



Decommissioning San Onofre

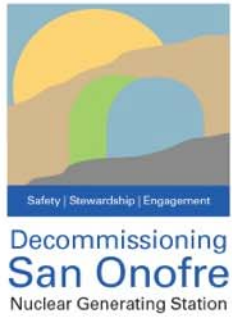
Nuclear Generating Station

Decommissioning Update

San Diego Water Board

David Asti
Senior Advisor
Environmental Affairs and Compliance
June 20, 2018

WORKING DRAFT 6/5/18



Decommissioning Principles

Southern California Edison and co-owners committed to:

Safety
Stewardship
Engagement

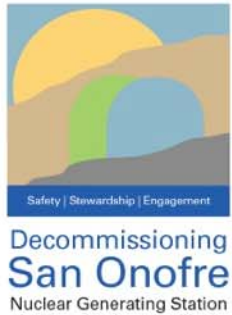


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Nuclear Generating Station

Project Location

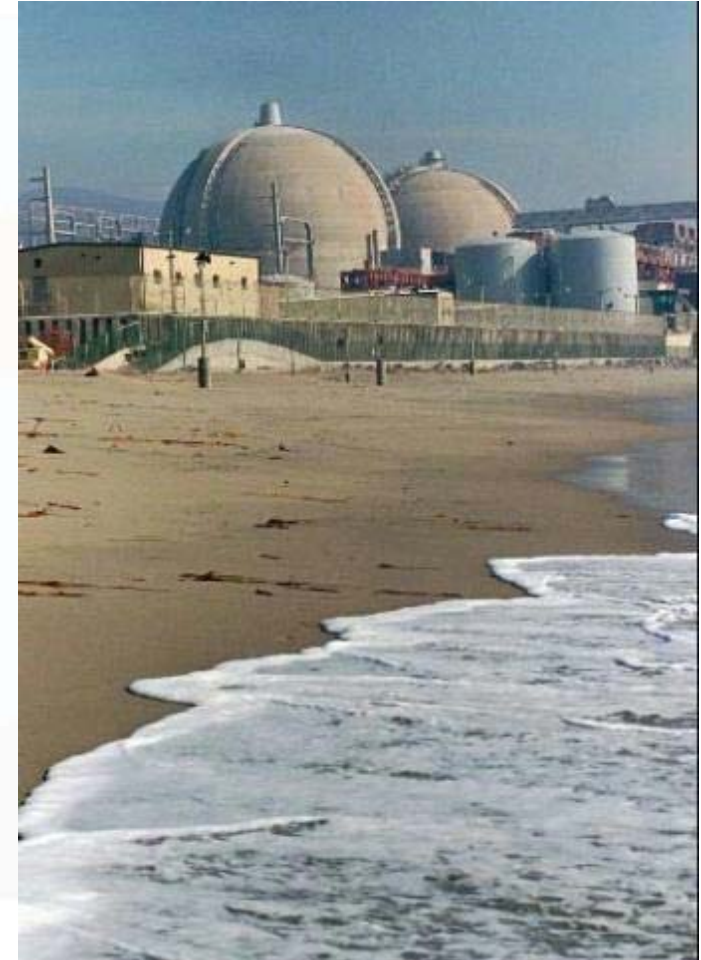
- Located in San Diego County, halfway between Los Angeles and San Diego
- SONGS onshore facilities located on Marine Corps Base Camp Pendleton
- Offshore facilities on tidal and submerged lands managed by California State Lands Commission (CSLC)

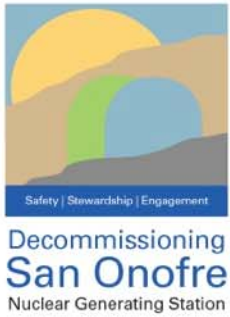




San Onofre Plant Status

- **Unit 1 retired 1992**
 - Most onshore decontamination & dismantlement is complete
 - Fuel storage facility (ISFSI) constructed 2000
 - Offshore conduits dispositioned 2014, CSLC offshore lease termination in process
- **Units 2 & 3 retired June 2013**
 - NRC submittals filed Sept 2014
 - Offshore conduit lease modification application filed with CSLC Nov 2015
 - Expanded ISFSI completed Jan 2018
 - Transfer of spent nuclear fuel to expanded ISFSI commenced Jan 2018

