San Onofre
San Onofre
## Milestone Timeline

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>January 9, 2012</td>
<td>Unit 2 begins refueling outage</td>
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<td>January 31, 2012</td>
<td>Unit 3 Steam Generator tube leak</td>
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<td>June 7, 2013</td>
<td>Decision to Shutdown Units 2 and 3</td>
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<td>June 12, 2013</td>
<td>Certification of Permanent Cessation of Power Operations</td>
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<td>August 2013</td>
<td>Transition to Decommissioning Staffing</td>
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<td>September 2013</td>
<td>• Benchmarking, data gathering (ongoing)</td>
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<td></td>
<td>• Project Teams - Cold and Dark, ISFSI, Regulatory Submittals, Spent Fuel Pool Islanding</td>
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<td></td>
<td>• Plant System draining and abandonment</td>
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<td>January 2014</td>
<td>20 Year Decommissioning Plan</td>
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<tr>
<td>March 2014</td>
<td>First Community Engagement Panel Meeting</td>
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Decommissioning

Permanently removing a nuclear facility from service and reducing radioactive material on the licensed site to levels that would permit termination of the NRC license

SAFSTOR
• A method of decommissioning whereby the facility is placed in a safe stable condition and maintained in that state until it is subsequently decontaminated and dismantled to levels that permit license termination. During SAFSTOR, a facility is left intact, but the fuel has been removed from the reactor vessel and radioactive liquids have been drained from systems and components and then processed.

DECON
• The equipment, structures, and portions of the facility and site that contain radioactive contaminants are removed or decontaminated to a level that permits termination of the license after cessation of operations.

ENTOMB
• (Not an option for San Onofre)
Decommissioning Principles

With our co-owners, Southern California Edison is committed to:

Safety
- Safely decommissioning San Onofre
- Safely move the power plant’s spent fuel into dry cask storage, until government approved long-term storage options are available

Stewardship
- Leave the community better off
- Spending Nuclear Trust Funds wisely
- Return any unused monies to ratepayers

Engagement
- Decommissioning process is inclusive, forward-thinking, involving diverse stakeholders
Three Phases of Decommissioning

• Phase 1 of decommissioning “includes the initial activities, starting on the effective date of permanent cessation of operations...”; this phase is approximately 2 years in duration

• Phase 2 “encompasses activities during the storage period or during major decommissioning activities...”; this phase is variable in length but up to 58 years after ceasing operation

• Phase 3 “consists of the rest the activities the licensee undertakes to terminate the license...”; this phase must be complete within 60 years of ceasing operation
DECOMMISSIONING SAN ONOFRE

NRC Requirements
Three Phases of Decommissioning

Decommissioning Planning
- SCE ceases operations and notifies NRC
- SCE submits Post-shutdown Decommissioning Activities Report
- NRC reviews Post-shutdown Decommissioning Activities Report

Major Decommissioning Activities
- SCE initiates cleanup activities, per the Post-shutdown Decommissioning Activities Report
- NRC conducts periodic inspections
- SCE submits license termination plan
- SCE completes cleanup activities
- NRC performs technical and environmental reviews of license termination plan and approves plan

License Termination
- SCE conducts final status survey and submits reports
- NRC conducts confirmatory surveys and reviews report
- NRC approves final status survey report and modifies license
- Dry Fuel Storage Part 50 license remains
Maine Yankee
Maine Yankee
DECOMMISSIONING SAN ONOFRE

Proposed Decommissioning Timeline

PHYSICAL PLANT CHANGES
- All Systems de-energized, depressurized, drained, temporary power ring established

LICENSE SUBMITTALS
- Permanently Defueled Emergency Plan
- Permanently Defueled Technical Specifications

DECOMMISSIONING SUBMITTALS
- IFMP Submittal
- DCE Submittal
- PSDAR Submittal

PHYSICAL PLANT CHANGES
2014 1st Quarter

LICENSE SUBMITTALS
2014 2nd Quarter

DECOMMISSIONING SUBMITTALS
2014 3rd Quarter

Dairy Fuel Storage (DFS)
Engineering and Procurement

2014 4th Quarter

2015 1st Quarter

Dry Fuel Storage Project Implementation

2015 2nd Quarter

Start Decontamination & Dismantlement (D&D) 10 years

2015 3rd Quarter

Dry Fuel Storage Pad Expansion

2015 4th Quarter

Dry Fuel Storage Canister Fabrication

2016

2017

2018

2019

2020

2021

2022

2023

2024

2025

2026

2027

2028

2029

2030

2031

2032

2033

20 Years or Less

Major Milestone

License Termination Plan

Completion of Remaining Site Restoration Work

End of Plant Decommissioning (Dry Fuel Storage Pad Remains)

Preliminary - For Planning Purposes Only
DECOMMISSIONING SAN ONOFRE

Nuclear Regulatory Commission Submittals

Irradiated Fuel Management Plan (IFMP)
Description of Spent Fuel storage management and funding plan

Post-shutdown Decommissioning Activities Report (PSDAR)
Identifies the planned decommissioning activities, a schedule for the completion of these activities, estimate of the expected costs, and environmental impacts associated with the site-specific decommissioning activities

Decommissioning Cost Estimate (DCE)
Provides funding levels and process through the decommissioning periods

Permanently Defueled Emergency Plan (PDEP)
Description of station Emergency Plan and Emergency Response Organization commensurate with decommissioned conditions of the plant

Permanently Defueled Technical Specifications (PDTS)
License basis for current defueled condition of the station
Spent Fuel Pool to Dry Fuel Storage
Dry Fuel Storage
Spent Fuel Storage

Current State

Fuel Assemblies in Spent Fuel Pools = 2668

Future State

Expanded Dry Fuel Storage Pad

Approximately 100 canisters containing 2668 Fuel Assemblies (includes 1115 High Burn-up Fuel Assemblies)

50 canisters already in place

Future State Off-site

To DOE
3855 Fuel Assemblies in approximately 150 canisters

Existing Dry Fuel Storage Pad (with Unit 1,2,3 spent fuel)
50 canisters
1187 Fuel Assemblies (includes 8 High Burn-up Fuel Assemblies)

Preliminary - For Planning Purposes Only
SONGS Independent Spent Fuel Storage Installation Expansion

- Relative expansion requirements shown
- Red line shows existing installation, with two options for expansion

Option A: Proposed Expansion to West (92,000 sqft)
Approx. 293 ft

Option B: Proposed Expansion to South (94,000 sqft)
Approx. 440 ft

Existing ISFSI Pad (55,000 sqft)
Approx. 176 ft

Preliminary - For Planning Purposes Only
Community Engagement Panel

- 18 Member Panel
  - Volunteers
  - Chairman, Vice-Chair and Secretary positions

- Membership comprised of:
  - Elected representatives of the surrounding cities and counties
  - Military
  - Local environmentalists
  - Business
  - Labor
  - Customer interests
  - Academia
Community Engagement Panel

- Core Decommissioning Principle of “Engagement”
- Advisory group of diverse stakeholders, providing an open conduit of information and ideas between the owners and the public
- Ensure key interests are included and heard
- Quarterly meetings, with open comment opportunity for the public
- Technical workshops
Decommissioning

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Unit 2/3 Construction Slides
Plant General Layout
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Decommissioning Principles

Safety

Stewardship

Engagement