains. The EPW Committee passed the ADVANCE Act in May 2023. Republican and Democratic members of the House Energy & Commerce Committee have also expressed interest in NRC reform and House Energy, Climate, & Grid Security Subcommittee Chairman Jeff Duncan (R-SC) has indicated his intention to introduce such legislation.

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