CEP Regular Meeting

SONGS Dismantlement Update

Thursday, August 11, 2022
5:30 – 8:30 p.m. PDT
Virtual Meeting for Social Distancing

THIS MEETING IS BEING RECORDED
<table>
<thead>
<tr>
<th>Agenda Topics</th>
<th>Presenter(s)</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEP and SCE opening comments</td>
<td>David Victor, Doug Bauder</td>
<td>5:30 – 5:40</td>
</tr>
<tr>
<td>CEP general community updates</td>
<td>David Victor, Dan Stetson</td>
<td>5:40 – 5:50</td>
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<tr>
<td>Action for Spent Fuel Solutions Now coalition and the federal spent fuel management program</td>
<td>Sup. Jim Desmond, Pauline Colvin (for Supervisor Bartlett)</td>
<td>5:50 – 6:00</td>
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<tr>
<td>• New federal legislation and coalition update</td>
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<tr>
<td>SONGS decommissioning update</td>
<td>Doug Bauder</td>
<td>6:00 – 6:10</td>
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<tr>
<td>• The big picture</td>
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<tr>
<td>SONGS dismantlement update by Decommissioning General Contractor, SONGS Decommissioning Solutions</td>
<td>Rich Kalman</td>
<td>6:10 – 6:40</td>
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<tr>
<td>• Dismantlement plan and timeline</td>
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<tr>
<td>• Waste packaging and transportation</td>
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<td>• Environmental stewardship and mitigation measures</td>
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<tr>
<td>Break</td>
<td></td>
<td>6:40 – 6:45</td>
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<tr>
<td>General public comment period</td>
<td></td>
<td>6:45 – 7:45</td>
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<tr>
<td>Facilitated public dialogue</td>
<td>Dan Stetson, Martha McNicholas</td>
<td>7:45 – 8:25</td>
</tr>
<tr>
<td>SCE and CEP summary comments</td>
<td>Doug Bauder, David Victor</td>
<td>8:25 – 8:30</td>
</tr>
</tbody>
</table>
Opening Comments
David Victor
Instructions for meeting participation available online

1. Submitting comments in advance
   - Up to 2 days prior to the meeting, comments may be submitted by e-mail to nuccomm@songs.sce.com
   - These comments receive priority

2. Participating in public comment during meeting
   - Submit a written comment and/or sign up to deliver an oral comment using the CEP Public Comment Form
   - Dan Stetson and Martha McNicholas will facilitate
Opening Comments
Dan Stetson and David Victor

• “Consent-Based Siting of Interim Storage Facilities Without Yucca Mountain”
  • Panel discussion on June 15 at American Nuclear Society Annual Meeting in Anaheim

• Western Governors’ Association
  • Policy Resolution 2022-09 Radioactive Materials Management

• Meeting with DOE staff Sept. 16 to discuss consent-based siting for federal consolidated interim storage
  • Follow-up to visit by Energy Secretary Granholm to SONGS in April
  • Also need to get organized with other communities
Advocating for Spent Fuel Solutions

Jim Desmond
San Diego County Supervisor and ASFSN Co-Chair

Pauline Colvin
Communications Director
Orange County Supervisor and ASFSN Co-Chair Lisa Bartlett
New spent fuel legislation will help restart conversation on spent fuel disposition

Supervisor Jim Desmond

117th Congress
2d Session

S. ______

To establish a new organization to manage nuclear waste, provide a consensual process for siting nuclear waste facilities, ensure adequate funding for managing nuclear waste, and for other purposes.

IN THE SENATE OF THE UNITED STATES

introduced the following bill; which was read twice and referred to the Committee on

A BILL

To establish a new organization to manage nuclear waste, provide a consensual process for siting nuclear waste facilities, ensure adequate funding for managing nuclear waste, and for other purposes.

1

Be it enacted by the Senate and House of Representa-

tives of the United States of America in Congress assembled,

3 SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

4 (a) SHORT TITLE.—This Act may be cited as the

5 “Nuclear Waste Administration Act of 2022”.

Coalition Update
Pauline Colvin
SONGS: The Big Picture

Doug Bauder
Vice President & Chief Nuclear Officer
Major Workstreams

1. Dismantling above-ground structures
2. Safely managing spent fuel onsite
3. Advocating for offsite storage /disposal
San Onofre Decommissioning Update mailed June 2022

Available online:
https://www.songscommunity.com/about-decommissioning/decommissioning-san-onofre-nuclear-generating-station
SONGS
Decommissioning
Activity Status

Richard Kalman
SDS Executive Sponsor
Presentation Summary

- SDS Principles, Safety and Management Commitment
- Decommissioning Plan and Timeline
- Project Schedule Summary
- Waste Management, Packaging and Transportation
- Environmental Stewardship and Mitigation Measures
SDS Guiding Principles

- Ensure worker and public safety during decontamination and dismantlement (D&D)
- Protect the environment and community through environmental stewardship
- D&D of the plant using precise planning based on safety
- Managing and transporting all waste from the site safely and in compliance with federal regulations

Removing asphalt/concrete in preparation for capping fire main valves
Worker Safety

