Overview of the United States Reactor Decommissioning Program

Congressman Salud Carbajal (D-24)
Public Meeting
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Chief, Reactor Decommissioning Branch
Office of Nuclear Material and Safeguards

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Reactor Decommissioning

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- Reactor Decommissioning Background
- Decommissioning Process (10 CFR 50.82)
- Decommissioning Inspection Program
- Decommissioning Trust Funds
- Power Reactor Decommissioning in California
- Summary

NRC Mission

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- As an independent safety regulator, the NRC's mission is to ensure the plant is operated safely and radiologically decommissioned and the license is terminated.

<u>Present Reactor Decommissioning Status</u>

- 6 power reactors in active decommissioning
- 14 power reactors in long-term storage
- 8 announced; more shutdowns are anticipated

Reactor Decommissioning Background

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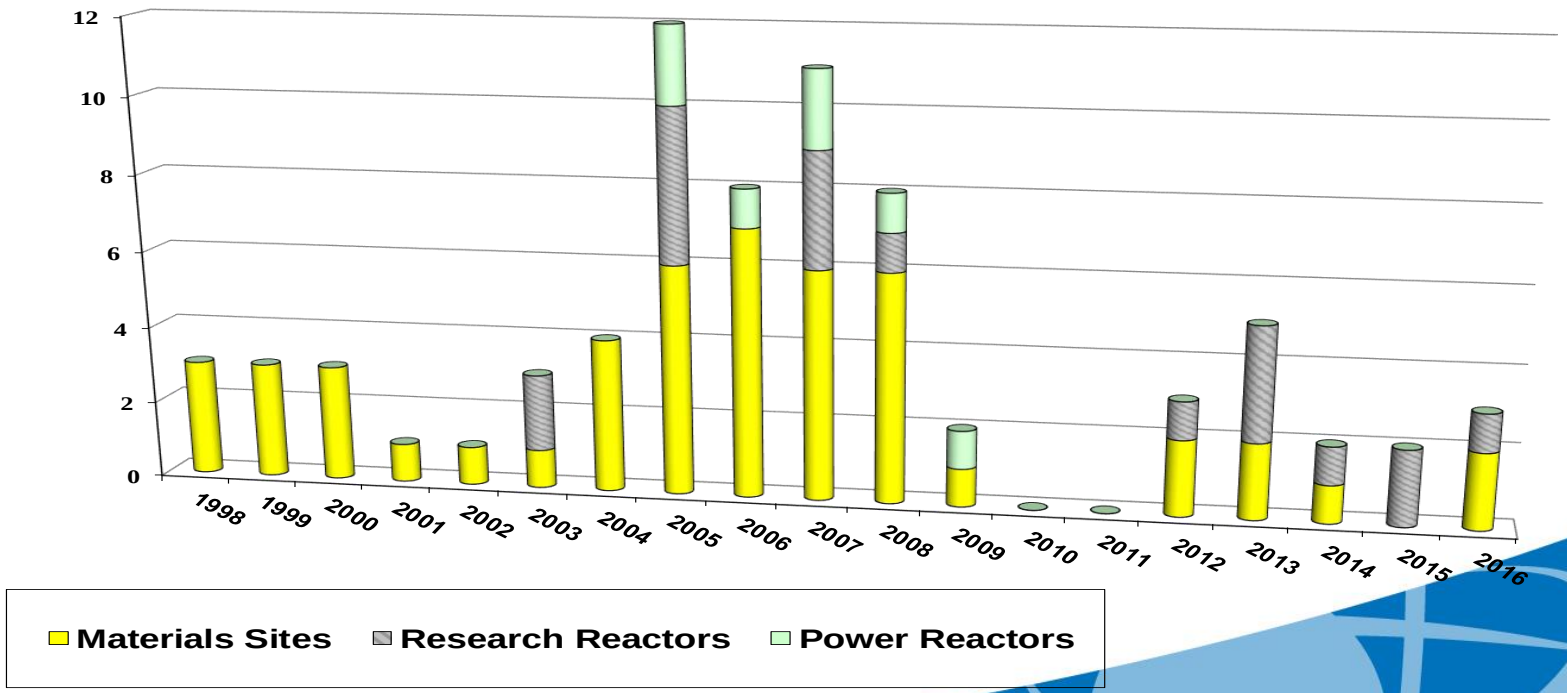
- Current 1997 decommissioning regulations are performance-based and risk-informed
- Extensive decommissioning experience
- A total of 10 power reactor sites have completed decommissioning:



