



Decommissioning **San Onofre** Nuclear Generating Station

San Onofre Decommissioning Project

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Overview of SONGS Decommissioning

Safe and prompt **dismantlement**

Defense-in-depth for **on-site storage** of spent nuclear fuel

Take action in an effort to **relocate spent fuel** to an off-site facility

Conduct decommissioning in a **principled** manner



Decommissioning Principles

Southern California Edison
and co-owners committed to:

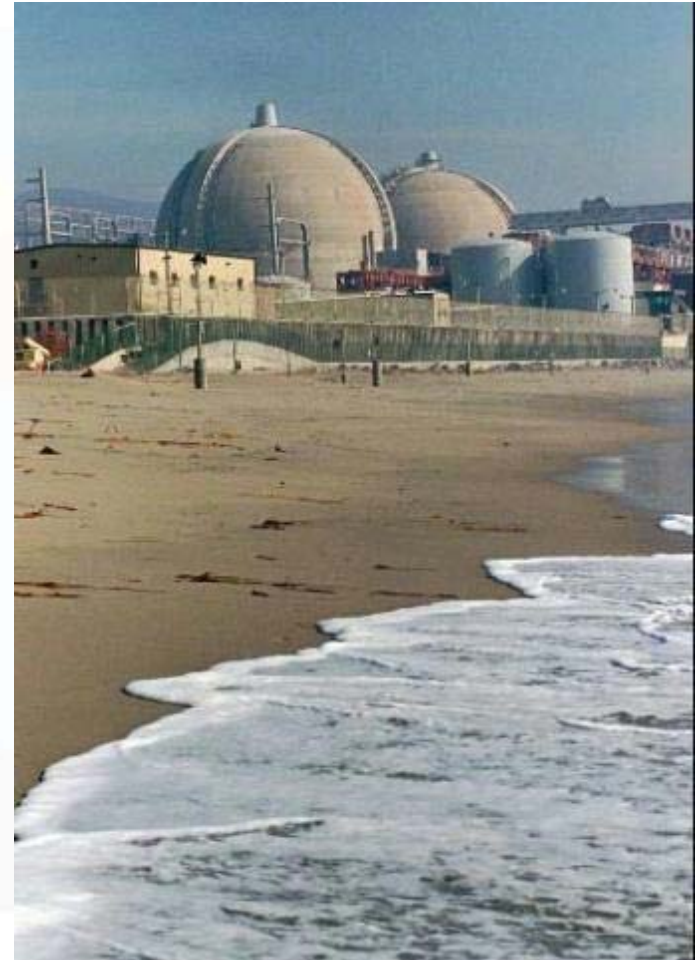
Safety
Stewardship
Engagement



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San Onofre Plant History

- **Unit 1**
 - Online January 1968
 - Retired 1992, partially decommissioned
- **Units 2 and 3**
 - Online November 1983, April 1984
 - Retired June 7, 2013
- **Spent Fuel Storage**
 - Over 50 years
 - Dry storage since 2003





