



Additional Recommendation 5 Expedited Transfer of Spent Fuel to Dry Casks

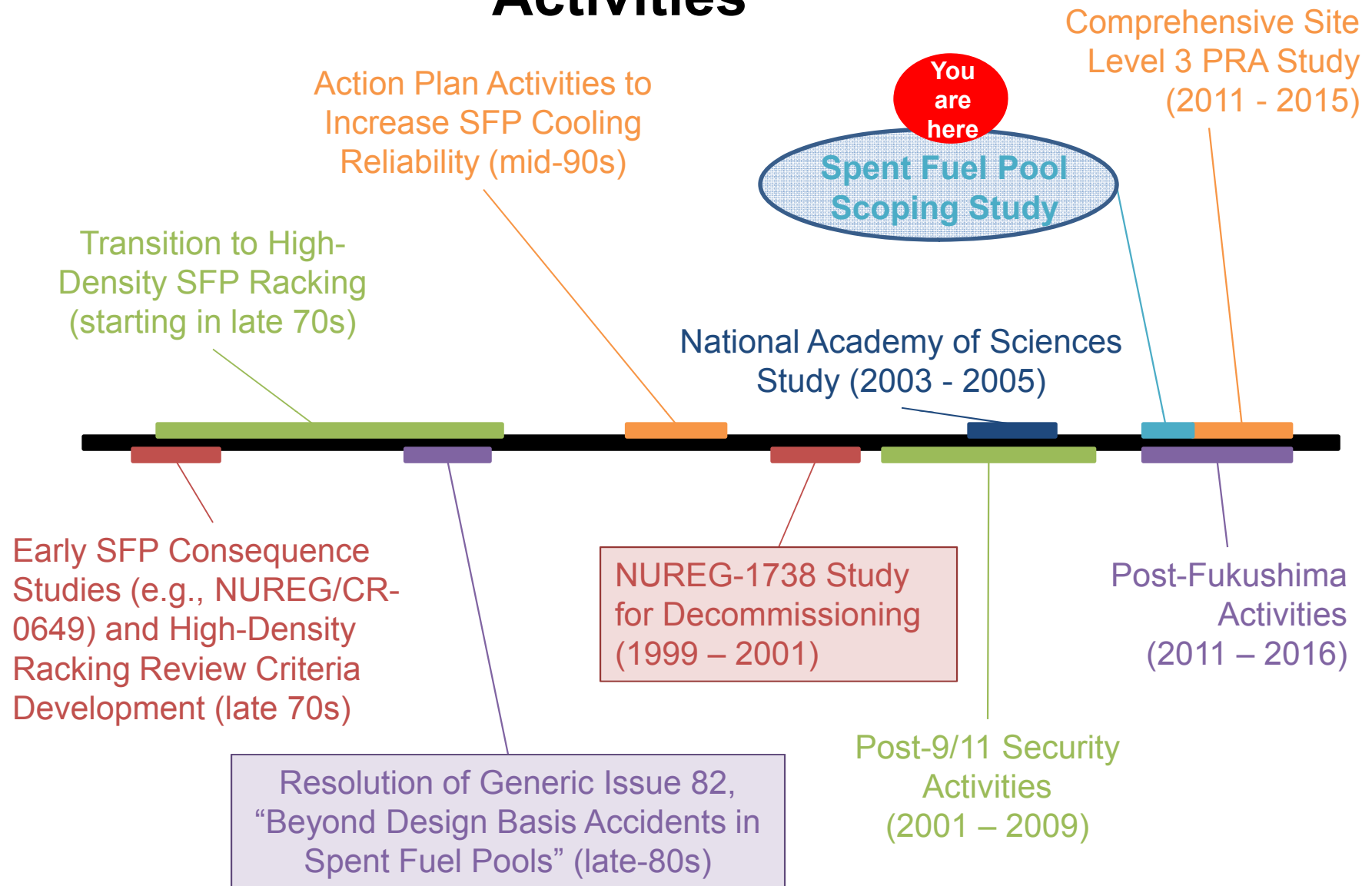
May 14, 2012



Background

- In SECY 11-0137, the staff included an additional recommendation for evaluation of expedited transfer of spent fuel to dry cask storage.
- Stakeholders have repeatedly requested such action as part of petitions for regulatory action based on the perceived potential to reduce the probability and consequences of overheated stored fuel.
- This issue has a nexus to the Fukushima Daiichi event because the potential for overheating of stored fuel, although unrealized, was a significant concern.
- The NRC has completed several studies related to spent fuel pool storage safety.

