



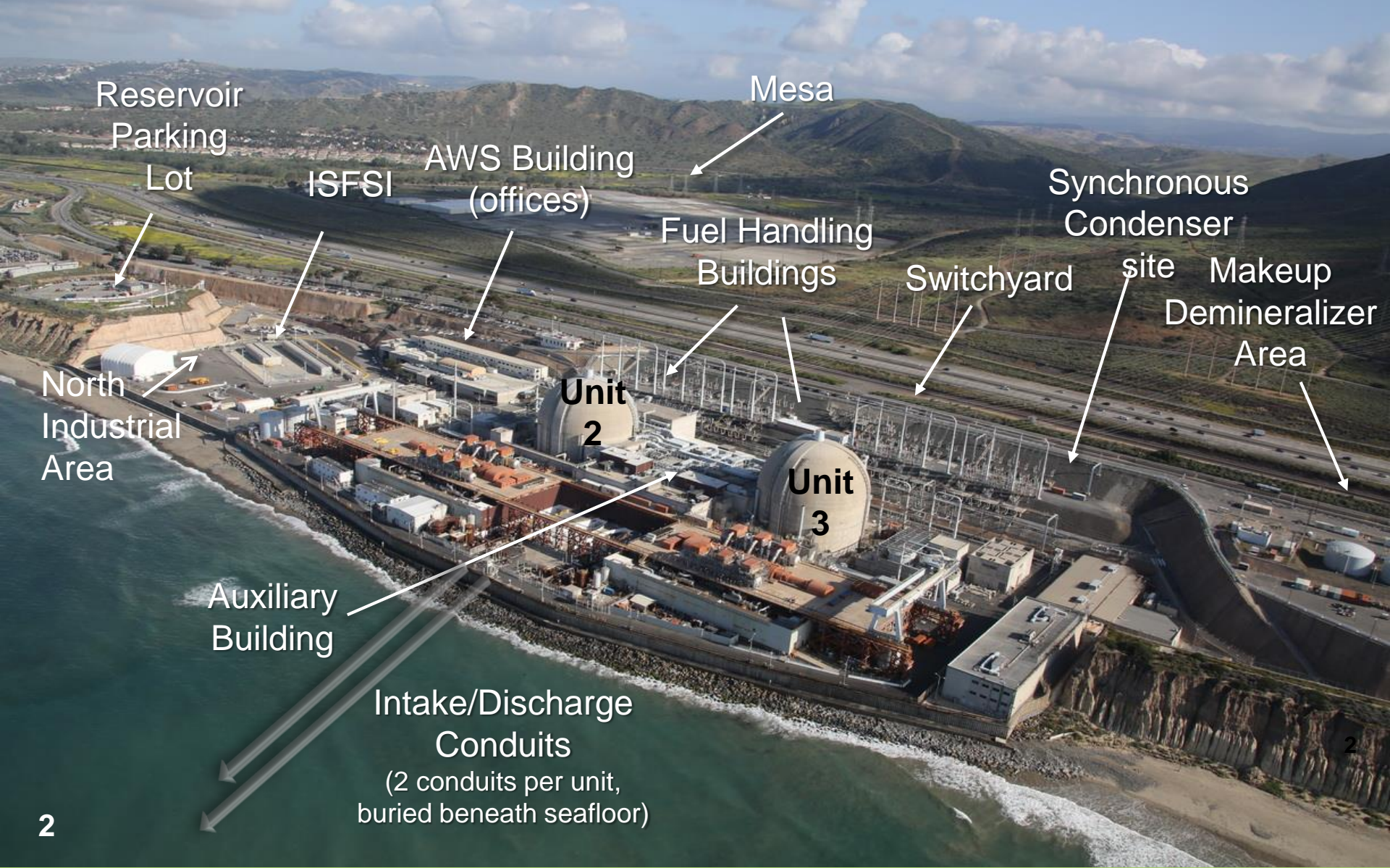
Decommissioning
San Onofre
Nuclear Generating Station

DON Briefing: San Onofre Decommissioning

Tom Palmisano
Vice President
Southern California Edison
January 15, 2019



SONGS Aerial Overview





Decommissioning
San Onofre
Nuclear Generating Station

Decommissioning



Decommissioning
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Nuclear Generating Station

Decommissioning Principles

Southern California Edison and Co-Participants committed to:

Safety

- Safely decommissioning San Onofre
- Safely moving the power plant's used fuel into dry cask storage, until government approved long-term storage options are available