SONGS Site

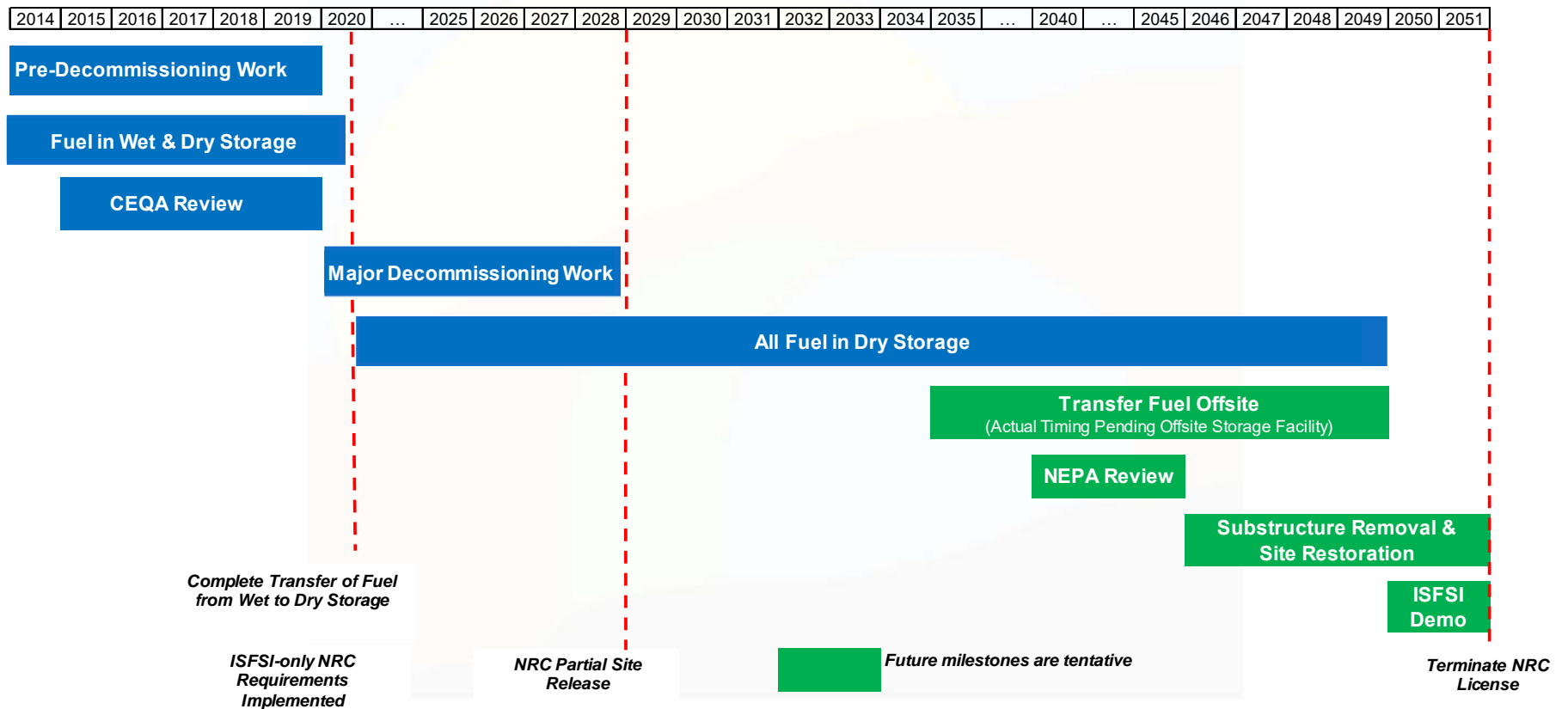




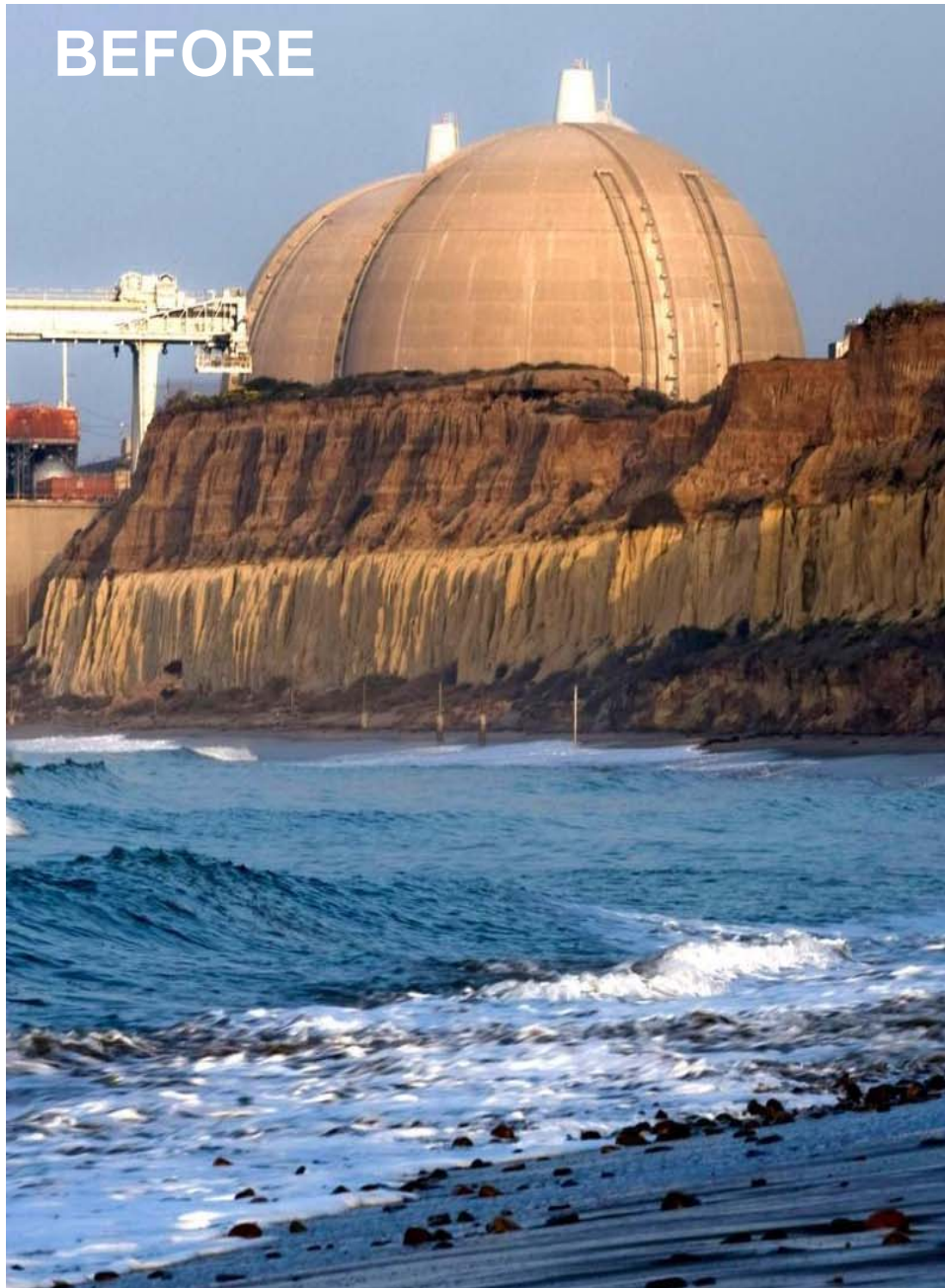
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Decommissioning Plan