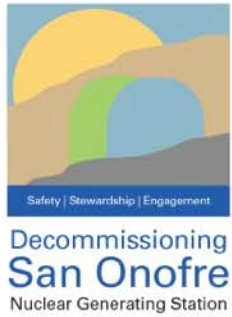




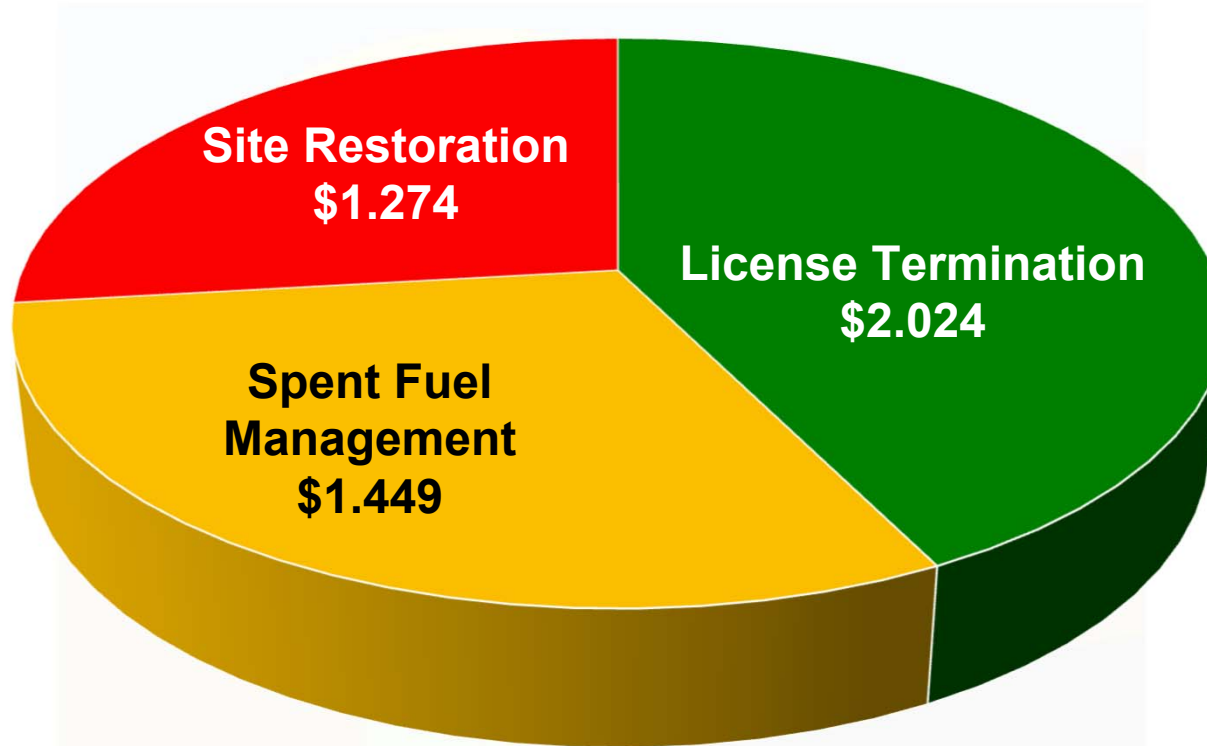
Regulatory Overview

Once a utility declares cessation of operation, specific activities are governed by NRC Regulations 10 CFR 50.82 with specific time periods:





SONGS Trusts Fully Funded

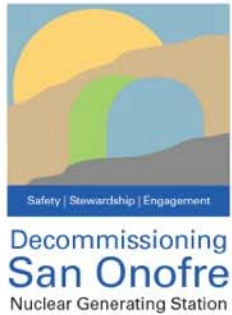


- Total estimate = \$4.747 Billion (100% share, 2017\$\$)
- Current trust fund balances expected to fully fund decommissioning



Decommissioning Activities and Schedule

- Major activities completed
 - Met all US NRC requirements by 3Q 2015
 - Evaluated and selected a Decommissioning General Contractor (DGC): January 2017
 - Completed construction of an expanded Independent Spent Fuel Storage Installation (ISFSI): January 2018
- Major activities in-progress
 - CA Environmental Quality Act (CEQA) review and Coastal Development Permit (CDP): Target Q4 2018
 - Transfer used fuel to Independent Spent Fuel Storage Installation (ISFSI): Target mid-2019



Decommissioning Plan

Approved ISFSI (2015 to 2035)

Ongoing ISFSI operation and maintenance approved under existing CDP

Proposed Project (2019 to 2028) – Analyzed in EIR

Prompt D&D of onshore facilities to meet NRC requirements for unrestricted use of site and disposition offshore conduits

Future Activities (~2035) – Subject to future CEQA and NEPA reviews

ISFSI removal, additional substructure removal (Units 1/2/3), shoreline structure disposition (seawall, walkway, and riprap), and final site restoration (2035 or later)*

* Subject to availability of suitable offsite fuel storage facility



State Agency Approvals for D&D

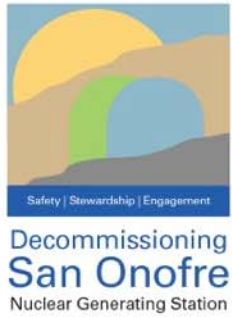
- **CSLC EIR and Offshore Lease**
 - As CEQA lead agency, CSLC reviewing potential environmental impacts of Proposed Project (onshore & offshore)
 - Determining final disposition for offshore conduits
 - Considering SCE's lease application for offshore conduits and riprap through 2035
- **CA Coastal Commission (CCC) Coastal Development Permit**
 - Responsible agency as part of CSLC's CEQA review
 - Develop staff report for decommissioning – expected to rely heavily on CSLC EIR
 - Issue CDP for decommissioning



