



OASA (IE&E)

POWERING THE MISSION: NUCLEAR ENERGY AND REGULATORY PATHWAY

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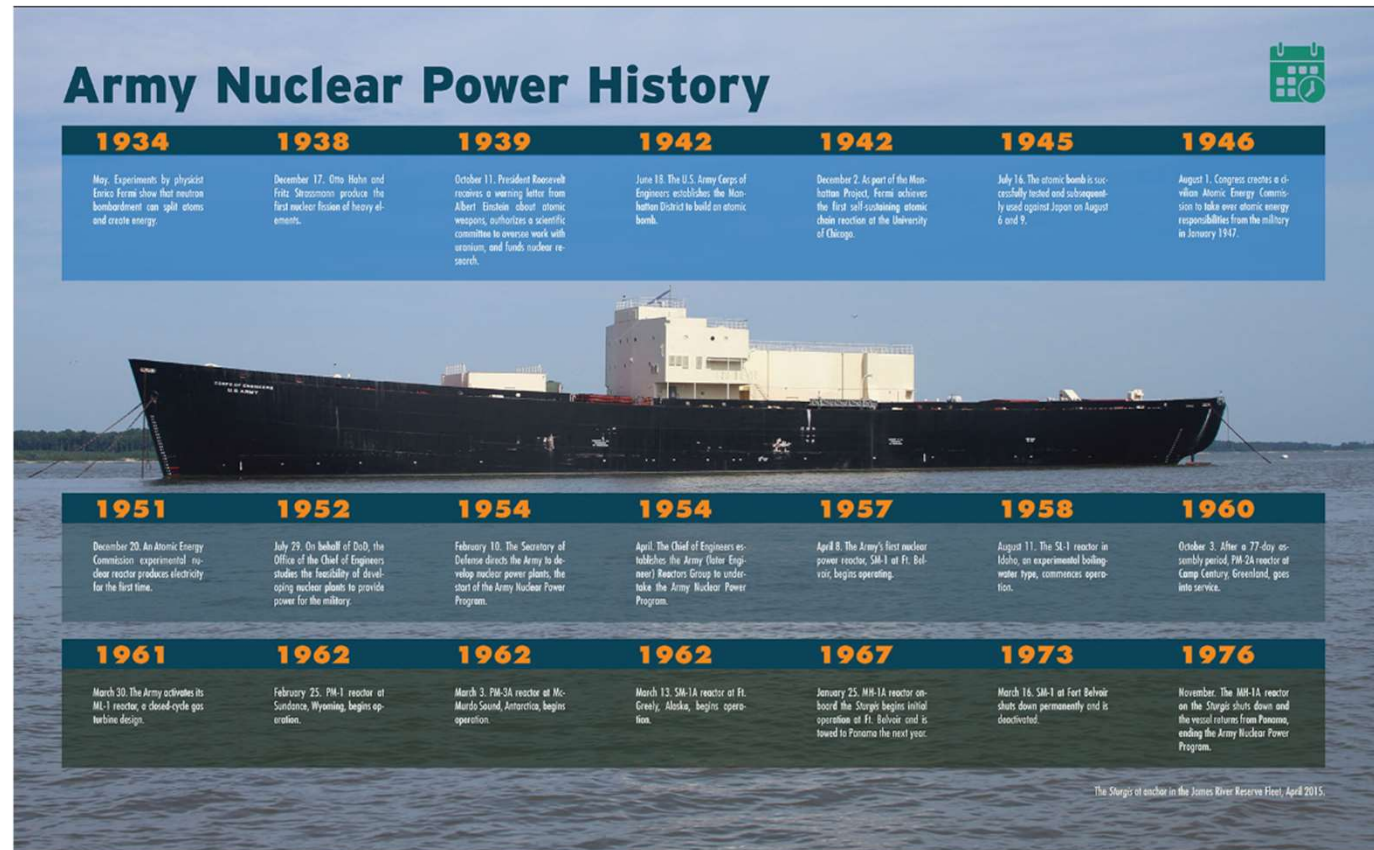
AGENDA