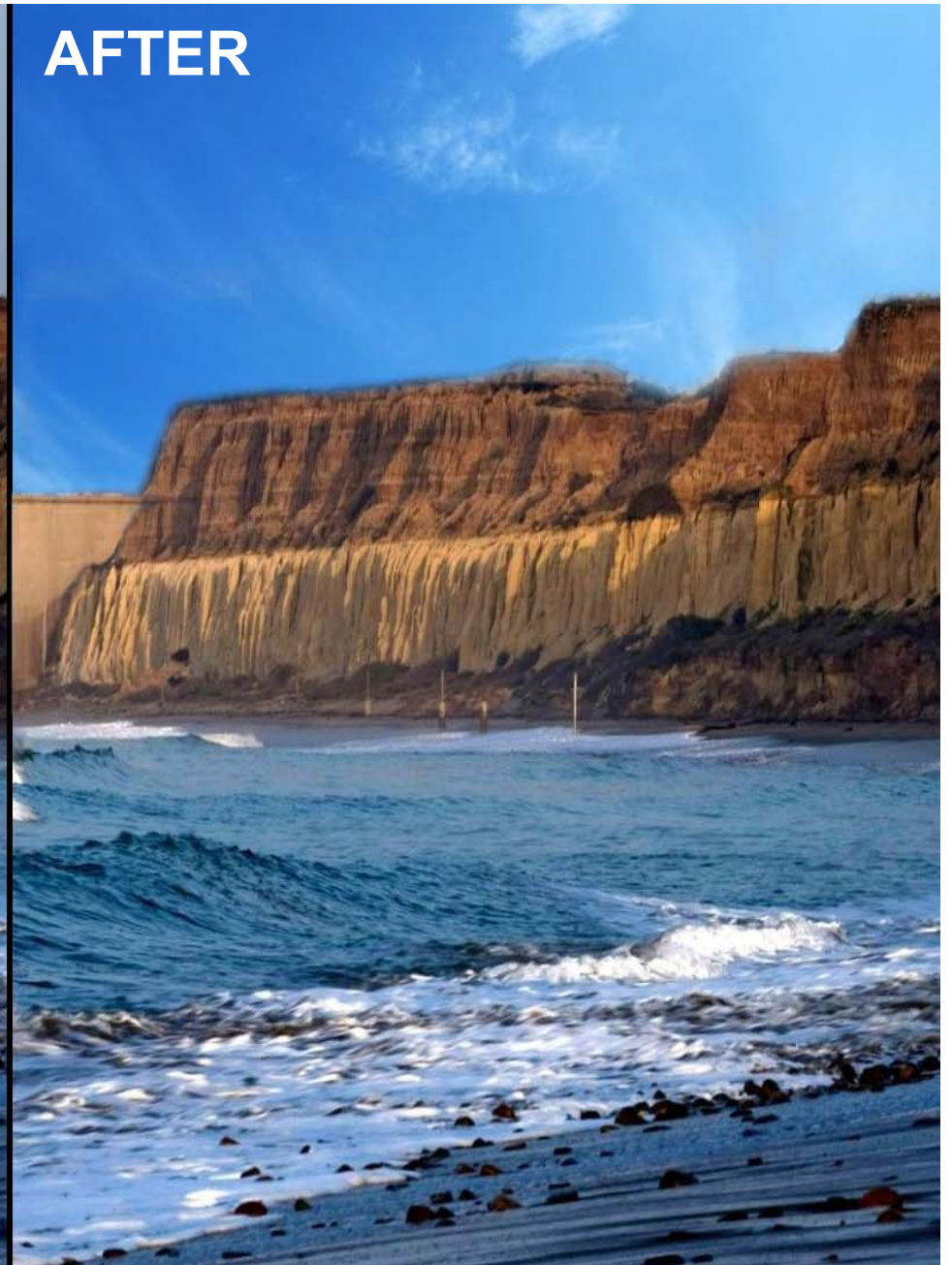
SONGS Decommissioning Plan



BEFORE



AFTER



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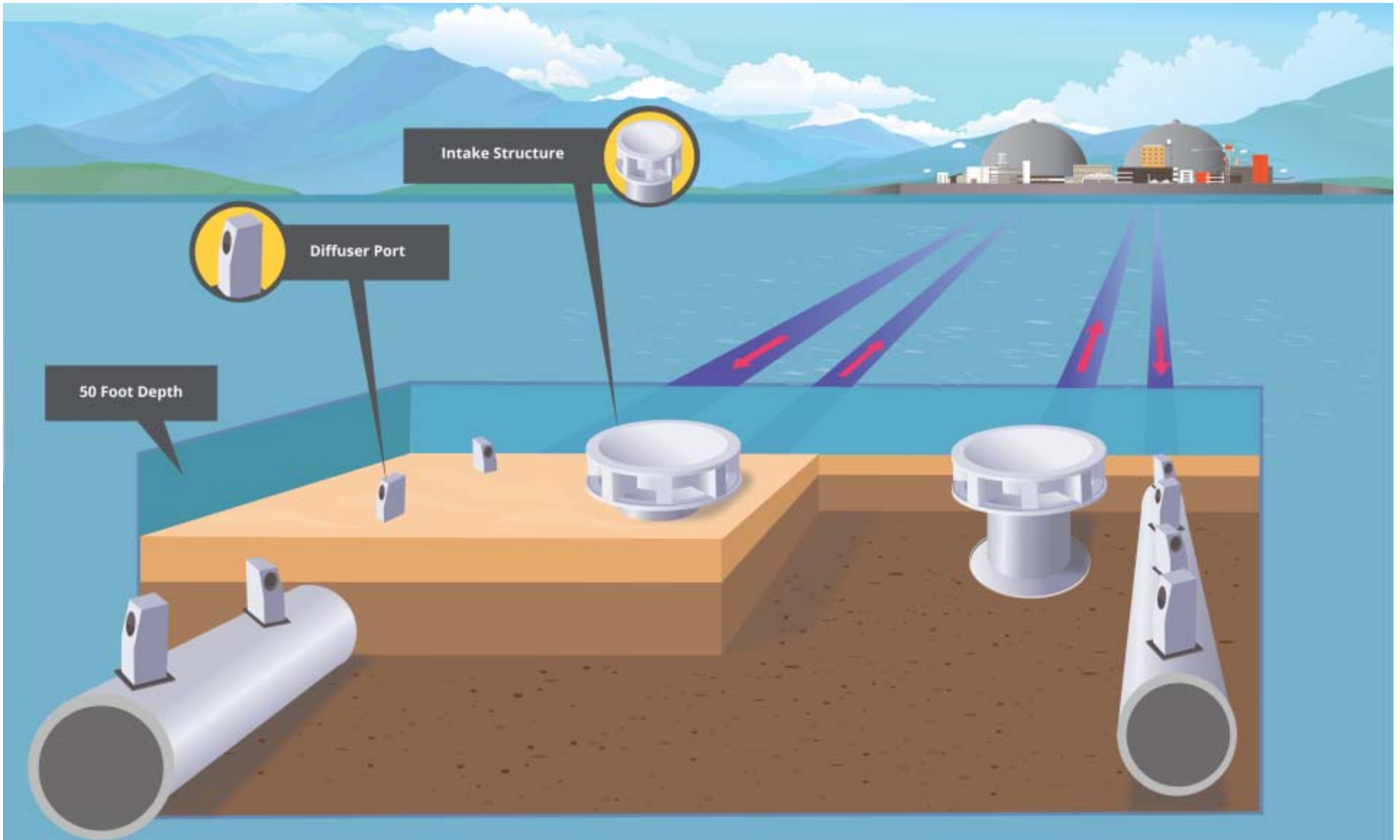
Onshore Post-Decommissioning

Switchyard

ISFSI

Seawall, Walkway and Riprap

At completion of the on-shore decommissioning work only the ISFSI, Switchyard, and seawall/walkway/rip-rap will remain



Offshore Activities

State Agency Approvals for D&D

- **CSLC – EIR and Offshore Lease**
 - As the CEQA lead agency, CSLC reviewed potential environmental impacts of Proposed Project (onshore & offshore)
 - On March 21, 2019, certified final EIR and approved SCE’s lease for offshore conduits and riprap through 2035
- **CCC – CDPs for Onshore and Offshore Work**
 - Responsible agency for CEQA review; CCC staff worked closely with CSLC during CSLC’s development of EIR
 - On October 17, 2019, the CCC approved the onshore CDP so that SCE can begin decontamination and dismantlement of the plant
 - CDP for offshore work will be submitted in 2021



Permitting 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/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



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Dismantlement Activities



Decommissioning Next Steps Years 0 to 5

Present (2020)

- Complete Fuel Transfer from wet to dry storage
- Transition from a plant site to a construction site