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Other Areas of Interest





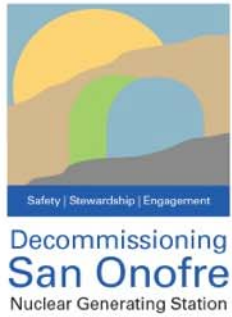
SEA LEVEL RISE (SLR)





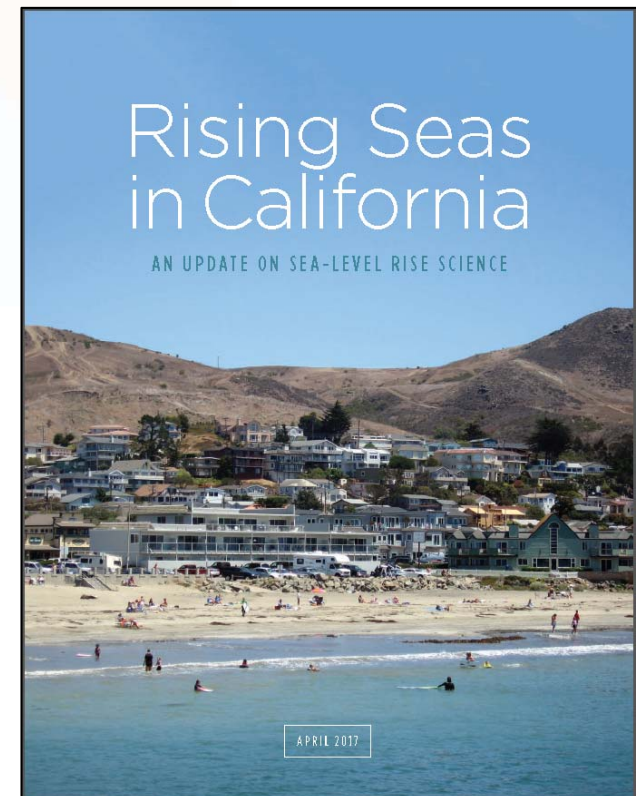
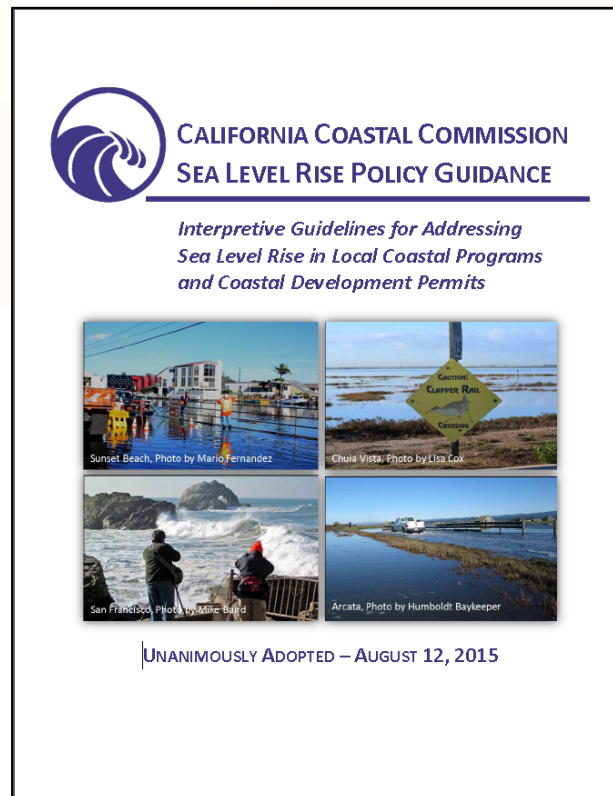
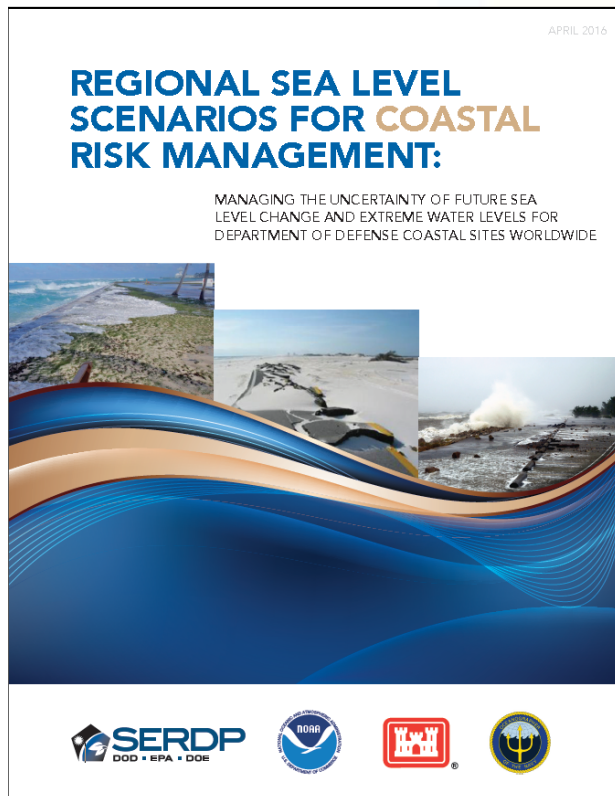
Purpose of Study

