



DECOMMISSIONING OVERSIGHT PROGRAM AFTER SHUTDOWN



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What is Reactor Decommissioning?

The process of removing a reactor facility safely from the operating mode to a permanent shutdown condition and reducing the residual radioactivity to a level that permits the release of the property for unrestricted use and termination of the license

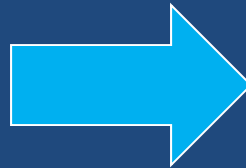
BEFORE



AFTER



Maine Yankee



Reactors

Materials

Certification
of Permanent
Fuel Removal

Reactor Oversight Program

Decom Oversight Program

2 Resident Inspectors

Decision
to Cease
Operations

Permanent
Cessation
of Power
Operations

Fuel
Offloaded
to Spent
Fuel Pool

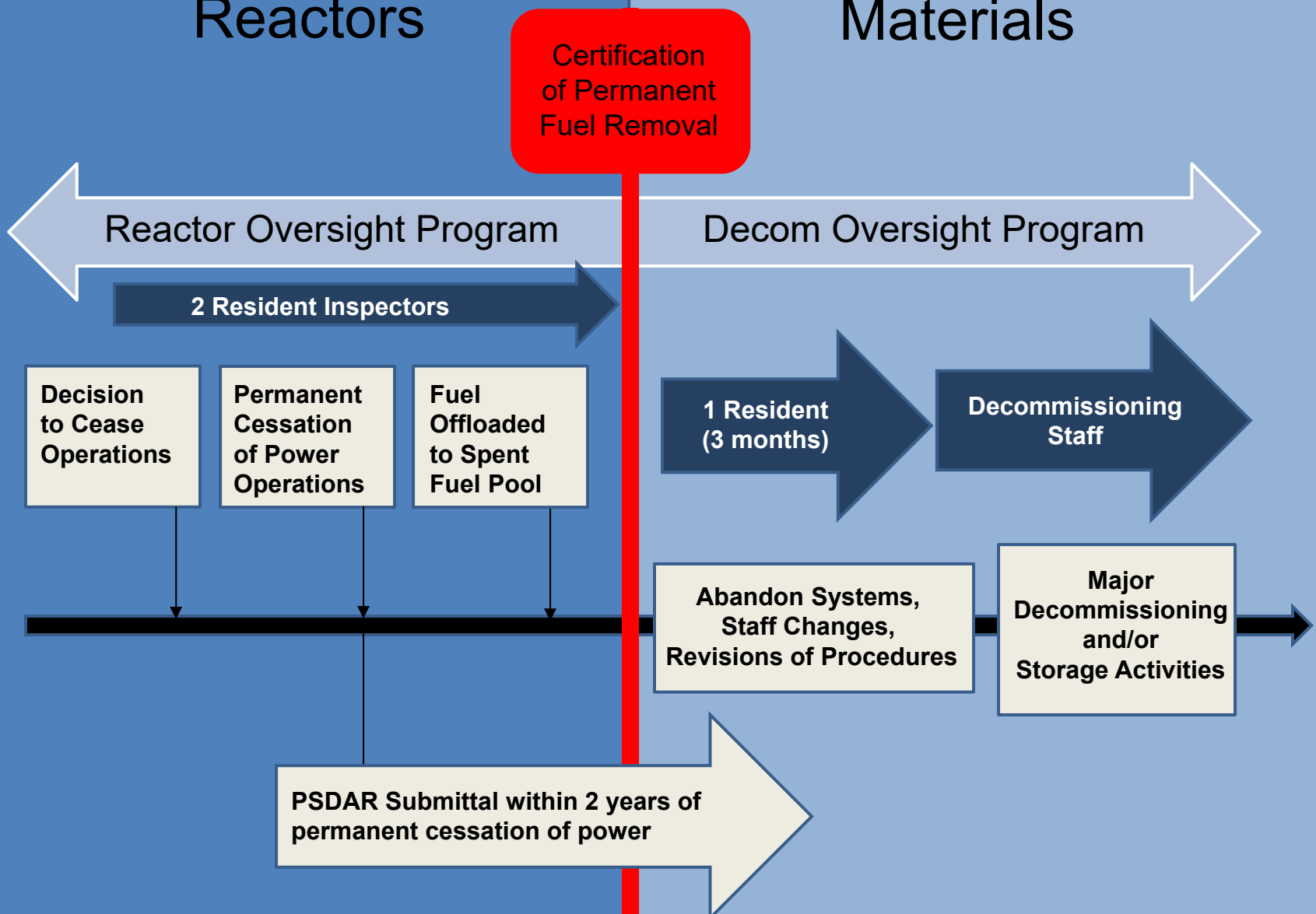
1 Resident
(3 months)