- Early building demolition
- NRC license modified to ISFSI-only

2021 to 2025

- Upgrade rail spurs, create laydown area for materials
 - Large component removal
 - Reactor vessels, steam generators, pressurizers
 - Remove radiological hazards
- Dispose of components and materials
Complete radiological releases to the ocean

400 to 600 construction jobs will be needed for decommissioning



Decommissioning Next Steps Years 6 to 10

2026 to 2029

Following hazard removal/mitigation

- Open air demolition work
- Major building demolition
- Backfill and site grading
- ISFSI, switchyard and shoreline protection features remain

Subsequent milestones

After fuel is transferred, ISFSI demolished and site restored per Navy and Coastal Commission requirements



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Spent Fuel Management

Strategic Approach

**Safely manage spent fuel while it is on site
while taking action to relocate it to an off-site facility**

1. Promptly offload fuel from pools to passive dry storage
2. Safely manage spent fuel while it remains on site
3. Take action now to ensure spent fuel is ready for transport
4. Develop strategic plan to relocate spent fuel off-site
5. Recover spent fuel storage costs from US Dept. of Energy

On-site Spent Fuel Storage

INITIAL STATE

Spent Fuel Pools

2668 fuel assemblies

Existing ISFSI
50 canisters (1187 fuel assemblies)