Stewardship

- Spending Nuclear Trust Funds wisely
- Returning any unused money to customers

Engagement

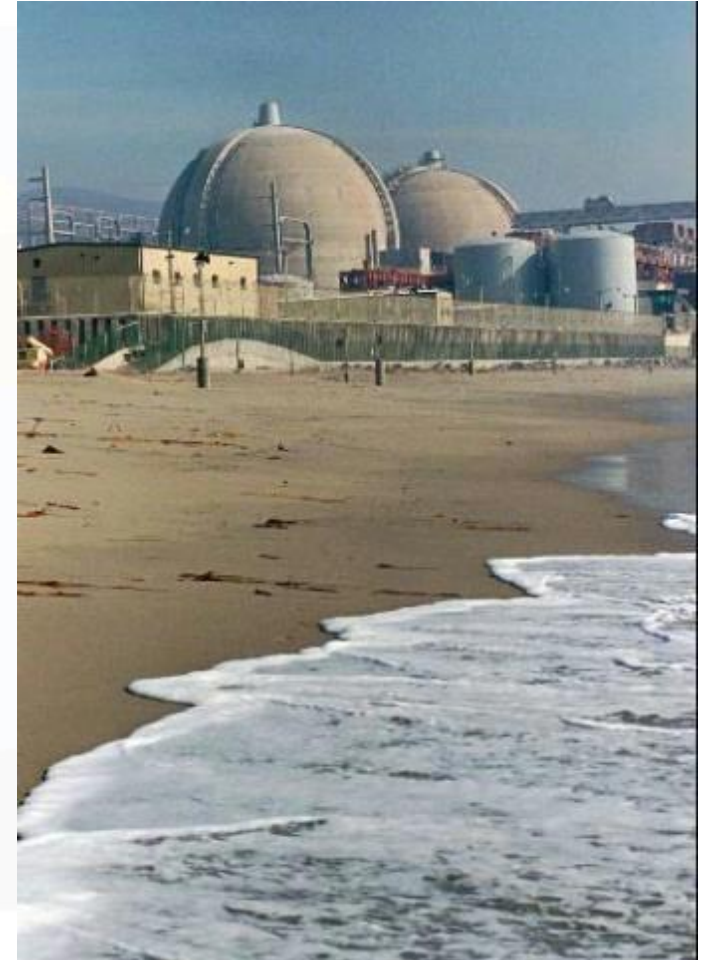
- Decommissioning process is inclusive, forward-thinking, involving diverse stakeholders



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San Onofre Plant History

- **Unit 1**
 - Online January 1968
 - Retired 1992, partially decommissioned
- **Unit 2**
 - Online November 1983
 - Removed from service January 9, 2012
- **Unit 3**
 - Online April 1984
 - Removed from service January 31, 2012
- **Units 2 & 3**
 - Retired June 7, 2013





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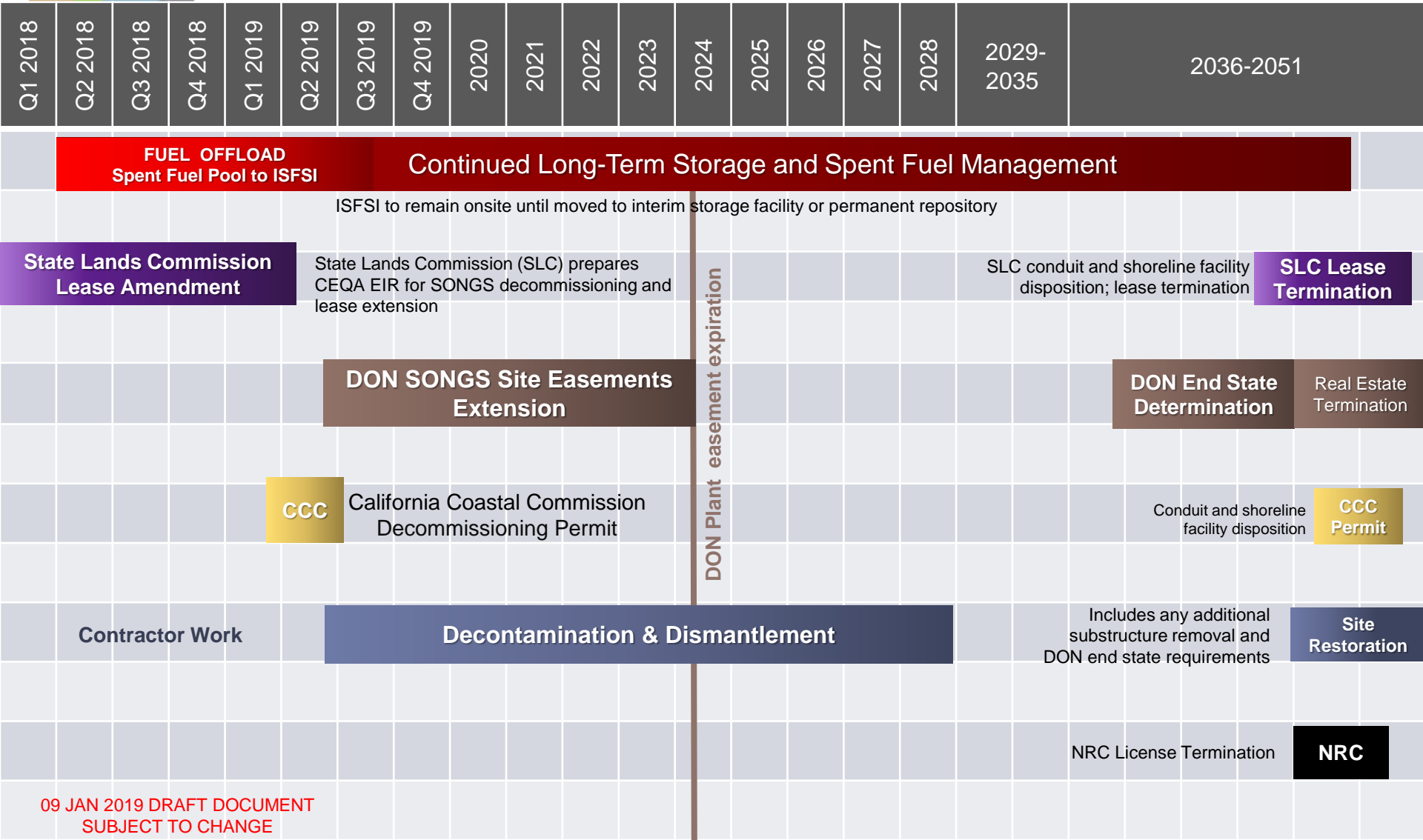
Overview

