

**The NRC Reactor Decommissioning  
Process –  
Post Shutdown Decommissioning  
Activities Report (PSDAR)  
License Termination Plan (LTP)**

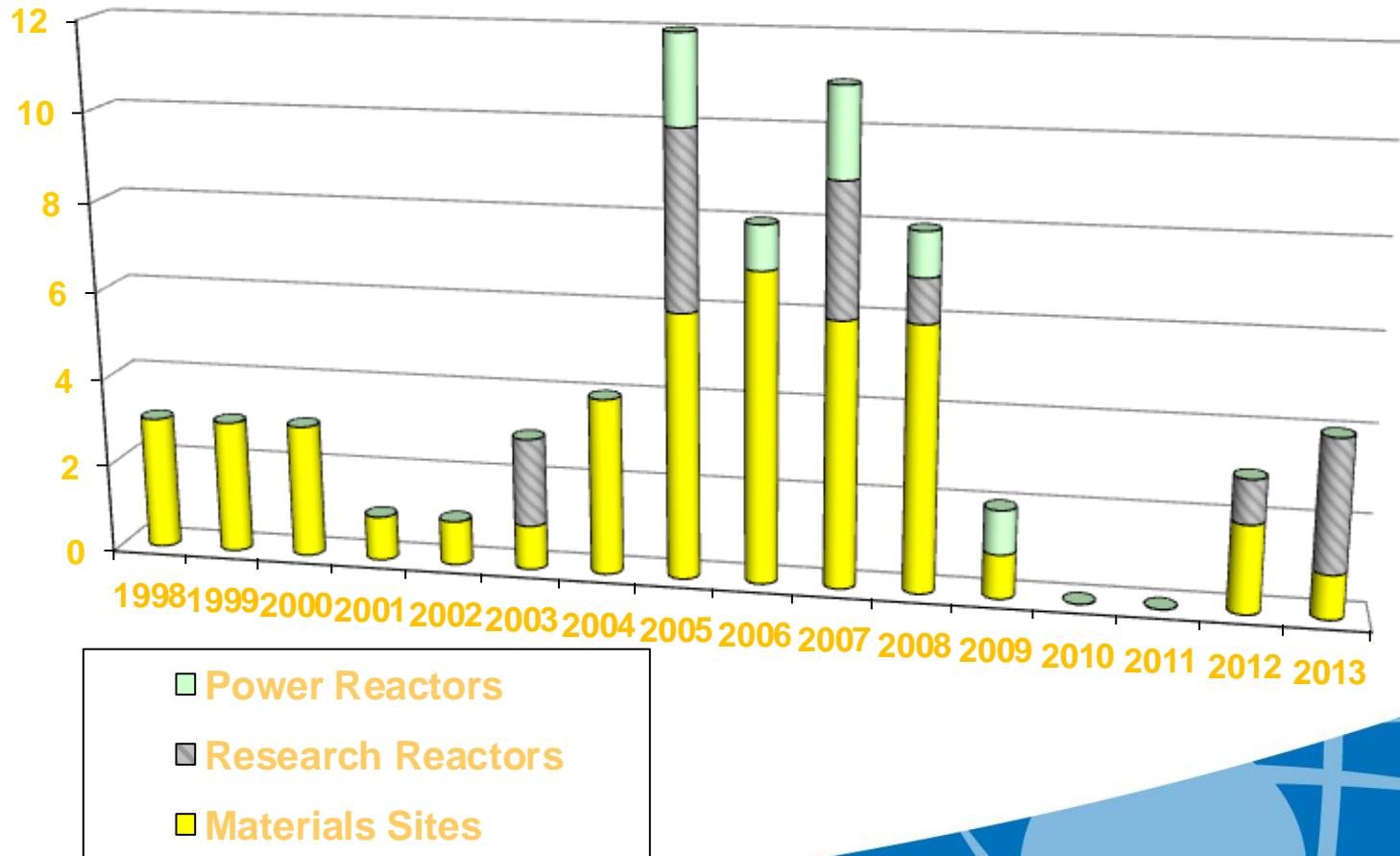
**San Onofre Community Engagement  
Panel Workshop**

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# NRC Decommissioning Experience



# Reactor Decommissioning Program

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- 17 Power Reactors in Decommissioning
  - ✓ 3 Active DECON
  - ✓ 12 in SAFSTOR
  - ✓ 2 In Transition and To Be Determined
  - ✓ 1 expected to cease operations by year end
- 8 Research Reactors in Decommissioning
  - ✓ 4 Active DECON
  - ✓ 4 in SAFSTOR
  - ✓ 1 expected to cease operations in 2015

# Power Reactor Decommissioning Regulations

Atomic Energy Act of 1954, as Amended

- 10 CFR Part 20 Subpart E “License Termination Rule” was implemented in 1997
- 10 CFR Part 50 – Operating License
- 10 CFR 50.75 Planning for Decommissioning
- 10 CFR 50.82 - Termination of License
  - ✓ Certifies Permanently Shutdown
  - ✓ Certifies Permanent Reactor Defueling
  - ✓ Post Shutdown Decommissioning Activities Report required within 2 years of permanent cessation of operations to NRC and affected States

