

An Overview of Power Reactor Decommissioning in the United States

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Agenda

- U. S. Nuclear Regulatory Commission – Regulatory Framework
- Decommissioning Regulatory Framework
- Options for Decommissioning
- Decommissioning Experience to Date
- Public Involvement in Decommissioning
- Regulatory Challenges

U.S. Nuclear Regulatory Commission – Regulatory Framework

- Five-member Commission
- Atomic Energy Act of 1954, as amended
- Energy Reorganization Act of 1974
- Independent regulator



Regulatory Framework for a Decommissioning Program

- Statutory authority
- Comprehensive regulations that include radiological clean-up criteria, public involvement, and financial assurance
- Regulatory guidance
- Oversight

Decommissioning Alternatives

- DECON - prompt removal of radioactivity from equipment, structures, and site
- SAFSTOR - stabilize radioactively contaminated structures followed by dismantlement and decontamination in future
- ENTOMB - encasing radioactive structures, systems, and components in a structurally long-lived substance (e.g., concrete)

Status of Reactor Decommissioning

- 10 reactor units have terminated their licenses and have been released for unrestricted use
- Five reactor units are currently in active decommissioning (DECON)
- Fourteen reactor units are in a SAFSTOR status for between 15 and 41 years



Connecticut
Yankee



Maine Yankee



Public Involvement

- Required licensee notifications and requests to the NRC are public
- By regulation, several public meetings occur
- Public decommissioning inspection reports
- Encourage community engagement by the licensee



Zion Licensee Public Meeting

Regulatory Challenges

- Optimizing regulations for transition from operation to decommissioning
- Rulemaking to make transition more efficient
- Managing knowledge

Summary

- Effective decommissioning regulatory framework from initial licensing through termination
- Public involvement and engagement in decommissioning
- Continuous improvements