- Worker safety is a guiding principle of SDS
- SDS Cal-OSHA qualified safety program being used on site
- COVID-19 prevention protocols applied on site
- Personal protective equipment
- Radiological safety is a guiding principle of SDS
- Title 10 Section 20 of the Code of Federal Regulations (10CFR20)
- Radiation protection program ensures radiological safety for workers/public
Management Commitment

- Continue to implement recommendations identified by our corrective action process
- Increased focus on repetitive and first-of-a-kind work tasks with lessons learned
- Independent assessments of project safety culture and performance, and implementing recommendations
- Increase field presence at all SDS levels and the number of observations
- Seek support of union leadership to improve safety culture
- SDS leadership continuing to challenge the staff to be proactive, accountable and forward looking on safety
Decommissioning Progress
Demolition Status Map

SONGS site map indicates types of work in progress

ACM = Asbestos-Containing Material
HAZ = Hazardous Material
Isolation = terminate water and electricity
Decontamination & Dismantlement (D&D) Progress

Rail

- Phase 2 rail yard install - complete
- Rail yard can store up to 55 railcars
- 370 railcars shipped offsite to date
- Rail provides safe and efficient shipment of waste to Clive, Utah
- Rail shipments tightly controlled and monitored by NRC and DOT
- Rail shipment substantially reduces emissions
D&D Progress

Unit 2 Reactor Head Shipment

- Unit 2 reactor vessel head shipment to EnergySolutions facility in Clive, Utah - complete
- Decommm Digest [here](#)

The team safely loaded and secured the Unit 2 reactor vessel head for shipment.

The reactor vessel head is located at the bottom of the reactor head assembly (Unit 3 pictured).

The Unit 2 reactor head weighs approximately 77 tons.
D&D Progress

Reactor Vessel Internals (RVI)

Unit 2

- Core Support Barrel (CSB) - first three rings are completed
- CSB Total - working in field
- Upper Guide Structure (UGS) - working in field
D&D Progress
Unit 2 Reactor Vessel Internals (RVI)

Unit 2 upper guide structure (UGS) install on volume reduction station (VRS)-2

Unit 2 diamond wire saw modifications to complete vertical segmentations on UGS plate
D&D Progress

Unit 2 Reactor Vessel Internals (RVI)

Unit 2 A-ring piece removed

Unit 2 core support barrel (CSB) C-ring complete
D&D Progress

Reactor Vessel Internals (RVI)

Unit 3

- First two rings - completed
- CSB A-Ring and B-Ring Segmentation - completed
- C-Ring Segmentation - started
- CSB UGS - working in field
D&D Progress
Unit 3 Reactor Vessel Internals (RVI)

Unit 3 upper guide structure (UGS) lift

Unit 3 diamond wire saw
D&D Progress
Unit 3 Reactor Vessel Internals (RVI)

Core barrel support (CBS) lift

Unit 3 core barrel support C-ring 5 pieces remain
Nuclear Island

Unit 2 upper guide structure (UGS) - top section of tubes removed, vertical underwater diamond wire saw in progress

Volume reduction station (VRS) - core barrel with C-ring removed
Nuclear Island

Flange that connected to the motor is severed (the flange is located below the motor)

Reactor coolant pump motor interference removal
D&D Progress

Turbine Island (includes Unit 2/3 turbine building and intake structure)

- Unit 2 tube pulling/point heater removal/condenser shroud demo - completed
- Unit 3 turbine centerline demolition - completed; continuing condenser demolition
- Unit 3 Tube pulling - in progress
D&D Progress

Unit 2/3 Turbine island work locations
D&D Progress

Intake Structure

- Grout bag installed and prepared in support of grout installation on 7/9
- De-watering box/area constructed and awaiting de-watering process, sludge removal

Unit 2 intake forebay with the screens and rakes removed

Unit 2 forebay still flooded to ocean level
D&D Progress

Intake structure work location
D&D Progress

Unit 3 intake forebay with screens and rakes removed

Gate slot (Unit 3 gate 4) with gate removed and small dewatering pump maintaining level
D&D Progress

Unit 3 intake forebay dewatered

Gate slot (Unit 3 gate 5) with gate installed and sealed. Gates are installed in slots 1, 3 and 5 on Unit 3 side and slots 3 and 5 on Unit 2 side.
D&D Progress

- Divers prepping for gate slot dive to connect rigging for removal
D&D Progress

Divers work location
D&D Progress

Unit 3 gate #4 being removed

Removed gates being transported to lot 4 on the Cometto self-propelled transporter for future use
Unit 3 Turbine Building

Before

After
D&D Progress - Unit 2 Turbine Building
D&D Progress – Turbine Building

Liebherr 984 extended reach excavator is used for turbine deck dismantlement
Waste Management
Waste Management Overview

**Estimated Waste Generation**

- **Radioactive** – ~450,000 Tons
  - Class A
  - Class B/C
  - GTCC
- **Non-radioactive** – ~50,000 Tons
- 1 billion pounds of waste estimated to be generated