Timeline of Major SFP-related Activities

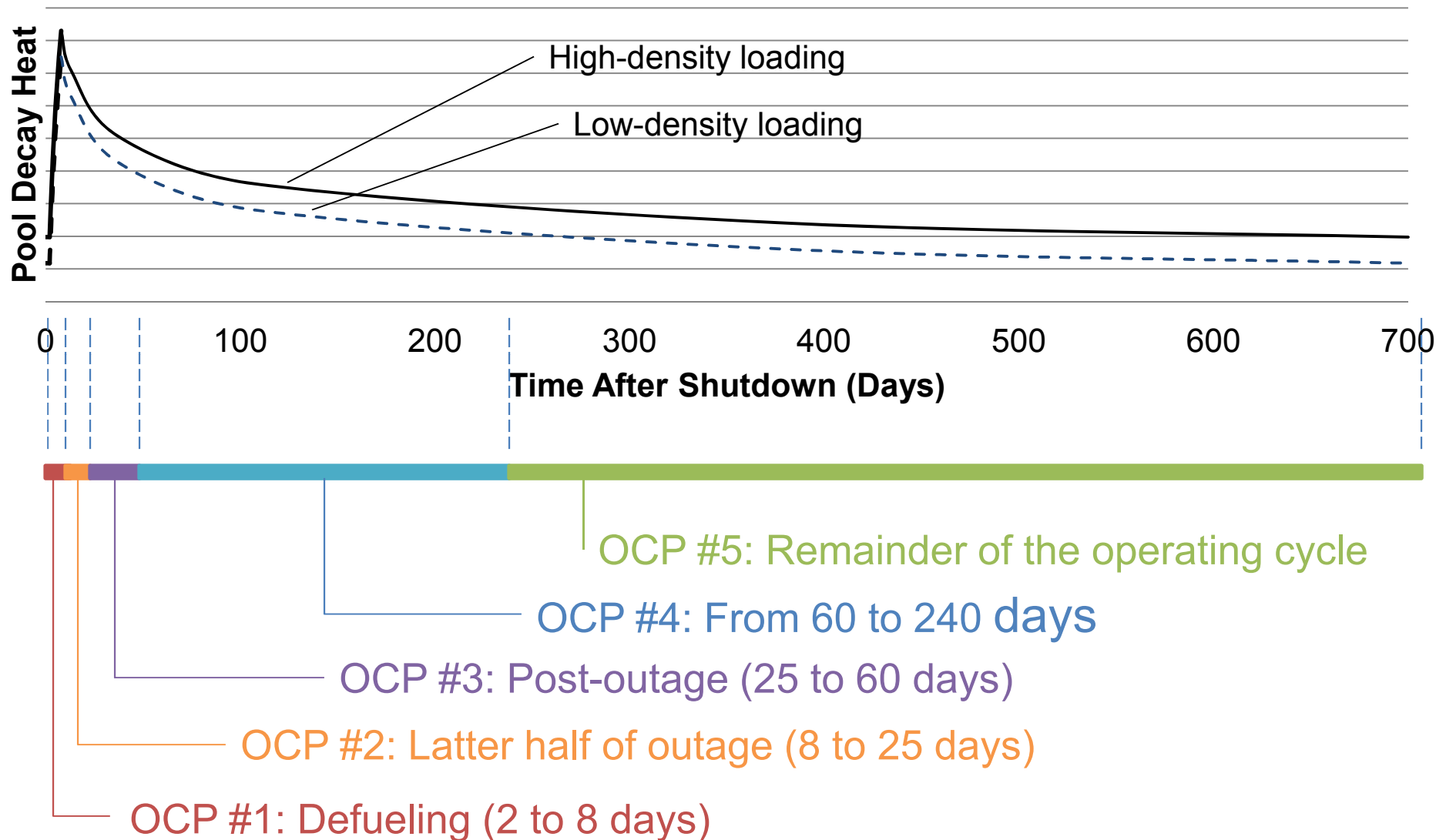




Spent Fuel Pool Scoping Study

- Limited-scope consequence assessment
 - Specific to a single site configuration
 - Seismic initiator based on results of past studies
- Considers:
 - Configuration through 5 stages of operating cycle
 - High and low density fuel storage (racks unchanged)
 - Event progression with and without mitigation
- Supports:
 - Validation of seismic modeling
 - Validation of event progression modeling
 - Validation of consequence modeling

Illustration of Pool Decay Heat and Operating Cycle Phases (OCPs)





Known Gaps

- Issues that may increase value of transfer
 - Criticality (degraded neutron absorbers)
 - Multi-unit discharges into single pool
- Issues that decrease value of transfer
 - Increased handling accident risk
 - Operational risks (e.g., radiation dose)
 - Industry limitations (e.g., cask production)



Staff Approach

- Validate understanding of spent fuel safety, considering past evaluations and results of spent fuel pool scoping study.
- Analyze information considering NRC Regulatory Analysis Guidelines to inform an initial recommendation.
- Staff will identify any inconsistencies or gaps that may need additional research.
- Staff will gather stakeholder input on staff analysis of information.
- Staff will address the need for regulatory action in a recommendation to the Commission.