ADVANCE Act of 2024 Overview

In efforts to modernize the regulatory framework, facilitate export of U.S. nuclear technology, and spur the deployment of advanced reactors, the Senate and the House of Representatives passed the ADVANCE Act and the Atomic Energy Advancement Act, respectively. The legislative packages were conferenced and merged into the ADVANCE Act of 2024 as part of S.870, the Fire Grants and Safety Act. It overwhelmingly passed both chambers and will now go to President Biden to sign into law. The key provisions of the bill are as follows:

1. American Nuclear Leadership

- Authorizes the NRC to establish the International Nuclear Export and Innovation Branch to improve global nuclear cooperation.
- Requires the DOE to update its nuclear export review policy under 10 C.F.R. Part 810.
- Requires the DOE to conduct a global study on the nuclear energy industry and its supply chains.
- Provides additional export restrictions and requirements for certain nuclear exports to certain countries.

2. Developing and Deploying New Nuclear Technologies

- Limits NRC fees collected from applicants and pre-applicants for advanced nuclear reactor licenses (to exclude mission-indirect costs) and authorizes prize incentives for advanced nuclear first movers.
- Requires the NRC to submit a report addressing any unique licensing issues related to the use of advanced nuclear reactors for flexible operation or exclusively for non-electric applications and the colocation of nuclear reactors with other facilities.
- Eliminates costs associated with pre-application activities and early site permit reviews on DOE sites or critical national security infrastructure from the NRC fee base.
- Directs the NRC to report on its licensing framework for fusion and updates the Atomic Energy Act (AEA) and NEIMA to clearly differentiate fission and fusion by including the term "fusion machine."
- Directs the NRC to identify and implement measures to facilitate licensing of nuclear facilities at brownfield and retired fossil fuel sites.
- Directs the NRC to establish an expedited procedure for issuing a combined license.
- Directs the NRC to develop risk-informed guidance to license and regulate micro-reactors.

3. Preserving Existing Nuclear Energy Generation

- Amends the AEA to recognize the importance of foreign investment into the U.S. nuclear industry.

4. Nuclear Fuel Cycle, Supply Chain, Infrastructure, and Workforce

- Requires the NRC to report on advanced manufacturing and construction for nuclear energy projects.
- Directs the NRC to establish a traineeship program to meet NRC and nuclear workforce needs.
- Requires the DOE to biennially report on the U.S. spent nuclear fuel and high-level radioactive waste inventory.
- Requires the NRC to enhance preparedness and coordination for licensing advanced nuclear fuel.

5. Improving Commission Efficiency

- Directs the NRC to align its expressed mission to reflect efficiency and to not unnecessarily limit the benefits of nuclear energy.
- Updates NRC hiring authorities to enable recruitment and appointment of highly qualified individuals to meet critical hiring needs.
- Provides flexibility to the NRC in meeting Congressional limits on corporate funding.
- Requires the NRC to do periodic reviews of performance metrics and milestone schedules.
- Directs the NRC to establish guidance for efficient reactor license application reviews and to rely on existing licensing information when a new reactor is built at an existing site.
- Directs the NRC to modernize its environmental review process.
- Directs the NRC to improve its reactor oversight programs to maximize efficiency and update the differing views process to ensure agency decisions and schedules are commensurate with safety.

6. Miscellaneous

- Amends the Atomic Energy Act to fix a technical error in the definition of "research and test reactor" introduced by NEIMA.
- Requires the NRC to report on engagement with Canada on Great Lakes Basin nuclear waste issues.