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





SONGS DECOMMISSIONING SCHEDULE



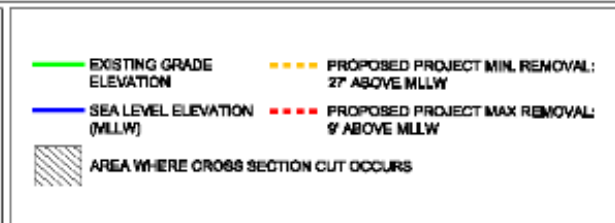
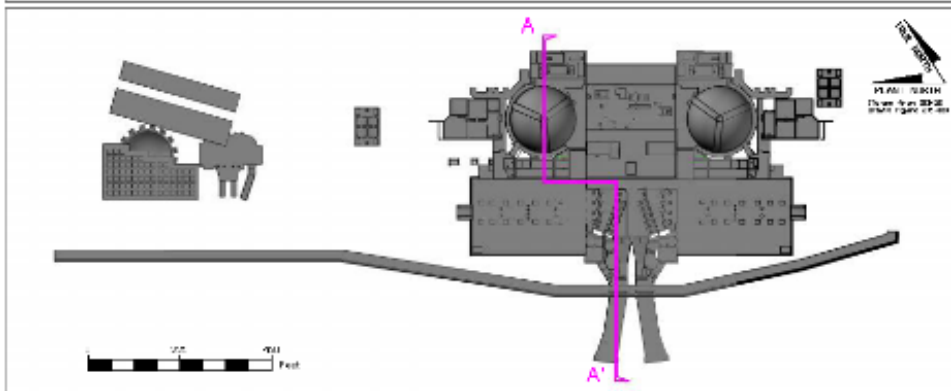
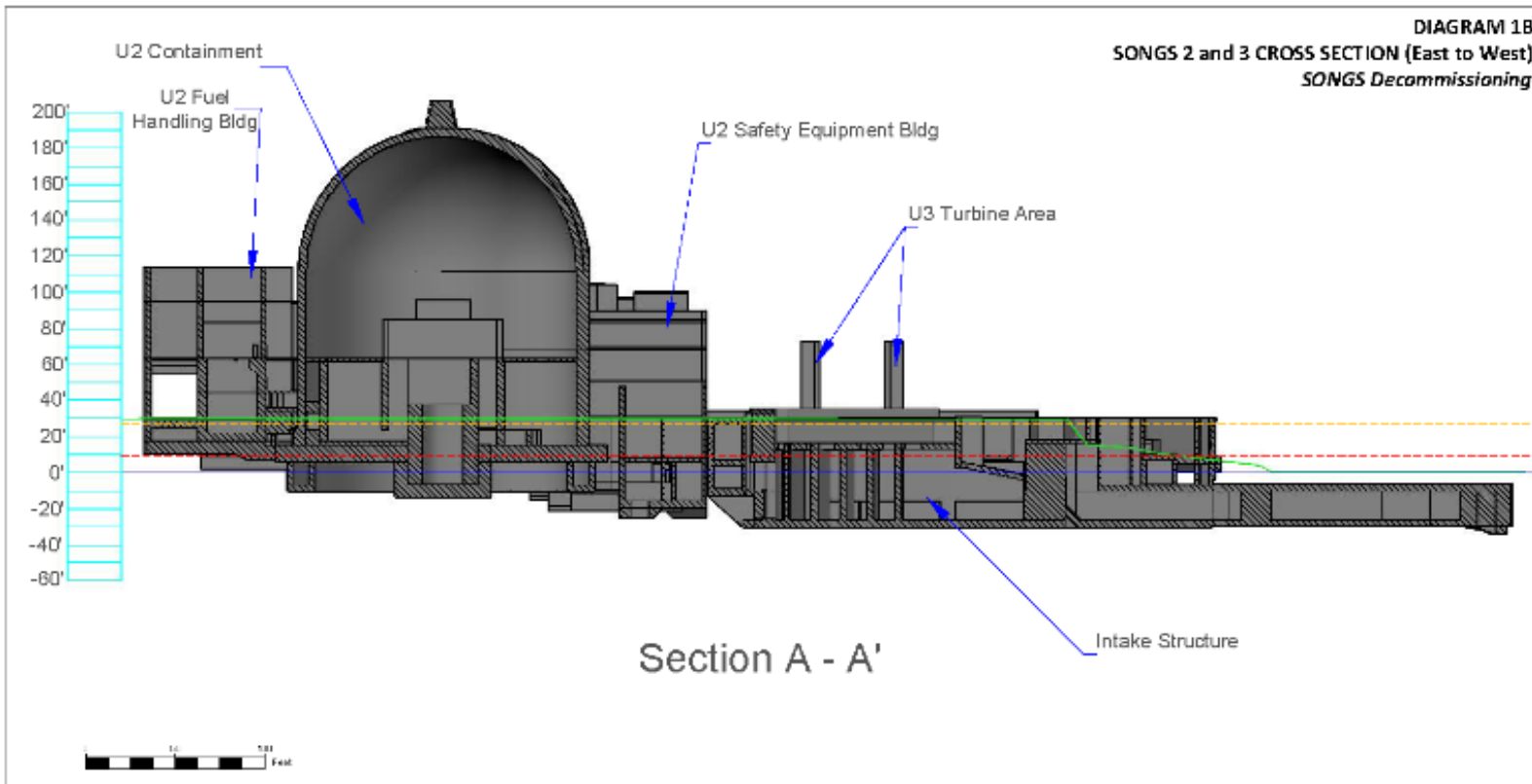
09 JAN 2019 DRAFT DOCUMENT
SUBJECT TO CHANGE



Safety | Stewardship | Engagement

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U2/3 Site Elevation View (View to South)