Decommissioning
Staff

Abandon Systems,
Staff Changes,
Revisions of Procedures

Major
Decommissioning
and/or
Storage Activities

PSDAR Submittal within 2 years of
permanent cessation of power



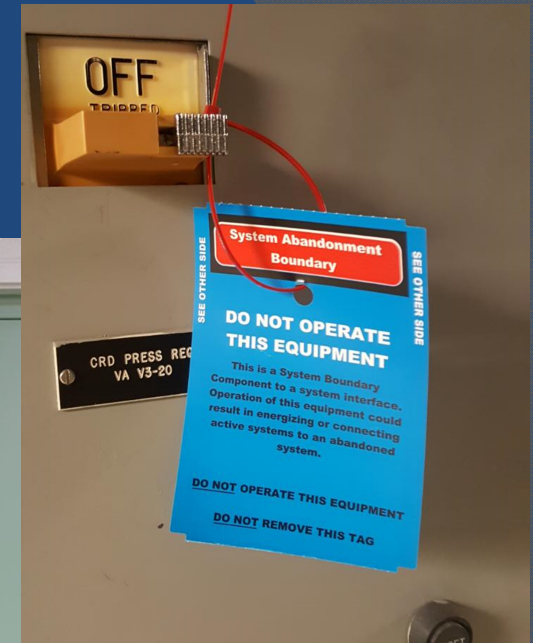
What happens after shutdown?

- ❑ Certification of permanent cessation of operations
- ❑ Certification of permanent removal of fuel from reactor
- ❑ Submission of Post Shutdown Decommissioning Activities Report (PSDAR)

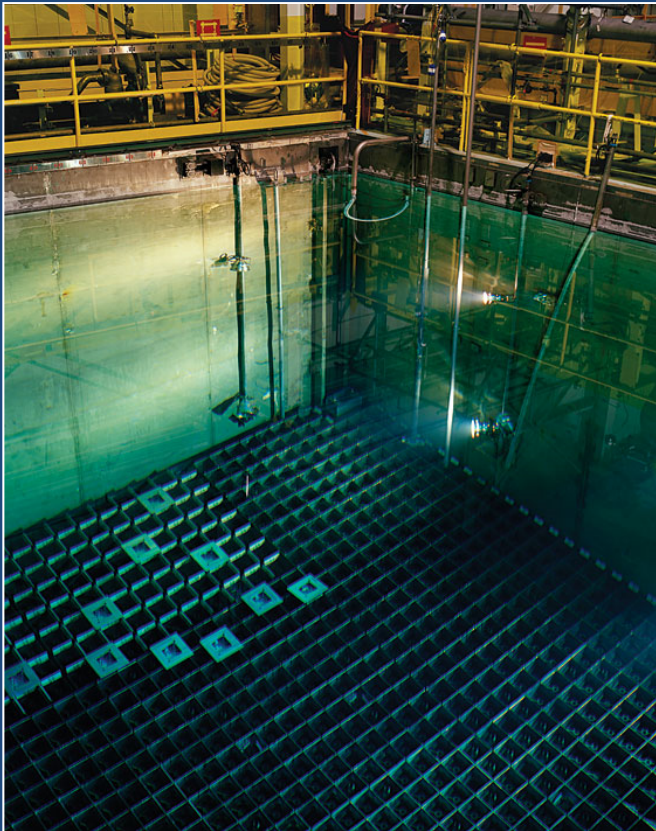


Plant modifications

- Drain down systems
- Modify current systems for a shutdown state
- Abandon unneeded systems
- Prepare for either DECON or SAFSTOR



What happens to the spent fuel?



- ❑ Typically removed from spent fuel pool
- ❑ Stored on-site in dry cask storage systems
- ❑ Safety and security programs remain until fuel removed from site

Why the need for Dry Cask Storage?