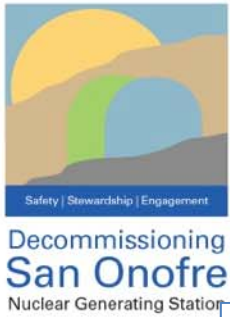
- To better understand interaction between coastal processes and SONGS substructures after removal of the seawall
- To inform SCE's end-state proposal to the Navy as landowner
- Planning tool that helps estimate future conditions at site when fuel and seawalls are removed



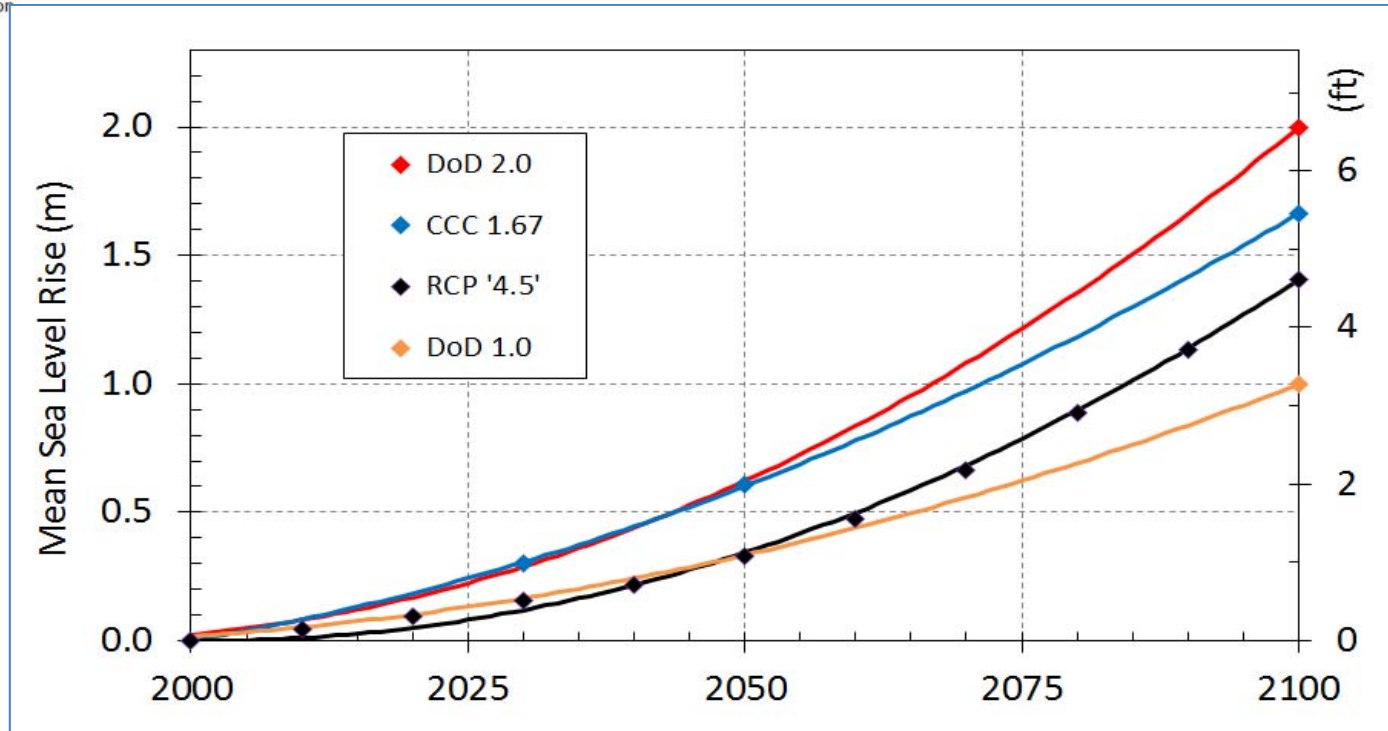
Sea Level Rise Inputs

- Utilized 3 Sea Level Rise (SLR) guidance documents (4 projections)





SLR Agency Projections



- Future projections vary substantially and are bounded by the DoD scenarios
- Global sea level is rising and likely that it will continue to do so at an accelerating rate into the future



Key Takeaways for SONGS

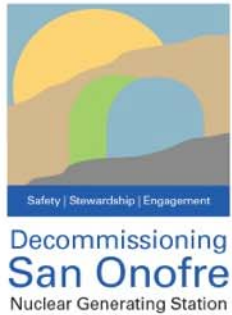
- Effects of coastal processes on the site are negligible until seawalls are removed
- After removal of the seawalls in 2051, the rate and magnitude of retreat of the cliff face is strongly correlated with the rate of sea level rise
- In the long term, coastal processes will impact remaining onshore substructures at SONGS