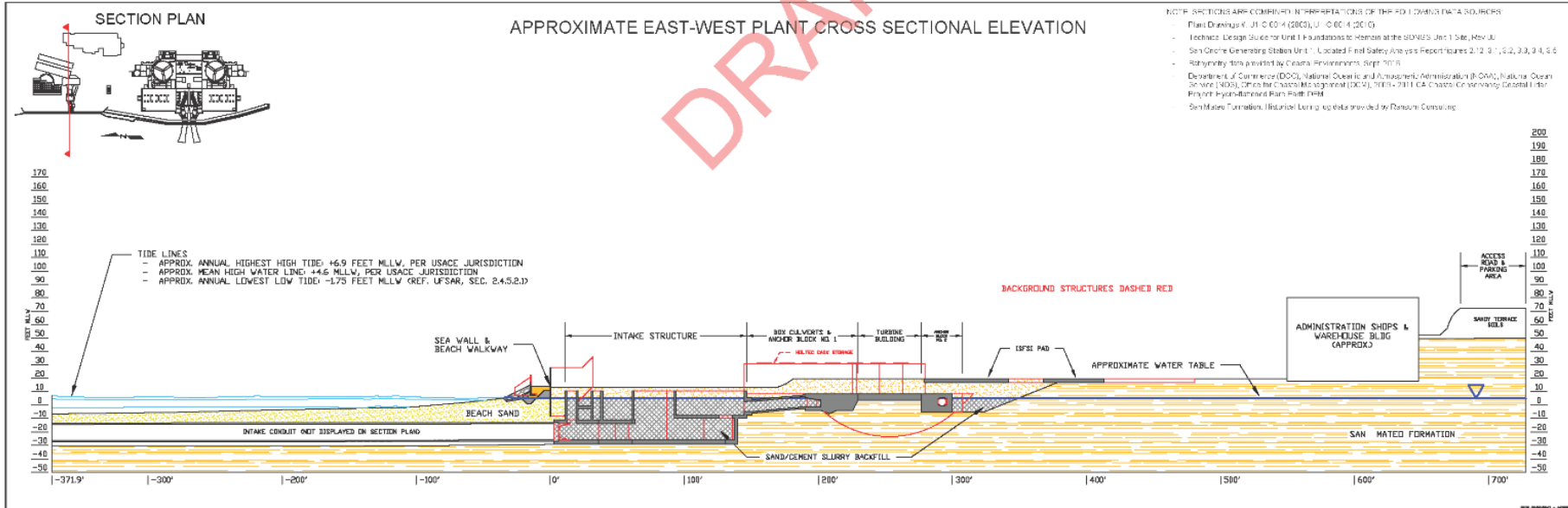
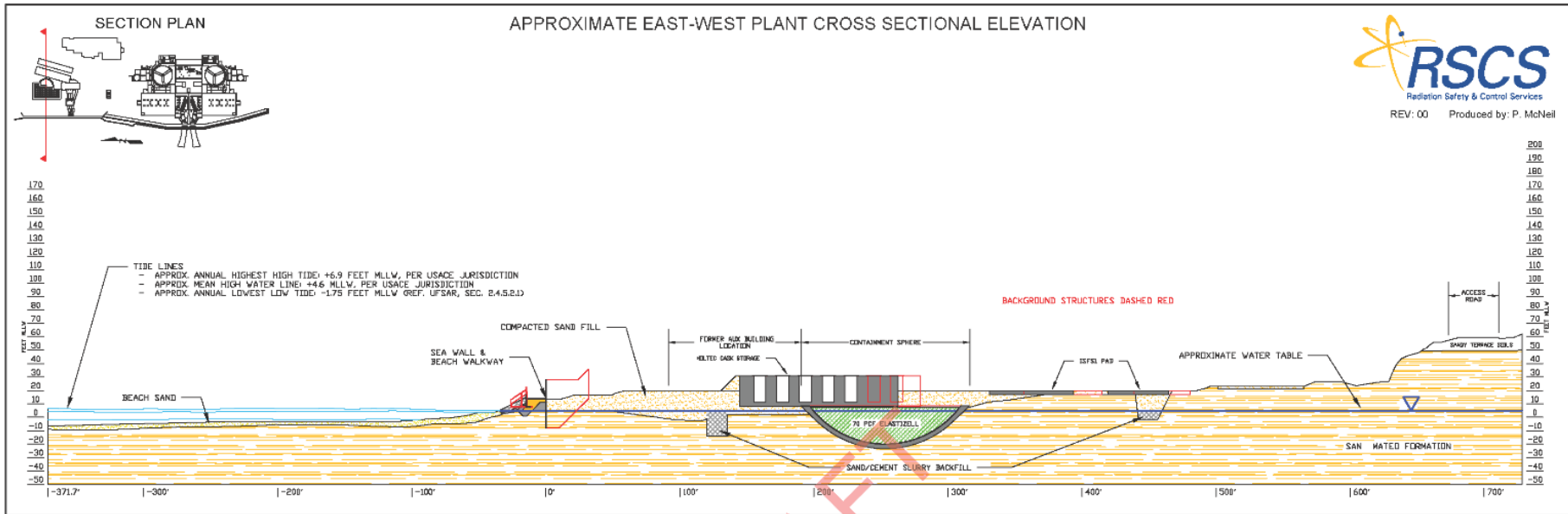
 RSCS Radiation Safety & Control Services, Inc. 91 Portsmouth Avenue Steubenville, OH 44220 Phone: 603/922-9339 Fax: 603/978-6679 Email: info@rscs.com	SONGS DECOMMISSIONING PROPOSED PROJECT BELOW-GRADE REMOVAL CROSS SECTION			
	CLIENT: SOUTHERN CALIFORNIA EDISON			
PROJECT: SITE DIGITIZATION FOR SONGS				
SHEET SIZE: 3.5" x 11"	PREPARED BY: G. PAVA	REV. #: 01	SHEET #: 0	