Decommissioning Program Regulatory Framework

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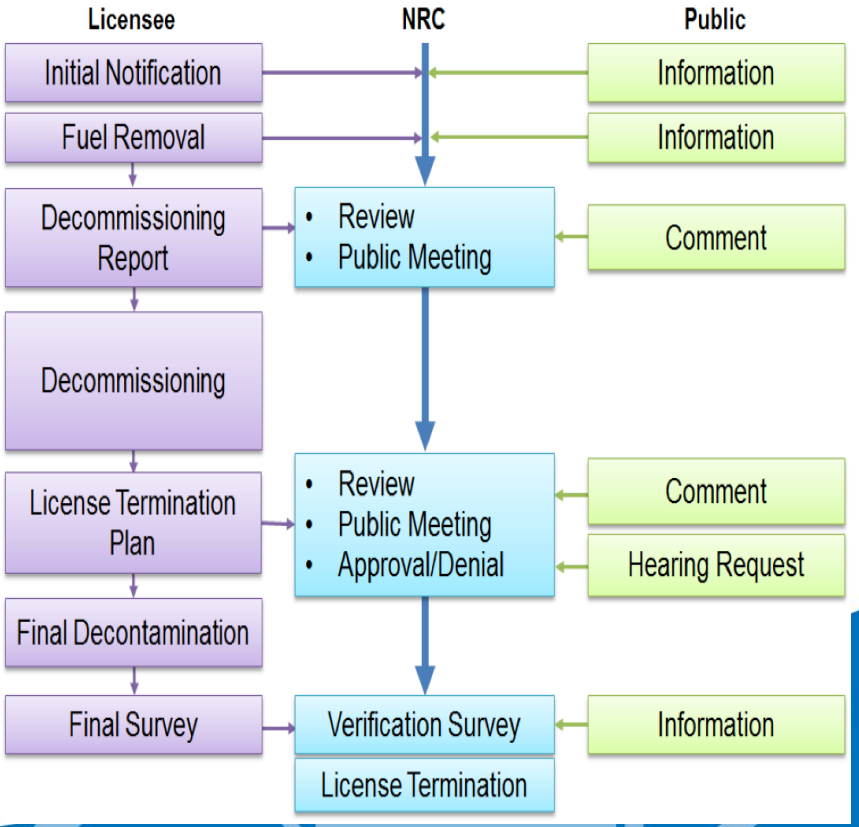
Decommissioning Program

- Atomic Energy Act of 1954, as amended -- statutory authority
  - Integrated Decommissioning Program
- Comprehensive Regulations:
  - Public involvement
  - Environmental review
  - Financial assurance
  - Site characterization
  - Site remediation/Radiological clean-up
  - Final site surveys
- Regulatory Guidance
- Licensing Oversight
- Inspection Program

Decommissioning Process



Decommissioning Process

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- Notification of intent to permanently shut down
- Submittal of certifications of permanent shutdown and permanent removal of fuel from reactor vessel results and the plant permanently is shutdown
- Submittal of Post Shutdown Decommissioning Activities Report (PSDAR) and NRC holds a public meeting
- Reactor decommissioning must be completed within 60 years of permanent cessation of operations
- License Termination Plan (LTP) is submitted 2 years prior to requesting license termination and NRC holds a public meeting to obtain public comments on the LTP
- NRC terminates the license by letter

Reactor Decommissioning Inspection Program

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- Inspection program continues until the license is terminated (Inspection Manual Chapter 2561)
- Inspection frequency is based on site activities
- Minimum annual inspection - 12 core procedures are required each year
- Resident inspector stays for up to 1 year after shutdown, but can be extended
- Inspection reports are publically available