- Reprocessing of spent fuel not an option
- No national repository for spent fuel to date
- Pools meant for temporary storage encounter capacity issues

Consolidated Interim Storage

❑ Interim Storage Partners (ISP) in Texas

- Summer 2018 – NRC resumed the safety and environmental reviews
- May 2021 – safety and security reviews are scheduled to be complete

❑ Holtec International & Eddy Lea Energy Alliance in New Mexico

- February 2018 - Staff began detailed review
- March 2021- safety and security reviews scheduled to be complete



Decommissioning Options



- ❑ **DECON** – Equipment, structures, etc., are removed or decontaminated to a level that permits unrestricted release
- ❑ **SAFSTOR** – Plant is placed in a safe, stable condition and maintained in this state until it is subsequently decontaminated to levels that permit unrestricted release

Continued Deactivation & Decommissioning (D&D)



License Termination Plan



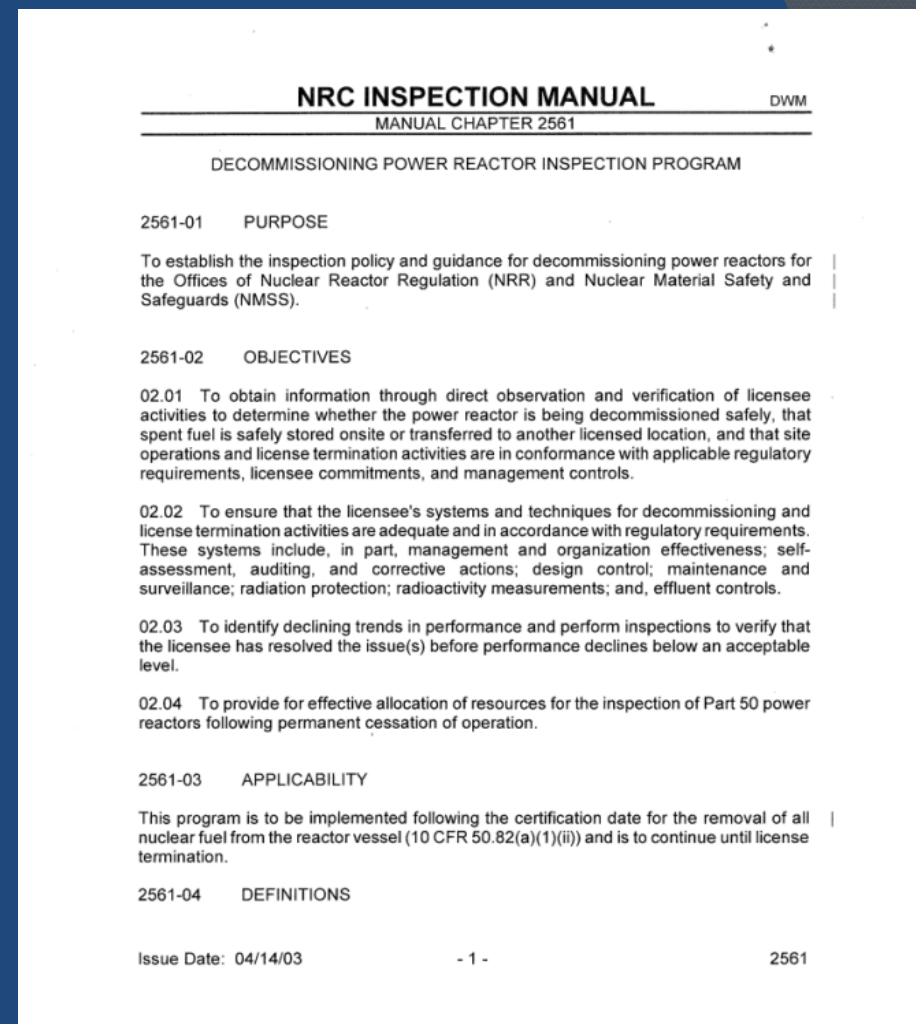
- Any site restoration
- NRC license termination
- Spent fuel management

Connecticut Yankee & Rancho Seco



How does the NRC inspect decommissioning sites?

- ❑ Oversight and monitoring conducted over the entire period of decommissioning process
- ❑ Oversight program is described in Inspection Manual Chapter (IMC) 2561 & 2690



What areas do we inspect?

Decommissioning inspection program includes both core and discretionary inspections

Core Inspections

- Organization and management controls
- Maintenance and Surveillance activities
- Evaluation of modifications
- Spent fuel wet storage and handling
- Radiation protection
- Physical security

Discretionary Inspections

- Can be used as supplemental guidance during conduct of core procedures
- Fire Protection
- Material accountability and control
- Emergency preparedness

How does emergency planning change?

- ❑ Emergency preparedness remains
- ❑ 'All hazards' approach utilized vs. formal pre-planned off-site radiological response plans





Questions?