- Our History: Army Reactor Regulatory Office
- Federal Partnerships
- Army Regulatory Network and Our Approach
- Army Regulatory Activities in Support of Janus Program

OUR HISTORY

- We will use the Atomic Energy Act of 1954, Section 91b and Public Law 85-804 for indemnification
- Under these authorities we managed Government Owned and Operated Reactors (1954-1977)
 - Currently we are decommissioning the last 2 power plants
- (1977-Now), Permitting of a test reactor and providing regulatory oversight, and decommissioning permits
- Now- into the future; Permitting Installation microreactors, Contractor Owned and Contractor Operated (COCO), behind the meter power plants

Army Nuclear Power History



1934	1938	1939	1942	1942	1945	1946
May. Experiments by physicist Enrico Fermi show that neutron bombardment can split atoms and create energy.	December 17. Otto Hahn and Fritz Strassmann produce the first nuclear fission of heavy elements.	October 11. President Roosevelt receives a warning letter from Albert Einstein about atomic weapons; authorizes a scientific committee to oversee work with uranium, and funds nuclear research.	June 18. The U.S. Army Corps of Engineers establishes the Manhattan District to build an atomic bomb.	December 2. As part of the Manhattan Project, Fermi achieves the first self-sustaining atomic chain reaction at the University of Chicago.	July 16. The atomic bomb is successfully tested and subsequently used against Japan on August 6 and 9.	August 1. Congress creates a civilian Atomic Energy Commission to take over atomic energy responsibilities from the military in January 1947.
1951	1952	1954	1954	1957	1958	1960
December 20. An Atomic Energy Commission experimental nuclear reactor produces electricity for the first time.	July 29. On behalf of DoD, the Office of the Chief of Engineers studies the feasibility of developing nuclear plants to provide power for the military.	February 10. The Secretary of Defense directs the Army to develop nuclear power plants, the start of the Army Nuclear Power Program.	April. The Chief of Engineers establishes the Army (later Engineer) Reactors Group to undertake the Army Nuclear Power Program.	April 8. The Army's first nuclear power reactor, SM-1 at Ft. Belvoir, begins operating.	August 11. The SM-1 reactor in Idaho, an experimental boiling-water type, commences operation.	October 3. After a 77-day assembly period, PW-2A reactor at Camp Century, Greenland, goes into service.
1961	1962	1962	1962	1967	1973	1976
March 30. The Army activates its ML-1 reactor, a closed-cycle gas turbine design.	February 25. PW-1 reactor at Soudance, Wyoming, begins operation.	March 3. PW-3A reactor at McMurdo Sound, Antarctica, begins operation.	March 13. SM-1A reactor at Ft. Greely, Alaska, begins operation.	January 25. MH-1A reactor on-board the Sturgis begins initial operation at Ft. Belvoir and is towed to Panama the next year.	March 16. SM-1 at Fort Belvoir shuts down permanently and is deactivated.	November. The MH-1A reactor on the Sturgis shuts down and the vessel returns from Panama, ending the Army Nuclear Power Program.

The Sturgis of anchor in the James River Reserve Fleet, April 2015.