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SONGS Site





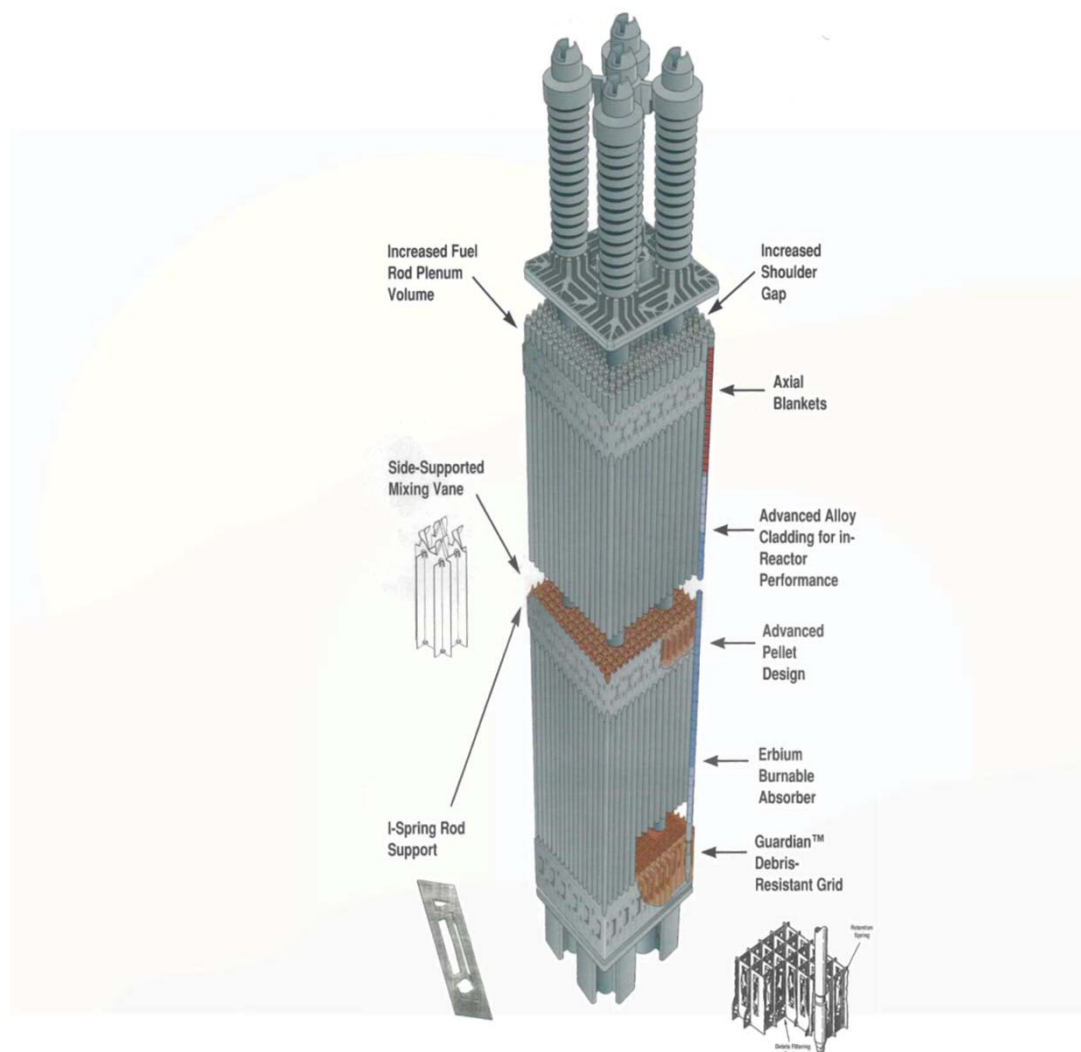
SCE's Spent Fuel Management Strategy

- Safely manage and store San Onofre's spent nuclear fuel until it is removed from site
- Promptly offload fuel from pools to passive dry cask storage
- Recover spent fuel storage costs from DOE
- Support all safe and reasonable options to remove spent nuclear fuel from San Onofre site