Reasonable Assurance of Decommissioning Funding

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- Initial certification of financial assurance
- Maintains the NRC minimum funding amounts throughout the life of the reactor
- Licensee may use one or more funding methods specified in the regulation
- Monitoring and updating of decommissioning funding -
  - Operating licensee provides decommissioning fund status report to the NRC every 2 years
  - Licensee must provide Site Specific Cost Estimate 5 years prior to permanent cessation of operations and in the PSDAR
  - Decommissioning reactors must report annually

Reactor Decommissioning in California

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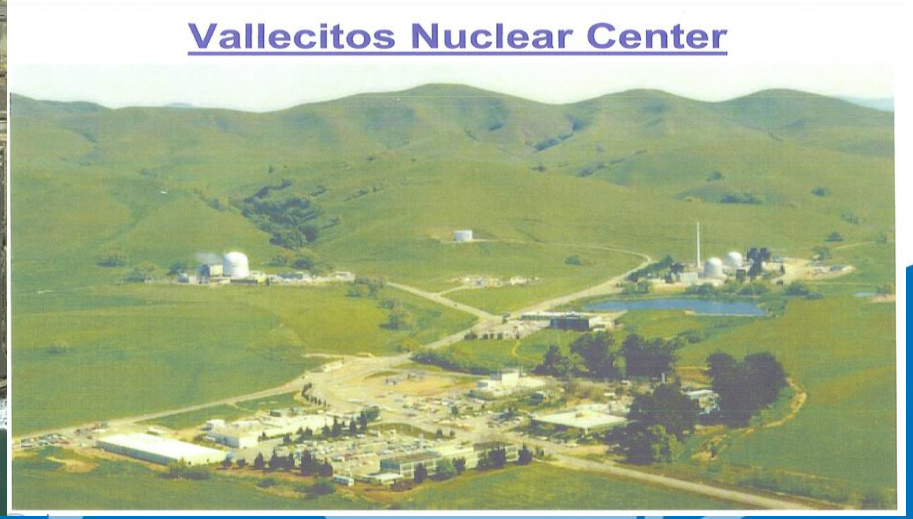

Summary

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As an independent safety regulator, the NRC's mission is to ensure the plant is operated safely, radiologically decommissioned safely and the license is terminated.

Reactor Decommissioning Program

- Proven decommissioning regulations
- Comprehensive guidance
- Experienced inspection program

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Overview of the Spent Fuel Management

Michael Layton, Director
Division of Spent Fuel Management
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission

Roles and Responsibilities

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- Licensing, Certification and Inspection
  - Spent fuel storage facilities
  - Spent fuel dry cask storage systems
  - Radioactive material transportation packaging
  - Vendor, QA, and ISFSI inspections
- Coordination with:
  - State and federal agencies (most notable DOT and DOE, but also EPA)
  - Foreign and international regulatory agencies
  - Native American tribes
- Public outreach on storage and transportation activities