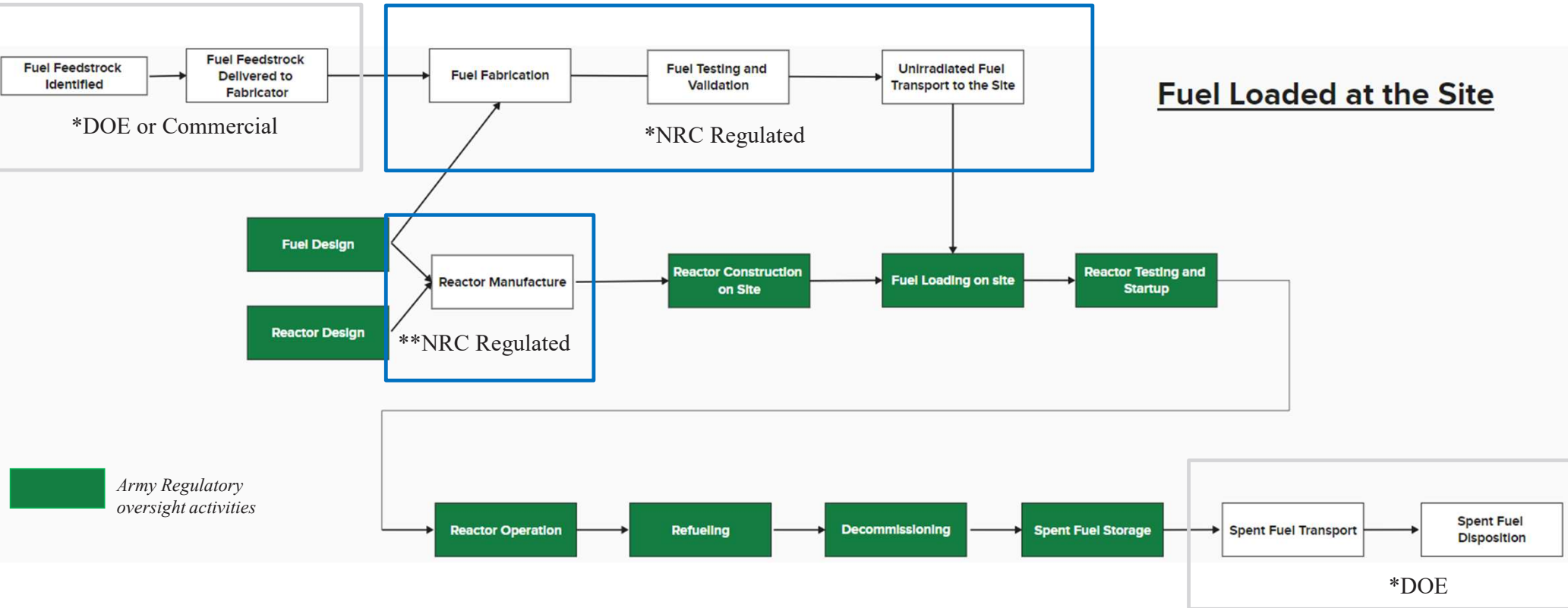
JANUS PROGRAM: INSTALLATION NUCLEAR ENERGY

- Executive Order 14299 *Deploying Advanced Nuclear Reactor Technologies for National Security*, states that it is the policy of the United States to:
 - Ensure the rapid development, deployment, and use of advanced nuclear technologies to support national security objectives
 - Enable private sector investment, innovation, development, and use of advanced nuclear technologies in the United States
 - Coordinate regulatory efforts across the Department of Defense and the Department of Energy
- The Janus Program was created to meet the goals in EO 14299 by:
 - Building microreactor power plants (MPP), up to 20 MWe each, to operate critical installation missions, off the commercial grid, throughout their useful lives
 - Accelerating technology commercialization by sending clear demand signals to the nuclear industry and supply chain
- Army is targeting groundbreakings in FY28, and full operations in FY31.

FEDERAL PARTNERSHIPS

- DOE and National Labs
- NEO is a new office within the DASA(E&S) and is organized to implement the Janus Program and perform the duties of the Executive Agent to implement EO 14299.
- Army Reactor Regulatory Office (ARRO) is an existing office, now within the DASA (ESOH)
- ASA(IE&E) is closely coordinating with DOE to address nuclear fuel supply chain
- Coordinating with DOE and NRC on opportunities for regulatory harmonization