EXPANDED ISFSI

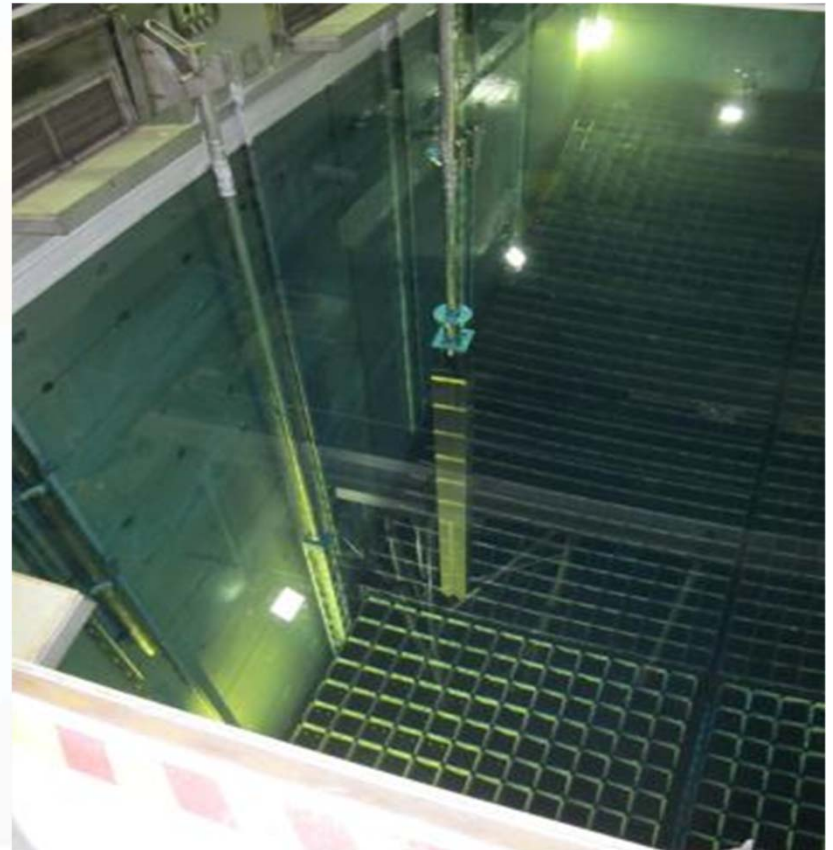
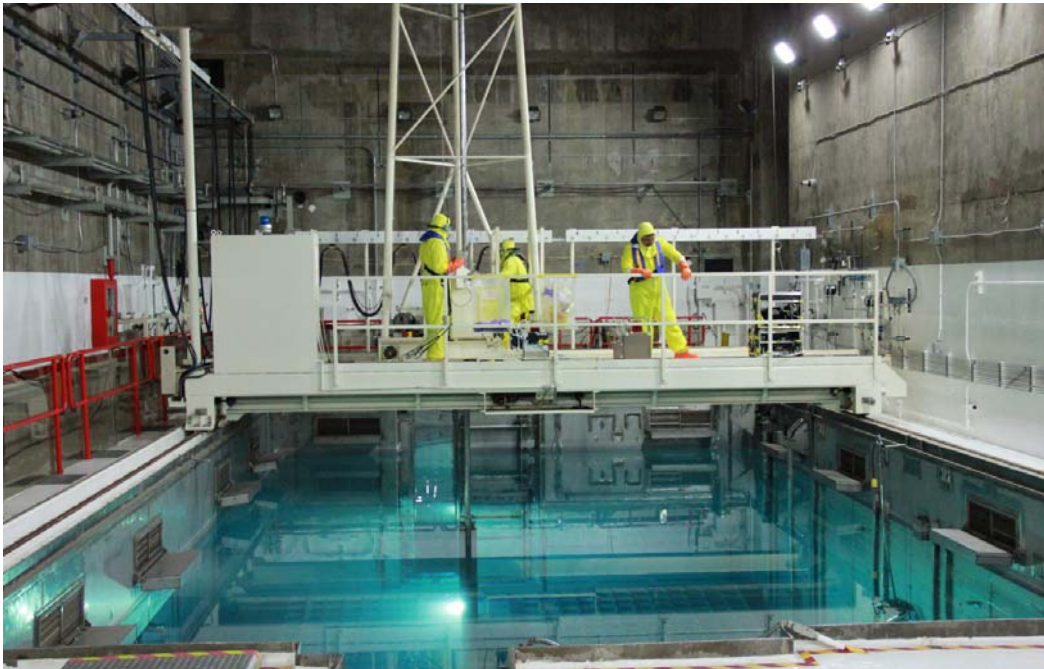
73 canisters
(2668 fuel assemblies)
+
existing 50 canisters
(1187 fuel assemblies)