Former Unit 1 Location Cross Section



REV: 00 Produced by: P. McNeil



NOTE: SECTIONS ARE COMPILED INTERPRETATIONS OF THE FOLLOWING DATA SOURCES:

- Plant Drawings 4-31-C-004 (2002), 4-31-C-004 (2003)
- Technical Design Studies for Unit 1 as additions to station at the SDRES Unit 1 Site, Rev. 04
- San Onofre Generating Station Unit 1, Localized Final Safety Analysis Report Figures 2.12.2.1, 2.2, 2.3, 2.4, 2.5
- Subsidence Data as reported by Coastal Environmental, Sept. 2015
- Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office for Coastal Management (OCM), 2003 - 2011 C&C Coastal Community Coastal Erosion Project Interim Final Plans, Part 1-14
- San Mateo Foundation, Historical Lagoon, top data provided by Ransome Consulting



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AGENCY JURISDICTION



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Key SONGS Agency Regulators

- **NRC:** Exclusive jurisdiction over SONGS radiological issues, including spent fuel; provides oversight for all licensed activities
 - Completed NEPA generic reviews for spent fuel storage and decommissioning
 - No further approvals required to commence decommissioning
- **DON:** Landowner jurisdiction regarding use of MCB CPEN
 - Land use decisions; including easement extension request and future final site restoration and structure disposition
 - Mean high water line differentiates jurisdiction between DON and SLC
- **SLC:** Lessor jurisdiction for offshore conduits and some riprap
 - Lead agency for CEQA environmental review of initial decommissioning (radiological decontamination, dismantlement, and offshore conduit disposition)
- **CCC:** Jurisdiction over coastal zone activities (onshore & offshore)
 - Issued Coastal Development Permits for construction of SONGS ISFSIs
 - CDP required for decommissioning work
 - Rely in part upon SLC CEQA Environmental Impact Review

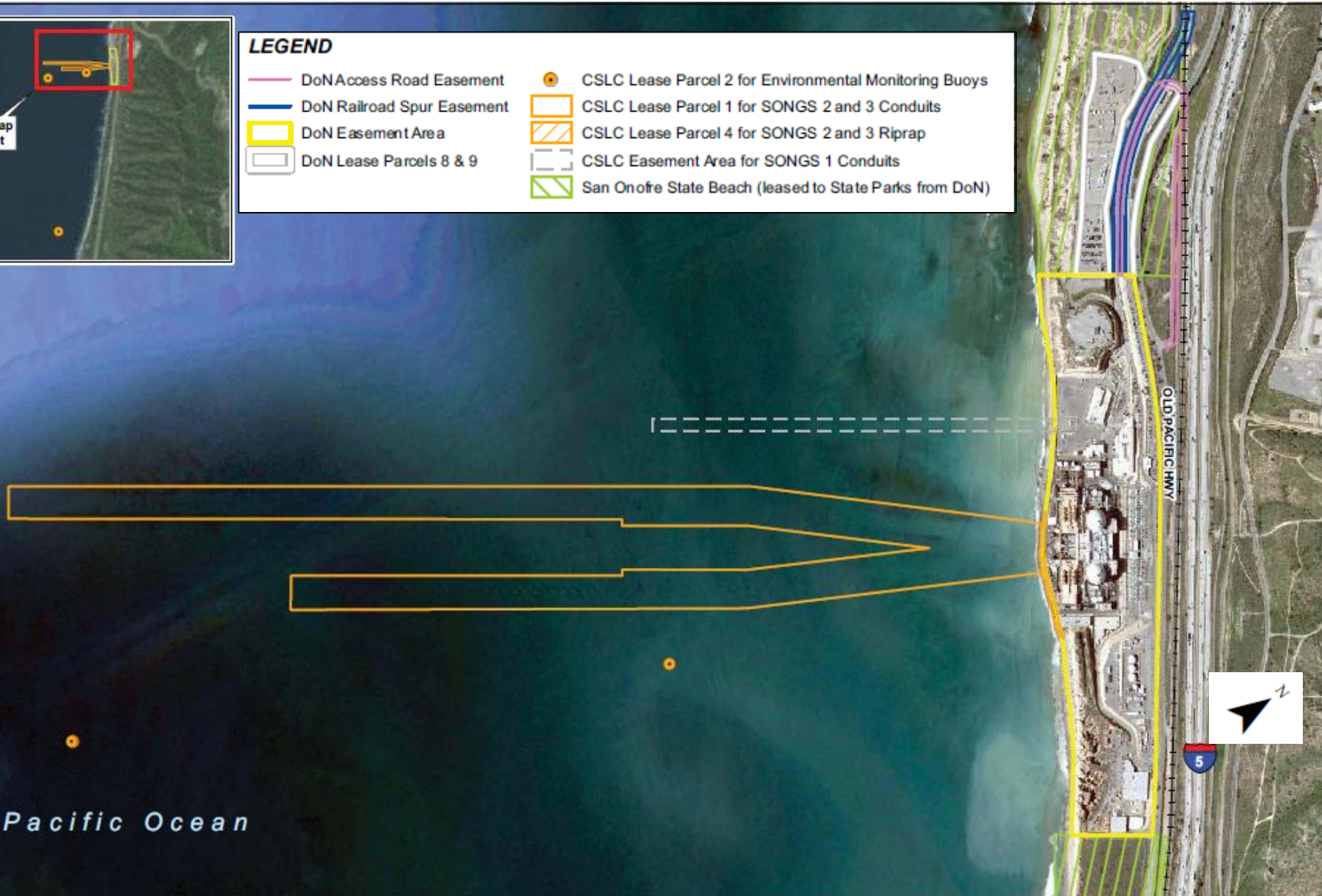


SONGS Related Land Rights



LEGEND

- DoN Access Road Easement
- DoN Railroad Spur Easement
- DoN Easement Area
- DoN Lease Parcels 8 & 9
- CSLC Lease Parcel 2 for Environmental Monitoring Buoys
- CSLC Lease Parcel 1 for SONGS 2 and 3 Conduits
- CSLC Lease Parcel 4 for SONGS 2 and 3 Riprap
- CSLC Easement Area for SONGS 1 Conduits
- San Onofre State Beach (leased to State Parks from DoN)