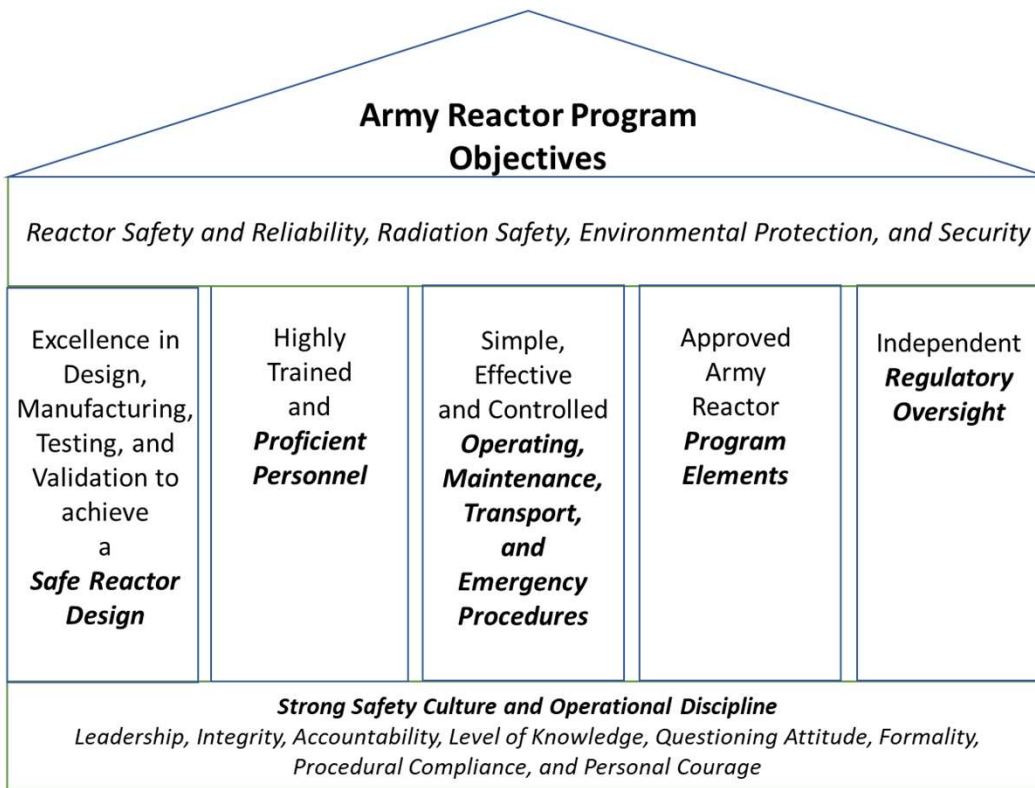
ARMY REGULATORY NETWORK – ALL-OF-GOVT



*Notional Responsibilities. Formal Roles and Responsibilities will be the subject of one or more MOUs between Federal Agencies.

**Army regulatory framework includes a Manufacturing Permit, but an Army Manufacturing Permit is not required if fuel is loaded at the base. The vendor may choose to obtain an NRC license for the Manufacturing Facility.