Status of Independent Spent Fuel Storage Installations

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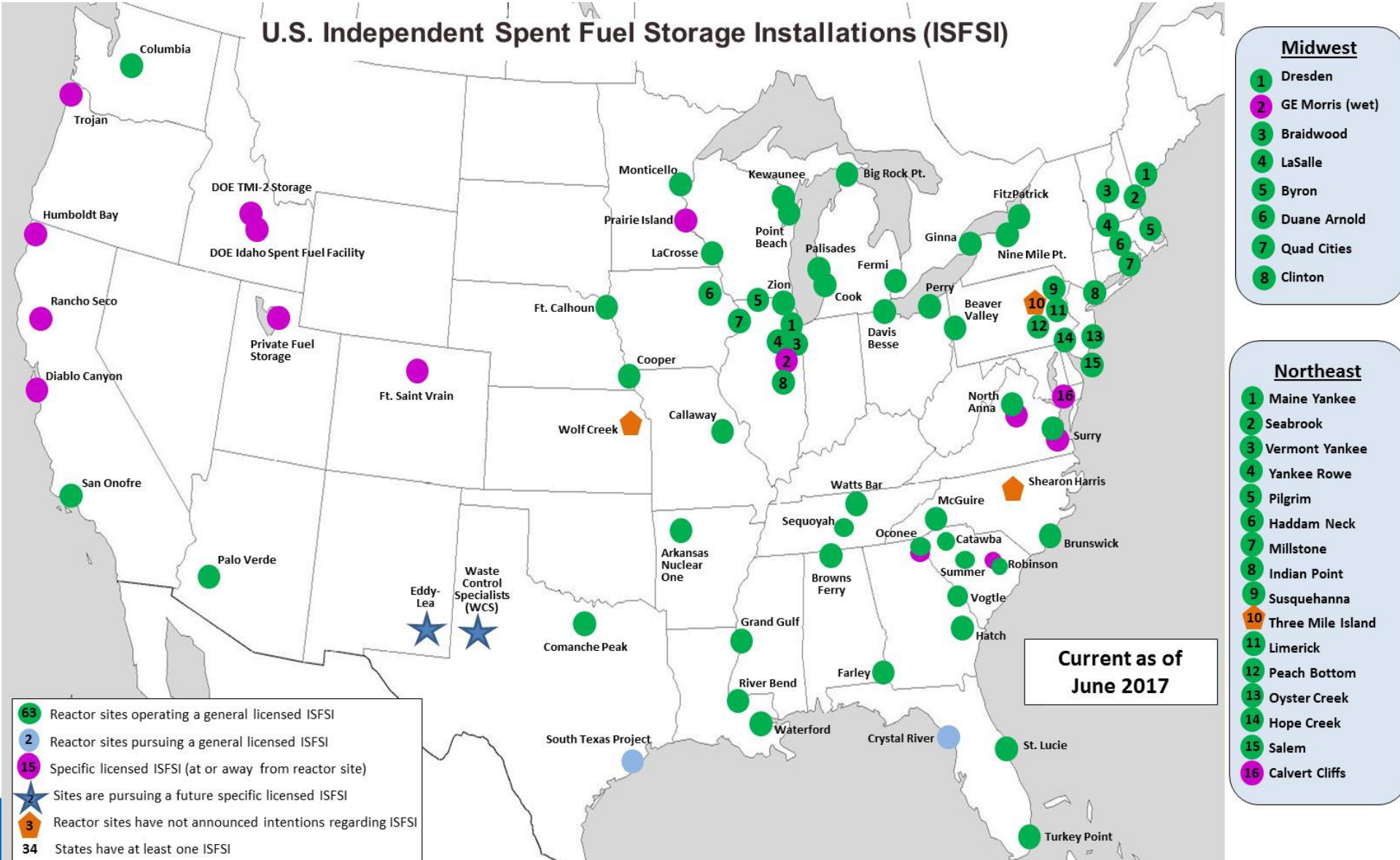
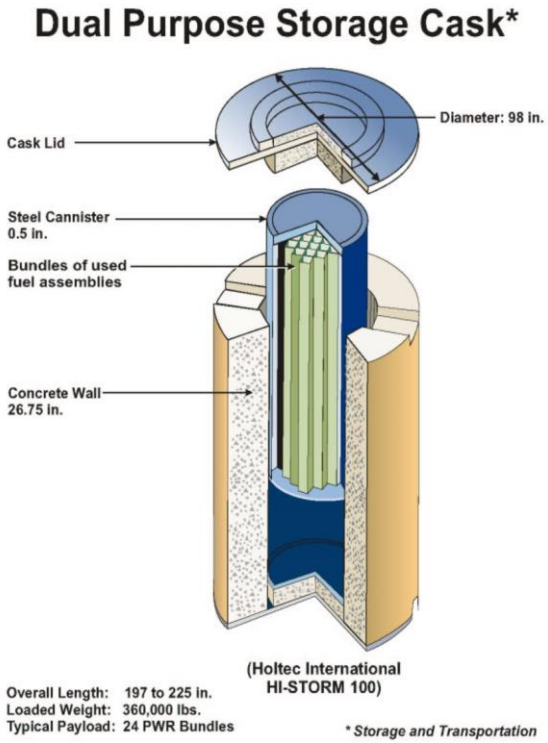