Status: Over half of the canisters have been loaded onto the ISFSI

FUTURE STATE

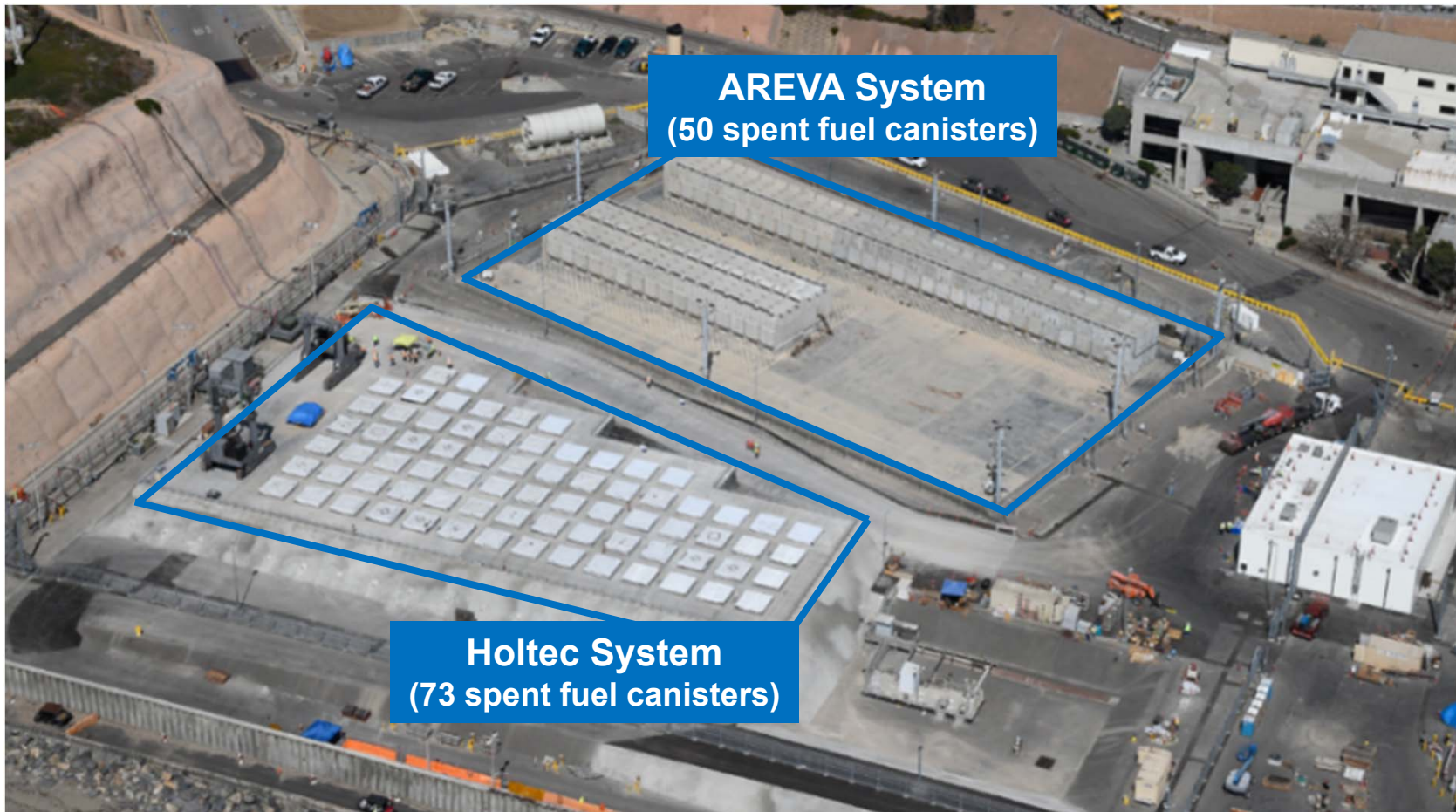
3855 fuel assemblies in 123 canisters

Spent Fuel Pool “Wet” Storage



SONGS Independent Spent Fuel Storage Installation (ISFSI)

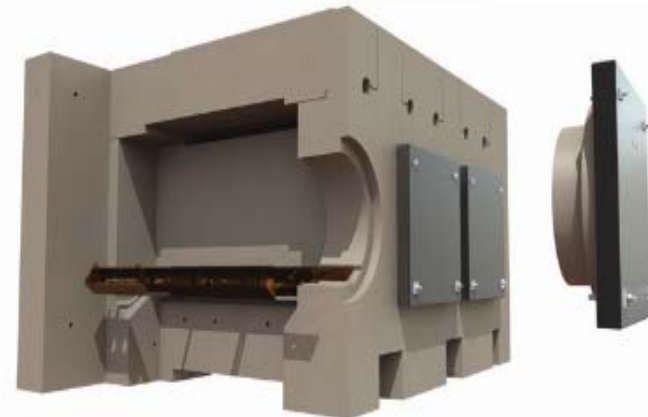
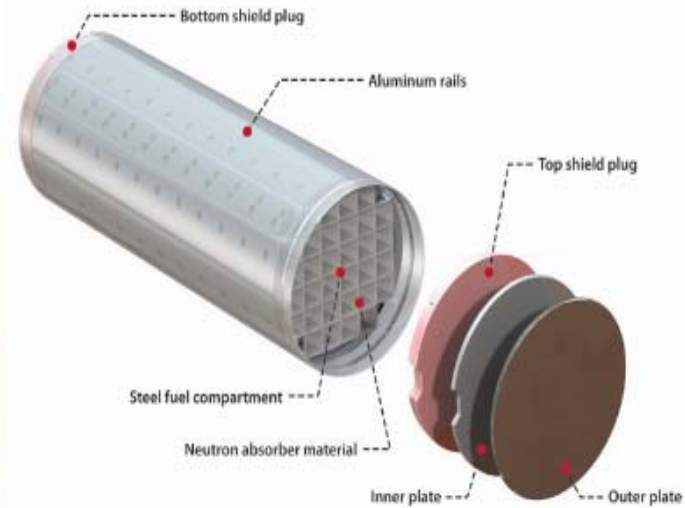
Provides Passive Dry Cask Storage for Spent Fuel While On Site