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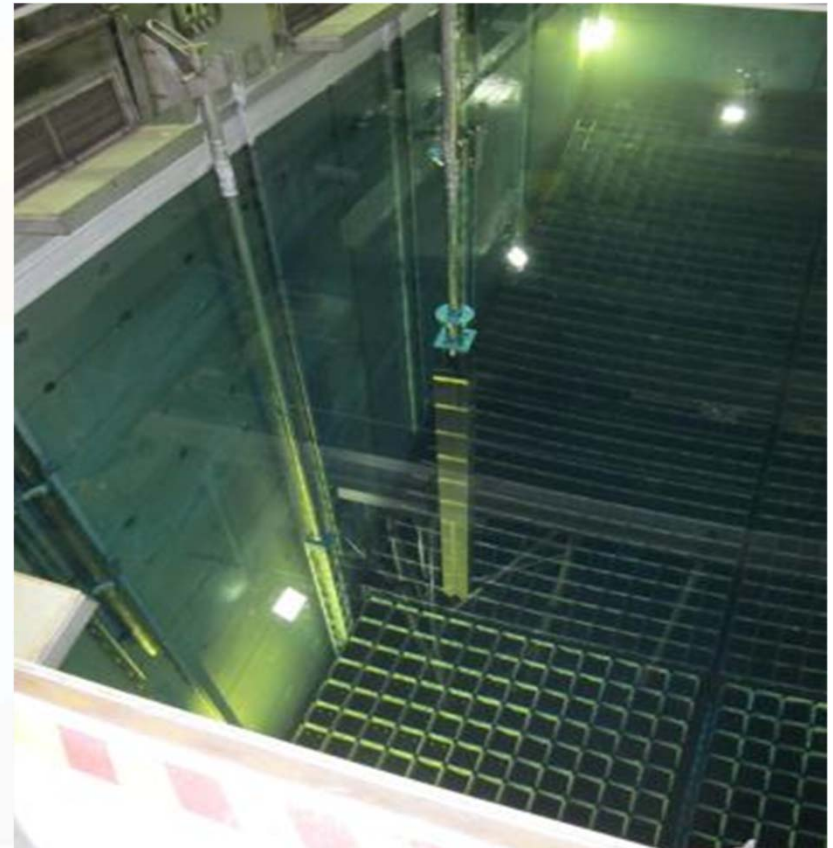
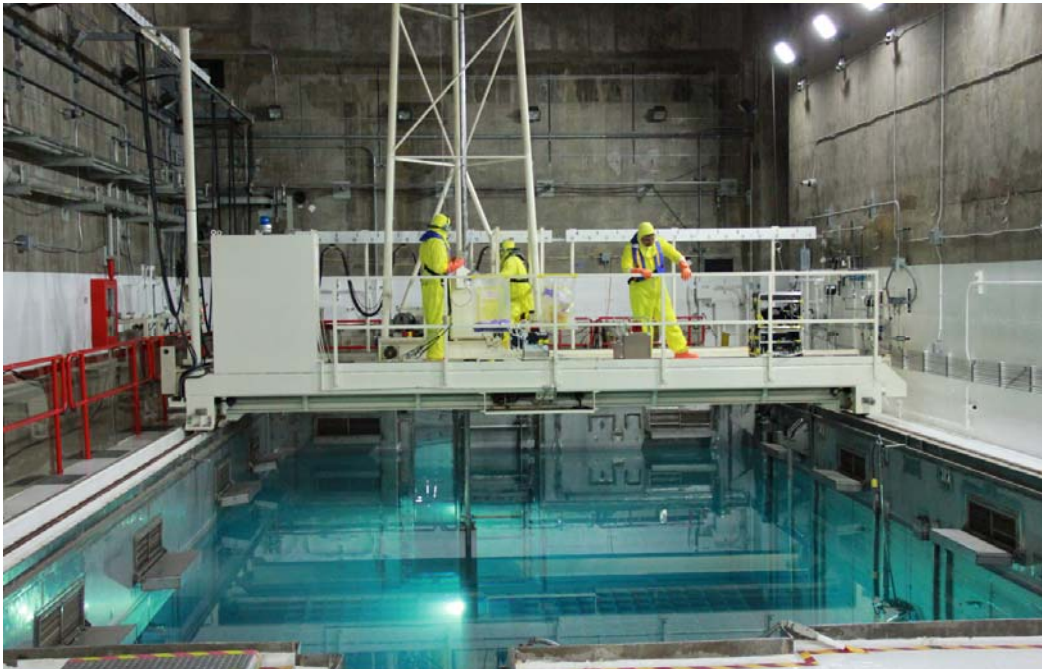
Fuel Assembly