Pacific Ocean



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DEPARTMENT OF NAVY REAL ESTATE CONTRACTS



Parcel 5

Parcel 7

Parcel 6

Parcels 8 & 9

Plant Site Easement

Mesa Lease Parcels and Plant Easement



SONGS Site Easement History

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- 1963: Congress authorized DON to issue easements to SCE and SDG&E for a nuclear generating station at Camp Pendleton
- 1964: Navy issued 60-year easements
 - SONGS Site (84 acres) – nuclear generating facilities & switchyard
 - Transmission Lines – SCE & SDG&E switchyard connection
 - Access Road – access to SONGS Site
 - Spur rail track – rail transport to SONGS Site
- Post 1964 easements
 - SCE transmission easement widened
 - Access road relocation
 - Possible maximum flood berm, channel and debris basin east of I-5



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Real Estate Status

- SONGS Site easements expire in May 2024
 - Plant easement allows decommissioning and SNF storage, which will continue after 2024
 - Submit application in 2019 to extend land use rights
 - No significant change in SONGS site easement boundary
 - Obtain separate easements for SCE/SDG&E switchyards
 - Add Parcels 8/9
 - ISFSI occupies about 7 acres of the 84 acres
 - Final site restoration requirements will be requested later when the spent fuel removal schedule is known



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Mesa Lease

- DON to confirm structures to retain
- Parcels 8/9 used for decommissioning
- Parcels 6/7 environmental assessment complete Q2 2019
 - DON set “unrestricted use” cleanup standard in August 2015
 - 3 areas - excavation of soil gas volatile organic compounds
 - Near surface metal cleanup in one area
 - Groundwater assessment proceeding
- Parcel 5 deemed available for unrestricted use
- Radiological assessments review by CA Dept. of Public Health
- Return of Mesa Lease lands by August 2021



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Used Fuel Management



Used Fuel Management Strategy

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1. Safely manage and store San Onofre's used nuclear fuel until it is removed from site
2. Promptly offload fuel from pools to passive dry cask storage
3. Recover used fuel storage costs from DOE
4. Support all safe and reasonable options to remove used nuclear fuel from San Onofre site
 - NRC License required for offsite spent fuel storage
 - Consolidated interim storage and DOE permanent repository
 - Relocate fuel to another nuclear plant requires NRC license amendment and Licensee consent



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On-site Used 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)