Dry Cask Storage, Certificates of Compliance (10 CFR **Part 72**)

- Approximately 12 Certificates of Compliance (CoCs)
- 20-30 storage cases each year
- Increased engagement with stakeholders on dry storage matters
- Coordination with DOE project planning and research



Inspection Program

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- Integrated Inspection Plan
- Inspection reports
- Approval of changes (10 CFR 72.48)
- Enforcement actions
- Allegations

Inspection Program

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- Design
- Fabrication
- Construction
- Preoperational Testing
- Operations
- Security

Spent Fuel Storage at SONGS

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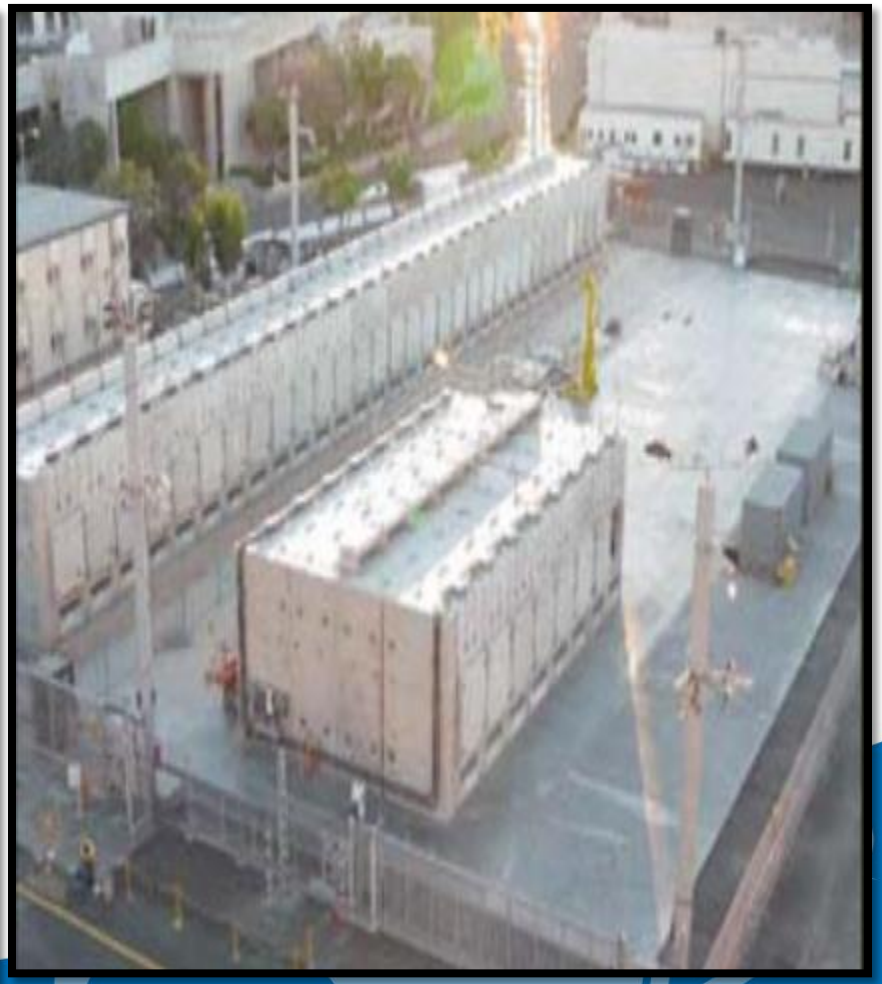

Spent Fuel Storage at Diablo Canyon

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Consolidated Interim Storage

- Multiple pre-application meetings with Waste Control Specialists and Holtec/Eddy Lea Energy Alliance
- WCS
  - Application received April 2016
  - Accepted in January 2017
  - Suspension requested in April 2017
  - NRC suspended WCS application review
- Holtec
  - Application received March 2017
  - Currently in Acceptance Review
- Potential DOE Topical Safety Analysis Report for a consolidated interim storage facility
- Engage stakeholders within our role

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