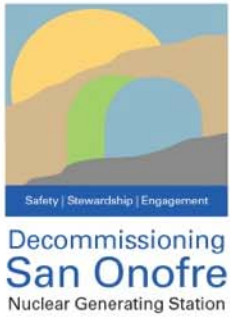




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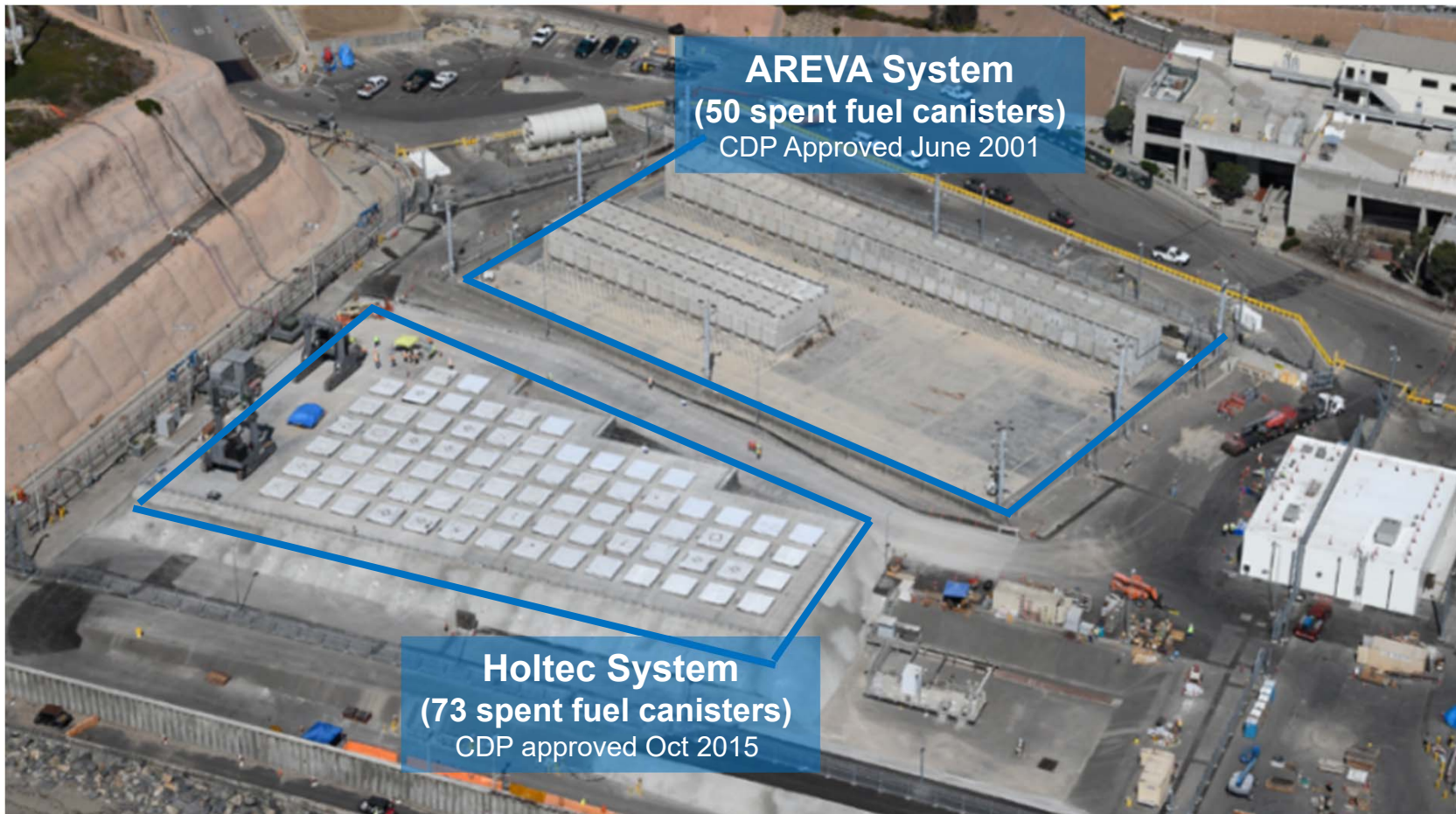
Spent Fuel Pool “Wet” Storage





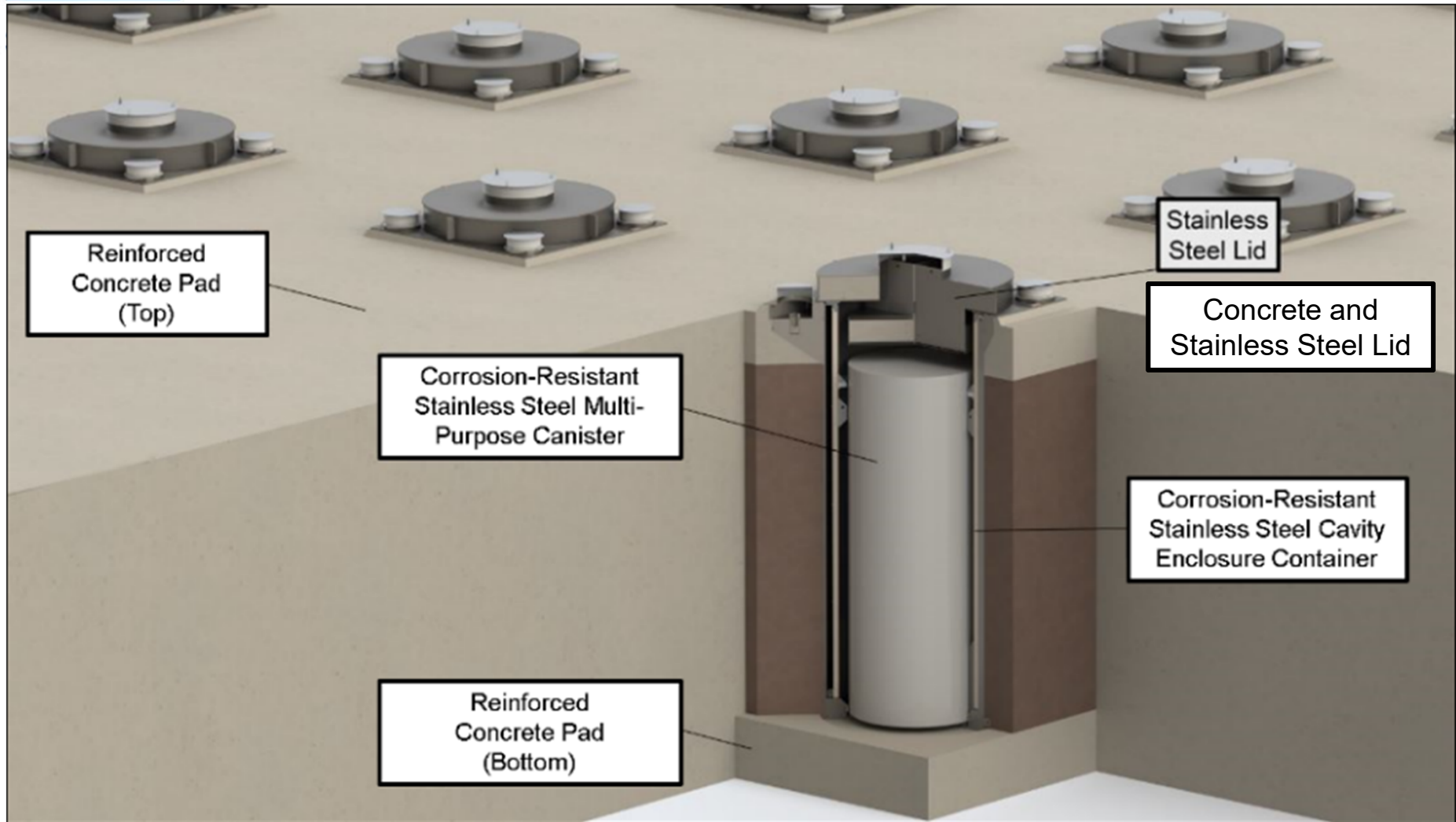
SONGS Independent Spent Fuel Storage Installation (ISFSI)

