
Nuclear Energy Innovation and Deployment Act (NEIDA)

Overview

The Nuclear Energy Innovation and Deployment Act (NEIDA) modernizes and clarifies the Department of Energy’s (DOE) authority to enable the next generation of nuclear energy technologies. The bill establishes clear, flexible pathways for demonstration, deployment, and commercialization, helping bridge the longstanding gap between first-of-a-kind (FOAK) reactor development and full-scale market adoption.

This effort is increasingly urgent. Global competitors, particularly Russia and China, are rapidly building and exporting nuclear technologies at scale, shaping international markets and standards. Additionally, U.S. electricity demand is projected to grow significantly due to AI, advanced manufacturing, and other energy-intensive industries. Without faster deployment of reliable, firm power like nuclear, the U.S. risks falling behind economically, technologically, and strategically.

The Problem

Despite significant technological progress, advanced nuclear developers face a persistent “valley of death” between demonstration and commercial deployment—at precisely the moment when rapid deployment is most needed. Costly and complex regulations, limited pathways for scaled deployment, high capital costs and financing risk, and fuel supply constraints have been longstanding challenges for the U.S. nuclear industry. Meanwhile, global competitors are building reactors and locking in long-term export partnerships. At home, rising power demand from AI and industrial growth is increasing the need for reliable, firm, and dispatchable power.

The Solution

NEIDA addresses these barriers by clarifying DOE’s authority and creating new, practical pathways to deploy advanced nuclear technologies at scale.

Key provisions:

- Clarifies and expands the DOE’s authority over nuclear facilities and activities conducted under contract with and for the account of DOE, including privately sponsored and reactor demonstration projects
- Establishes a clear DOE-led pathway to authorize commercial reactor and fuel cycle facilities on federal land or for federal purposes
- Directs the Nuclear Regulatory Commission to revise regulations that limit DOE’s existing statutory authority
- Creates a Nuclear Energy Launch Pad to designate federal and non-federal sites where private companies can test and demonstrate advanced nuclear technologies under DOE authorities

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- Enables Power Marketing Agencies to support nuclear energy deployment through power purchase and transmission authorities
- Streamlines nuclear demonstration programs by consolidating oversight within DOE's Office of Nuclear Energy
- Repurposes surplus plutonium for use in advanced nuclear reactors, transforming a longstanding liability into a valuable asset while helping address fuel supply constraints

NEIDA provides the regulatory clarity and deployment tools needed to move advanced nuclear technologies from the lab to the grid. By aligning DOE authorities with today's innovation landscape and responding to growing global competition and domestic energy demand, the bill accelerates commercialization, strengthens U.S. competitiveness, and helps unlock the full potential of nuclear energy.