DON Briefing: San Onofre Decommissioning

Tom Palmisano
Vice President
Southern California Edison
January 15, 2019
Decommissioning
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
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
Overview

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

- Decommissioning Planning (2 years)
- Decommissioning
- License Termination (2 years)
### SONGS DECOMMISSIONING SCHEDULE

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**FUEL OFFLOAD**
Spent Fuel Pool to ISFSI

Continued Long-Term Storage and Spent Fuel Management

ISFSI to remain onsite until moved to interim storage facility or permanent repository.

**SLC Lease Termination**
SLC conduit and shoreline facility disposition; lease termination

**CCC Permit**
Conduit and shoreline facility disposition

**Real Estate Termination**

**Site Restoration**
Includes any additional substructure removal and DON end state requirements

09 JAN 2019 DRAFT DOCUMENT SUBJECT TO CHANGE
Former Unit 1 Location Cross Section

SECTION PLAN

APPROXIMATE EAST-WEST PLANT CROSS SECTIONAL ELEVATION

RSCS
Radiation Safety & Compliance Services

REV 00 Produced by: P. Winter

SECTION PLAN

APPROXIMATE EAST-WEST PLANT CROSS SECTIONAL ELEVATION
AGENCY JURISDICTION
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
DEPARTMENT OF NAVY
REAL ESTATE CONTRACTS
Mesa Lease Parcels and Plant Easement
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
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
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
Used Fuel Management
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
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)

**FUTURE STATE**

- 3855 fuel assemblies in 123 canisters

*As of August 2018, 29 canisters have been loaded onto the ISFSI.*
Independent Spent Fuel Storage Installation (ISFSI)
Provides Passive Dry Cask Storage for Spent Fuel While On Site

AREVA System
(50 spent fuel canisters)

Holtec System
(73 spent fuel canisters)
Spent Fuel Pool
“Wet” Storage
Concrete and Stainless Steel Lid

Reinforced Concrete Pad (Top)

Corrosion-Resistant Stainless Steel Multi-Purpose Canister

Reinforced Concrete Pad (Bottom)

Stainless Steel Lid

Concrete and Stainless Steel Lid

Corrosion-Resistant Stainless Steel Cavity Enclosure Container
AREVA NUHOMS ISFSI
**Used Fuel Readiness for Transportation**

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

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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
  - Representatives of the U.S. military
  - Local environmental organizations
  - Local law enforcement
  - Business and labor communities
  - Local schools and academic institutions
Decommissioning Principles

Southern California Edison and co-owners are committed to:

Safety
Stewardship
Engagement

More information on www.SONGScommunity.com