Provides Passive Dry Storage for Spent Fuel





HOLTEC UMAX System



On-site Spent Fuel Storage

INITIAL STATE

Spent Fuel
Pools

2668 fuel
assemblies

Existing ISFSI
50 canisters (1187
fuel assemblies)

EXPANDED ISFSI

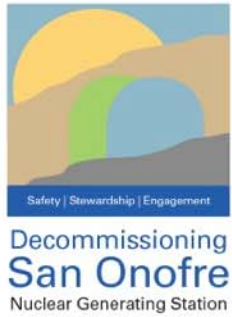
73 canisters¹
(2668 fuel
assemblies)
+
existing 50
canisters
(1187 fuel
assemblies)

[Link to Fuel Transfer Video: Fuel Transfer Video](#)

FUTURE STATE

3855 fuel
assemblies in
123 canisters

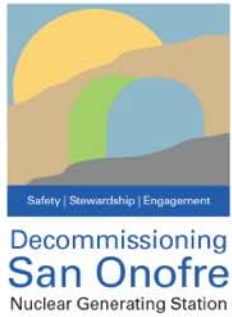
Note 1: As of May 15, 2018 eleven canisters (407 fuel assemblies) have been loaded onto the expanded ISFSI



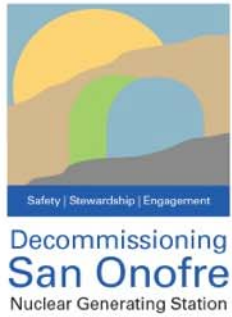
Used Fuel Readiness for Transportation

- Some fuel qualified for transport now
- Remaining fuel qualifies over time

	NOW	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	TOTAL
Units 2/3 AREVA NUHOMS 24PT4	27	6												33
Unit 1 AREVA NUHOMS 24PT1	2					1					5		9	17
Units 2/3 HOLTEC MPC-37			67		2	2		1			1			73



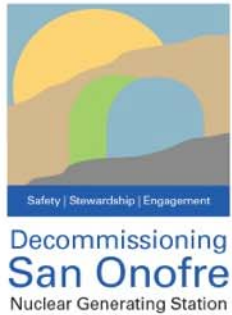
Community Engagement



San Onofre Community Engagement Panel



- Created in 2014 to serve as an open conduit between the public and the utility
- Eighteen representatives from surrounding cities and counties, including:
 - Elected officials and agency representatives
 - Local law enforcement
 - Representatives of the U.S. military
 - Business and labor communities
 - Local environmental organizations
 - Local schools and academic institutions

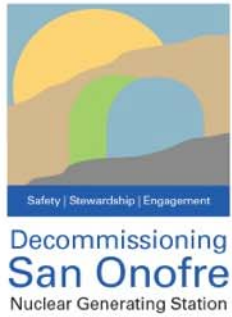


Visitors

Since 2014, 2000+ visitors including:

- The Public - walking tours twice monthly
- High school students, teachers and parents
- California Energy Commission
- Members of Congress: Darrell Issa (R-49), Scott Peters (D-52), Mimi Walters (R-45); John Shimkus (R-IL)
- Native American Tribal Nations
- City of San Diego Fire Department
- Orange County Coastkeepers
- Ocean Institute
- San Diego Union Tribune
- Sierra Club, Los Angeles and San Diego Chapters
- Surfrider Foundation

More information on www.SONGScommunity.com



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