ARMY REGULATORY FRAMEWORK



Outcome

Pillars

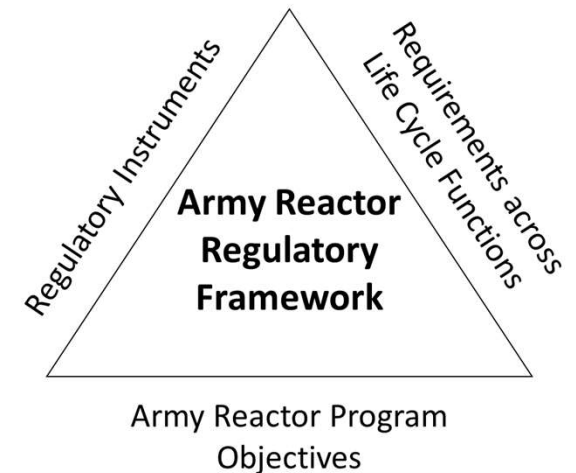
Foundation

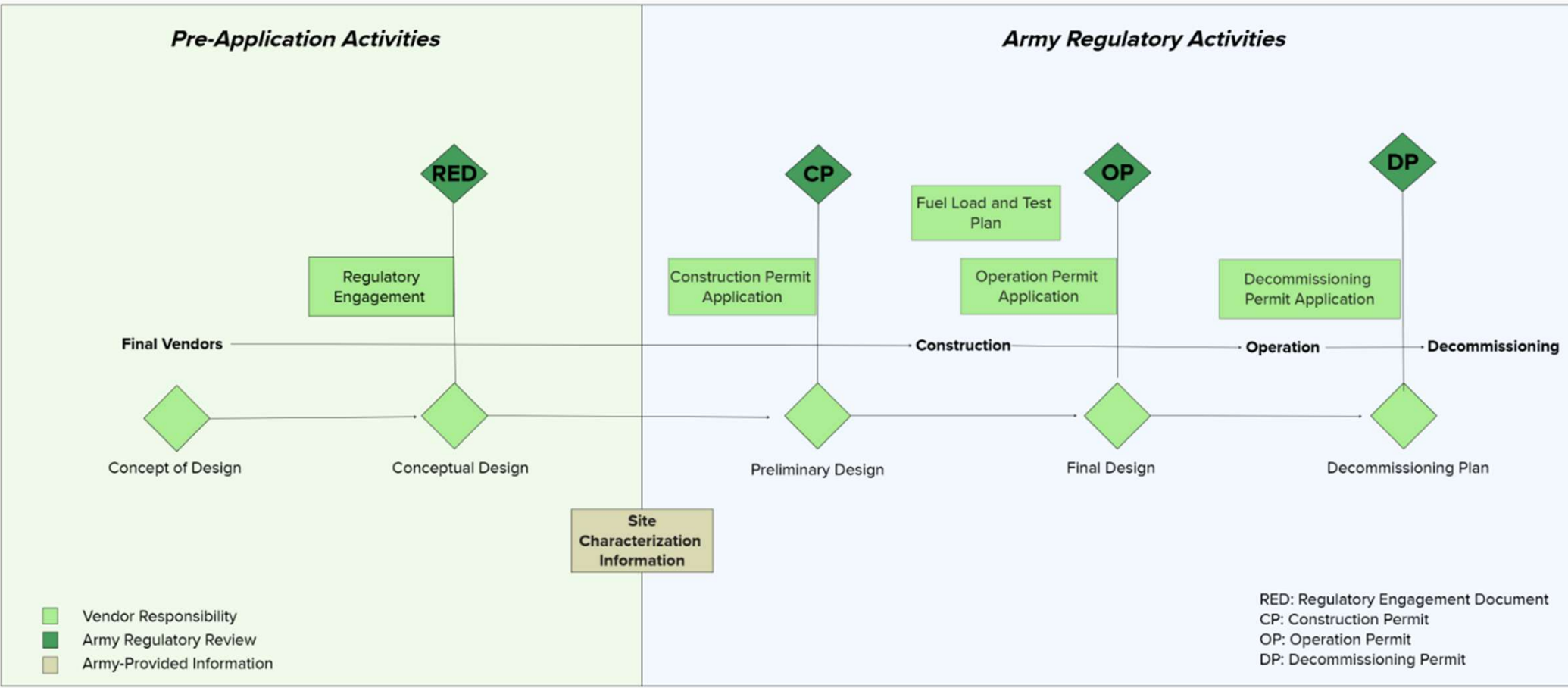
Authorities

Section 91b of the Atomic Energy Act (42 U.S.C. § 2121(b)), as implemented pursuant to the Presidential Directive of 23 September 1961.

Policy

It is Army policy, when appropriate, to be consistent with federal guidelines, international safety and security standards, the National Council on Radiation Protection and Measurements guidance and recommendations, and consensus codes and standards.





QUESTIONS