**AS OF AUGUST 2018,
29 CANISTERS HAVE BEEN
LOADED ONTO THE ISFSI**

FUTURE STATE

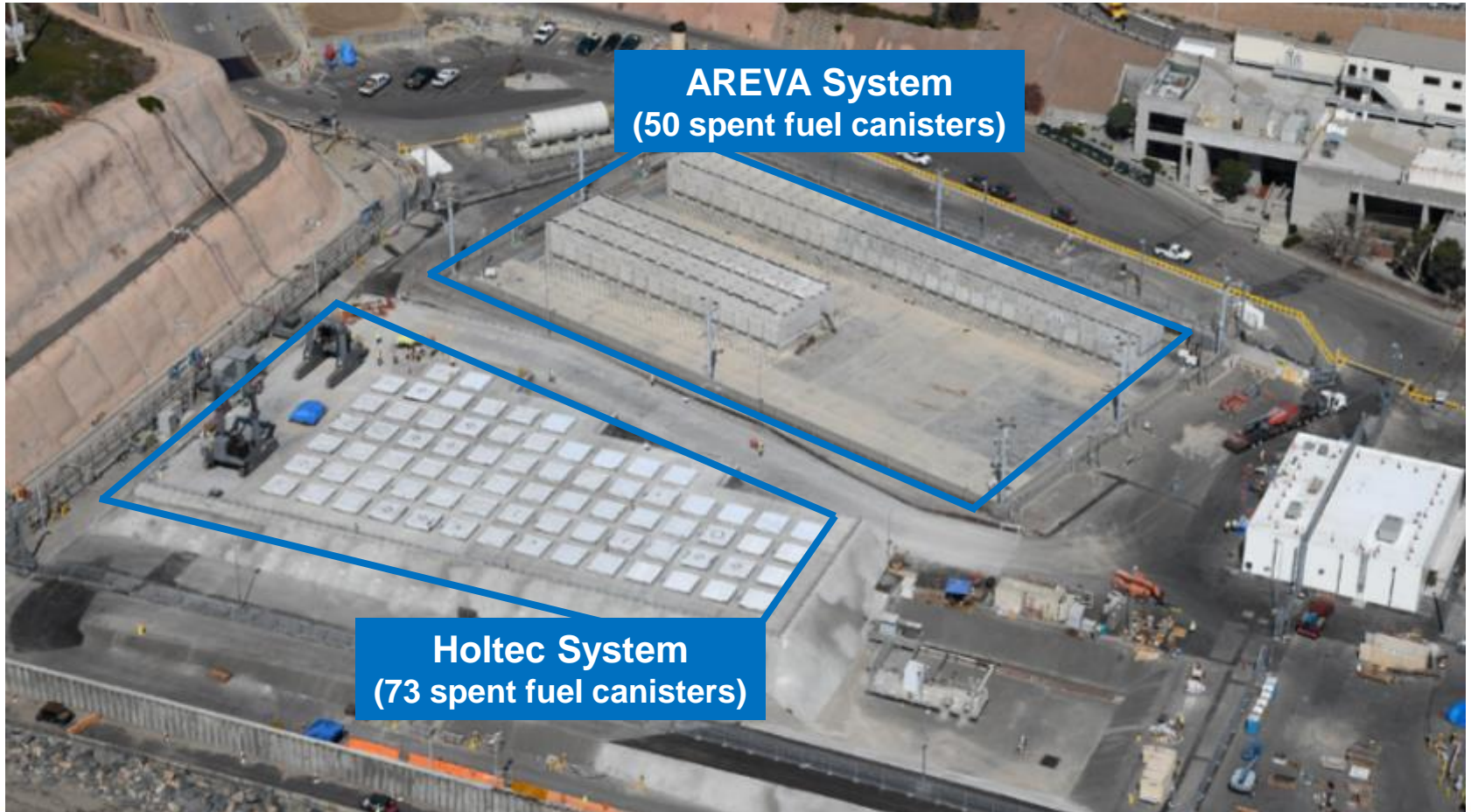
3855 fuel
assemblies in
123 canisters



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Independent Spent Fuel Storage Installation (ISFSI)

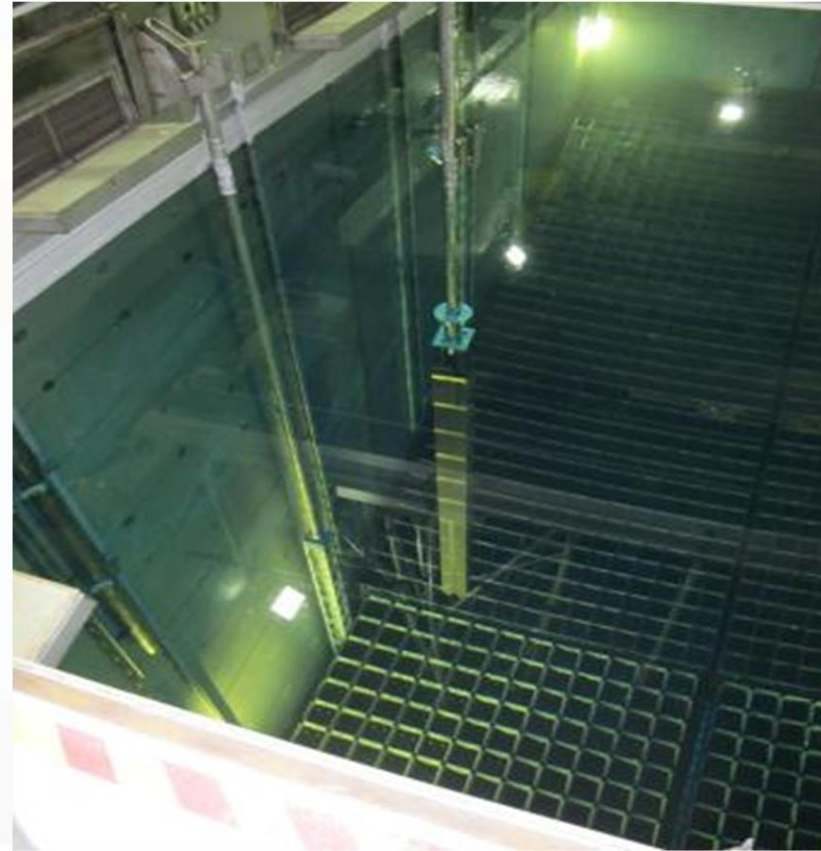
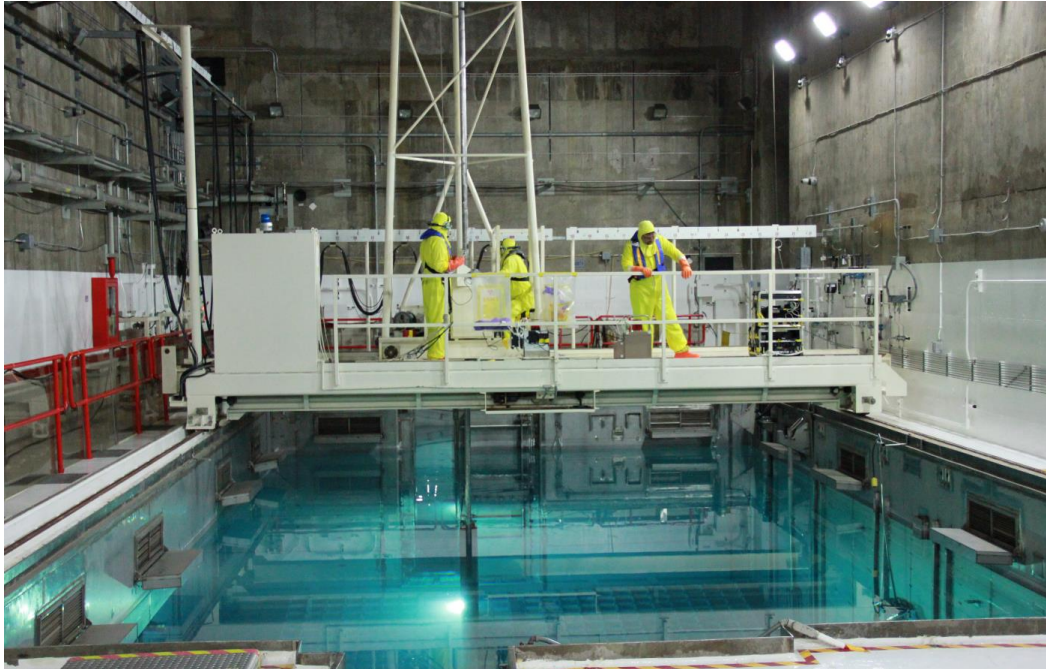
Provides Passive Dry Cask Storage for Spent Fuel While On Site