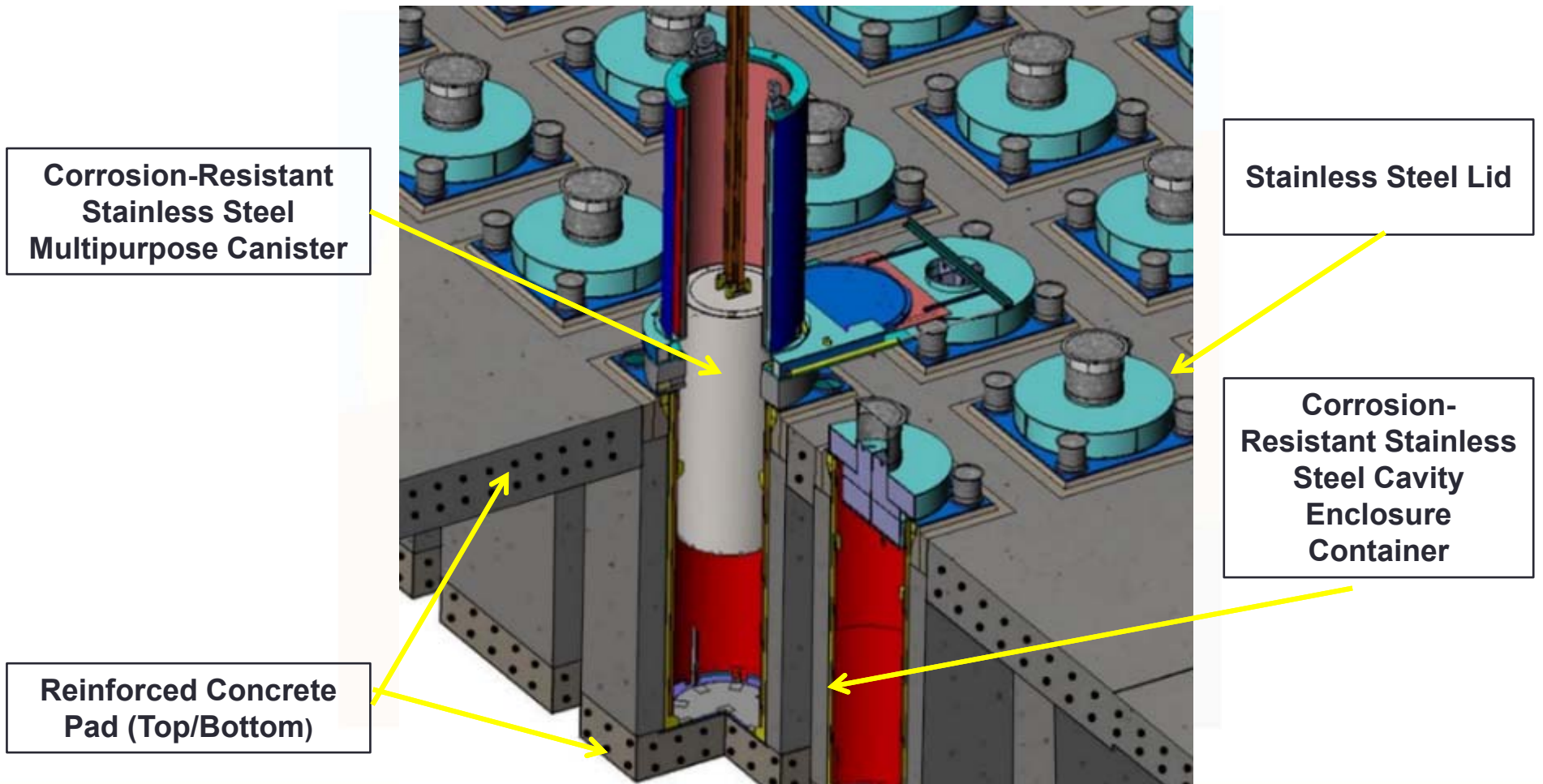
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NUHOMS System


















Expanded System: Holtec HI-STORM UMAX



Used Fuel Readiness for Transportation

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

	NOW	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	TOTAL
Units 2/3 AREVA NUHOMS 24PT4												
Unit 1 AREVA NUHOMS 24PT1												
Units 2/3 HOLTEC MPC-37												

Note: Spent nuclear fuel could be re-evaluated and the qualification time for transportation would be accelerated