# Reactor Decommissioning

## Performance Based Risk-Informed Regulations

- Reactor Decommissioning is required to be completed in 60 years.
- Bases: 50 y in SAFSTOR + 10 y DECON
- Radiation Dose Rates reduced to 1-2 %
- Radioactive Waste Volumes reduced to 10%
- Allows Decommissioning Fund to increase
- Coincidentally, 60 years corresponds well with 20 year life extension for multi-unit sites
- Regulatory Guide 1.184 “Decommissioning of Nuclear Power Reactors”

# Decommissioning

As defined in 10 CFR 50.2 “Decommission” means **to remove a facility or site safely from service and reduce residual radioactivity** to levels that permits either:

- Release of the property for unrestricted use and termination of the license;

or

- Release of the property for restricted conditions and termination of the license.

# Post Shutdown Decommissioning

## Activities Report - Why 2 Years?

- Decommissioning Planning Strategy – DECON Prompt Dismantlement, SAFSTOR Deferred Dismantlement or Entomb?
- Many factors to consider in the decision-making process



# Reactor Decommissioning Decision-Making Factors

- Multi-Unit Site Safety
- Financial – Decommissioning Funds Availability
- Access to Radioactive Waste Disposal Capacity
- Future use of the Site
- Stakeholders
  - State Public Utility Commissions
  - Local Communities
  - Members of the Public/Rate Payers
- New Business Model
- Special Circumstances



# Post Shutdown Decommissioning Activities Report

## PSDAR Content:

- A description and schedule for the planned decommissioning activities
- An estimate of the expected decommissioning costs
- A discussion that provides the means for concluding that the environmental impacts associated with the decommissioning activities will be bounded by appropriately issued Environmental Impact Statements.

# Post Shutdown Decommissioning Activities Report

## NRC Actions:

- Notices receipt of the PSDAR in the *Federal Register*
- Makes the PSDAR publically available at <http://www.nrc.gov> and Public Document Room
- NRC holds a Public Meeting in the vicinity of the licensee's facility to discuss the PSDAR and solicit public comments

# Post Shutdown Decommissioning Activities Report

## NRC Public Meeting Actions:

- Host a public meeting at least 30 days before the 90-days of receipt of the PSDAR
- Publish Meeting Notice in the Federal Register and local newspapers/media
- During the informational meeting, invite Licensee, State and Local Officials, and general public to comment on the PSDAR
- A written transcript will be made publically available

# NRC's PSDAR Review Process

- Content Requirements in 10 CFR 50.82(a)(4)(i)
- Staff uses Regulatory Guide 1.185 to ensure the document meets requirements
- Project Manager coordinates technical reviews the PSDAR
- Requests for Additional Information may be developed



# NRC's PSDAR Review Process – Decommissioning Activities



- Planned Decommissioning Activities and Schedule
  - Activities Unique to the Facility
  - NRC Safety Review
  - Determine NRC Oversight/Inspection
  - Determine NRC Licensing Activities



# NRC's PSDAR Review Process- Decommissioning Cost Estimate



- Site Specific Decommissioning Cost Estimate
  - Ensure reasonable funds are there to perform the radiological cleanup
  - If decommissioning is delayed, ensure the licensee has a means of adjusting the cost estimate and funding over the storage period
  - Annually Update!



# NRC's PSDAR Review Process - NEPA

- Reasons for concluding that Environmental Impacts associated with the decommissioning activities are bounded by the previously issued EISs.
  - NUREG 0586, “Final Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities”
  - Inspection Program



# NRC's PSDAR Review Process

- After no additional information is required, NRC will notify the Licensee.
- NRC does not approve the PSDAR
- Licensee may begin decommissioning 90 days after NRC receives the PSDAR





# License Termination Plans (LTP)

- Licensee conducts decommissioning and NRC continues on-site inspections
- Licensee submits the LTP at least 2 years prior to requesting license termination
- NRC notices the LTP in the Federal Register
- NRC holds a Public Meeting to discuss the LTP



# License Termination Plan

## Key Contents

- Site Characterization information
- Identify remaining dismantling activities and Plans for site remediation
- Detailed plans for final radiation surveys
- Update site-specific cost estimate
- A supplement to the Environmental Report (10 CFR 51.53) describing any new information or significant environmental change associated with the licensee's proposed termination activities

# License Termination Plan

- NRC will perform an acceptance and technical review
- Request additional information, if necessary
- Public Meeting and Opportunity for Hearing
- NRC approves the LTP by license amendment
  - Safety Evaluation Report
  - Environmental Assessment



# NRC's Regulatory Oversight Continues

- License Amendment Process
  - Federal Register Notice/Website
  - Public Comment
  - NUREG 1748, “Environmental Review Guidance for Licensing Actions Associated with NMSS Programs”



# NRC's Regulatory Oversight Continues

## Decommissioning Inspection Program

- Inspection Manual Chapter 2561
- ~ 50 Inspection Procedures
- 12 Core Inspection Procedures
- 38 Discretionary Inspection Procedures
- Inspection Program is adjusted to site activities



# Thank You!!!

## Questions?

