

Expected Advanced Reactor Engagement with the U.S. Nuclear Regulatory Commission in FY25

New nuclear energy technologies require approval from the U.S. Nuclear Regulatory Commission (NRC) before they can be deployed. A number of advanced reactor developers are engaging with NRC to prepare to apply, or to apply for, regulatory approvals. Their experience will help lay the groundwork for rapid commercial expansion of advanced nuclear energy in the next decade and beyond.

The figure below outlines the anticipated engagement between advanced reactor developers and projects with the NRC during Fiscal Year 2025. It provides an overview of the expected activities and review stages for various advanced reactor projects, including Construction Permit (CP), Operating License (OL), Combined License (COLs), Standard Design Approval (SDA), and Early Site Permit (ESP) applications. For more information on the NRC licensing process, see [Nuclear Reactor Licensing 101].

Pre-application Activities

Holtec *SMR-160* CP Westinghouse *AP300* Westinghouse *eVinci* COL Unnamed CP #1

COL Review

Eielson AFB

SDA Review

NuScale

CP Review

TVA Clinch River X-Energy Xe-100 Terrapower Natrium

ML Review

Westinghouse eVinci

DC Review

Westinghouse eVinci

Figure 1: Expected Advanced Reactor Engagement with NRC in FY25 from the NRC Congressional Budget Justification FY25; Source: NRC NUREG 1100, Volume 40