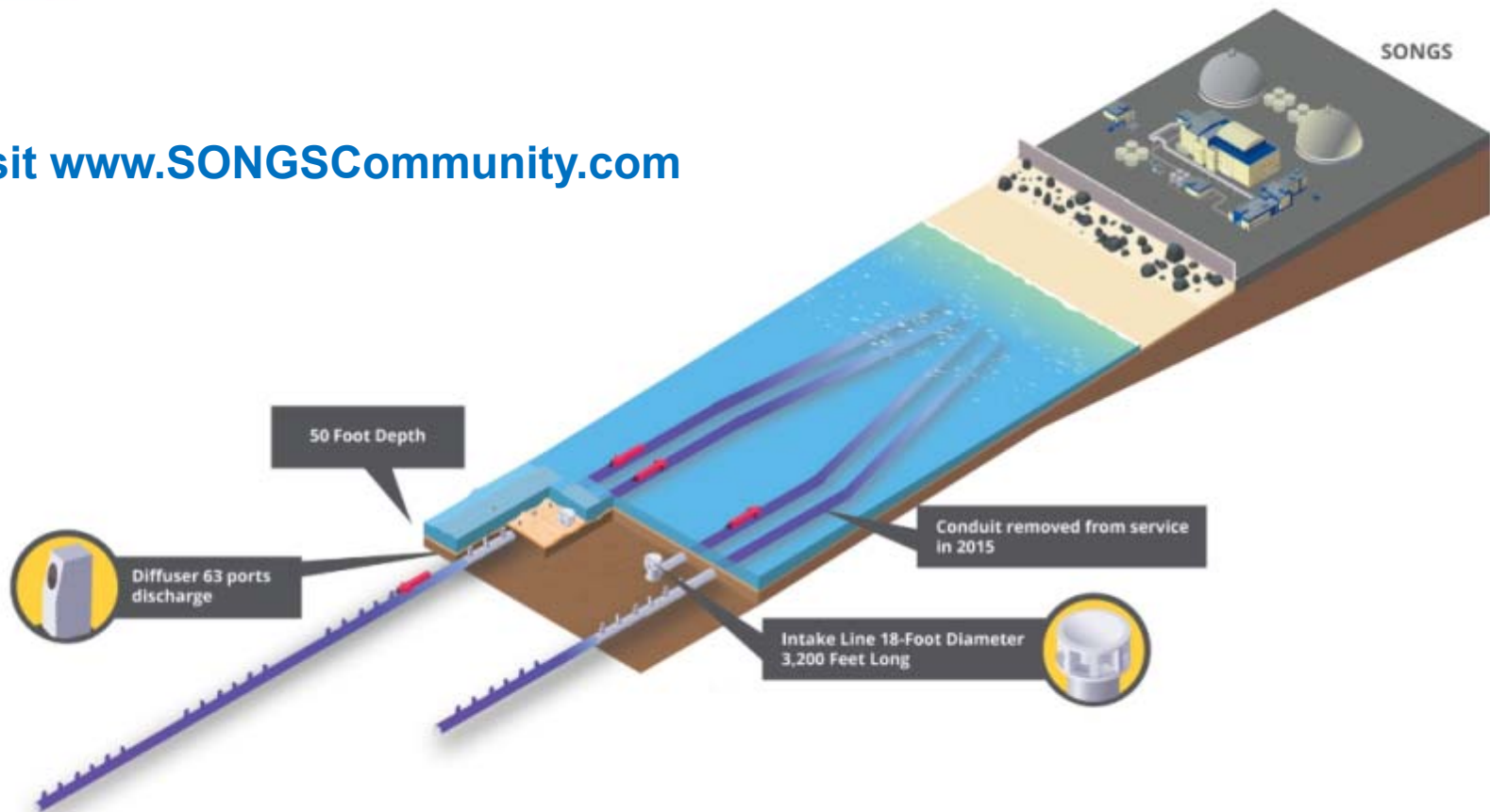


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Environmental Monitoring

- Dry Fuel Storage Radiation Monitoring
- Liquid Batch Release Notifications

Visit www.SONGSCommunity.com





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External Engagement



Education and Mobilization

SCE uses several methods to educate the public on decommissioning and mobilize efforts to move the spent fuel to an offsite location

- Community Engagement Panel
- Public Walking Tours
 - High School and College STEM classes
 - Boy Scouts
- Coalition, providing local, state and federal legislation support
- Strategic Plan to Relocate Spent Fuel to an Offsite Facility
- Conceptual Transportation Plan

Recent Visitors

- San Diego County, Health & Human Services Agency, Epidemiology/Bioterrorism Public Health Nurses
- City Council Members
- Aliso Niguel High School (126 students, teachers and chaperones)
- San Clemente High School (90 students, teachers and chaperones)
- NRC 1st Quarter Decommissioning Inspection



Staying Informed

SONGSCommunity.com website provides the following information

- Community Engagement Panel meeting dates
- Public Walking Tour dates and sign ups
- Decommissioning blog and news updates

Decommissioning Monitoring *(available starting 1Q 2020)*

- Radiological monitoring reports via the CA Dept of Health
- Ocean discharge release notifications
- Truck traffic updates



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NRC Inspections



Summary of Recent NRC Activities at SONGS

- **Inspections**

- Quarterly inspections of decommissioning activities
- Monthly unannounced Fuel Transfer Operations (FTO) inspections
- In last year, no violations for decommissioning activities, a small number of minor, non-cited violations for FTO

- **Communication**

- Weekly FTO calls, bi-monthly decommissioning calls
- Nov/Dec 2019, SCE leadership meetings with NRC Commissioners and Chairwoman, and Region IV leadership
- NRC January visit to SONGS with NEI nuclear communicators



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Safety

Stewardship

Engagement