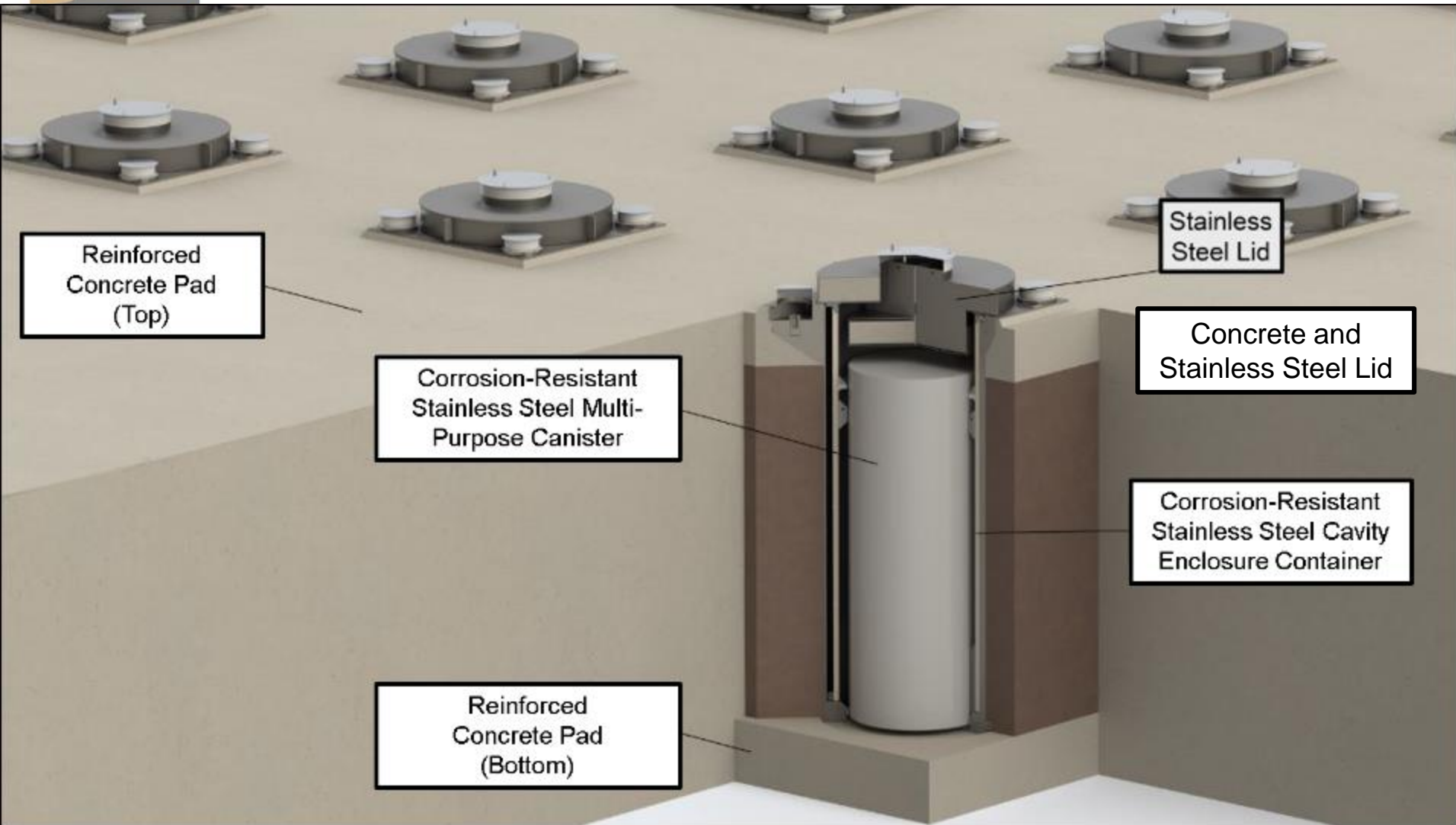
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Spent Fuel Pool “Wet” Storage





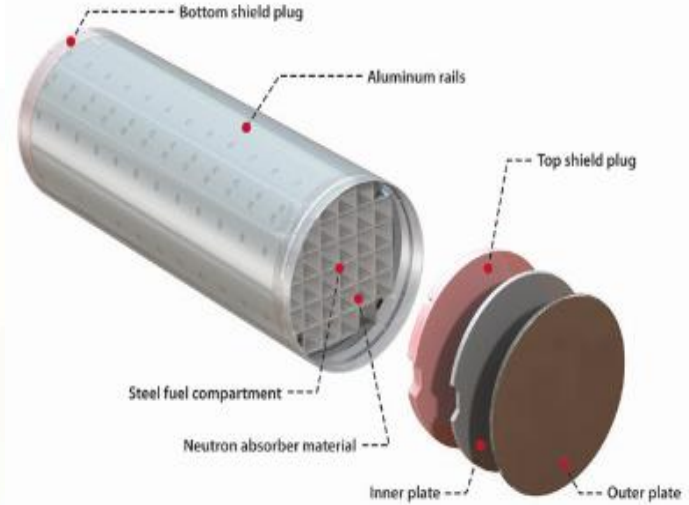
HOLTEC UMAX System





AREVA NUHOMS ISFSI

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Used Fuel Readiness for Transportation

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

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



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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



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Decommissioning Principles

Southern California Edison and co-owners are committed to:

Safety

Stewardship

Engagement

More information on www.SONGScommunity.com