**Estimated Waste Shipment***

- **Cask Campaign** – 2022
  - Ramp up to ~1-2 per week
  - Total of 52 casks
- **Rail Campaign** – 2022
  - Ramp up to ~9 per week
  - Total of 444 railcars
- 128 million pounds safely shipped off site to date

*Shipments may change with schedule
Waste Management Overview

SONGS: CUMULATIVE WASTE SHIPPING BY YEAR
(LBS)

- VLLW - Very Low-level Waste
- LLRW - Low-level Radioactive Waste
- CLEAN

LBS x 1,000

- 2020
- 2021
- 2022
- 2023
- 2024
- 2025
- 2026
- 2027
Waste Characterization, Generation, Packaging and Shipping Process

- Waste generation
- Waste sampling
- Waste characterization
- Waste profiling
- Waste packaging
- Waste manifesting
- Waste transportation
- Waste disposal

All waste is processed in compliance with Department of Transportation and Nuclear Regulatory Commission regulations.
## Waste Management Overview

(Millions)

<table>
<thead>
<tr>
<th>Material Description</th>
<th>Material Packaged (lbs)*</th>
<th>Material Shipped (lbs)*</th>
<th>Total LBS 2022</th>
<th>Cumulative Shipments to Date</th>
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<tbody>
<tr>
<td>Radioactive Waste</td>
<td>72.2</td>
<td>72.2</td>
<td>39.9</td>
<td>401</td>
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<tr>
<td>Mixed Waste</td>
<td>0.6</td>
<td>0.6</td>
<td>0.0</td>
<td>22</td>
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<tr>
<td>Hazardous</td>
<td>2.9</td>
<td>2.9</td>
<td>1.8</td>
<td>149</td>
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<tr>
<td>Landfill</td>
<td>24.2</td>
<td>24.2</td>
<td>15.3</td>
<td>580</td>
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<tr>
<td>Recycle</td>
<td>28.5</td>
<td>28.5</td>
<td>9.7</td>
<td>1017</td>
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<tr>
<td><strong>Total:</strong></td>
<td><strong>128.4</strong></td>
<td><strong>128.4</strong></td>
<td><strong>66.7</strong></td>
<td><strong>2169</strong></td>
</tr>
</tbody>
</table>

*Weights for some hazardous, landfill, and recycle shipments will need to be verified by weigh tickets.*
Waste Management Overview

Site Improvements

- Rail scale
- On-site rail lines improvement – tracks A through F

Railcars awaiting shipment to EnergySolutions in Clive, Utah, for disposal
Signs of Progress
Environmental Stewardship
Environmental Stewardship

- Worker Environmental Awareness Program training prior to working onsite
- Protect endangered species while working
- Several groups monitor and oversee work (SDS, Federal, State and County agencies, biological, cultural, tribal, and more)
- Water, air, soil sampling and monitoring
- Minimize dust emissions
- Minimize truck traffic, each railcar eliminates 6 truck trips
Environmental Stewardship

• Ensure equipment meets air quality standards before use
• Storm water Pollution Prevention Plan (SWPPP) provides best management practices to prevent runoff into storm drains
• Announced and un-announced regulatory agency inspections
• Nesting bird management provides staff, nest buffers, deterrents, and noise monitoring

Gnatcatcher noise monitoring
Environmental Stewardship

• Field monitoring
  – Perimeter dust monitoring
  – Field air monitoring during excavation
Environmental Stewardship

• Demolition dust control
  – Water applied during demolition
  – Street sweeping
Environmental Stewardship

• Storm water controls
  – Covering waste piles and ground surface, storm drain protection
  – Secondary containment beneath fuel tanks

Stockpile covered to protect from elements

Secondary containment

Storm drain protection and containment

Erosion control measures
Project Environmental Coordinator, confirming no mammal entrainment in Unit 2 forebay
BREAK
Public Comment
David Victor

Directions for the public comment period:

1. To submit comments in writing or sign-up to speak:

   • Use the [CEP Public Comment Form](#)

   • Dan Stetson and Martha McNicholas facilitate public dialogue
Public Comment

Sign up to speak using the [CEP Public Comment Form]
CLOSING COMMENTS
DOUG BAUDER
KEY TAKEAWAYS
DAVID VICTOR
## 2022 CEP Meeting Schedule
(subject to change)

<table>
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<th>Focus Topics</th>
<th>Date</th>
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<tr>
<td><strong>1Q CEP Regular Meeting</strong></td>
<td>February 10</td>
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<tr>
<td>DOE RFI on Consent-Based Siting for Federal Consolidated</td>
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<tr>
<td>Interim Storage Facilities</td>
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<tr>
<td><strong>CEP Member Consultation Meeting</strong></td>
<td>April 14</td>
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<tr>
<td><strong>2Q CEP Regular Meeting</strong></td>
<td>May 19</td>
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<tr>
<td>SONGS Operational Mitigations and Decommissioning</td>
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<tr>
<td>Environmental Stewardship</td>
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<tr>
<td><strong>3Q CEP Regular Meeting</strong></td>
<td>August 11</td>
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<tr>
<td>SONGS Dismantlement Update</td>
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<tr>
<td><strong>4Q CEP Regular Meeting</strong></td>
<td>October 20</td>
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<tr>
<td>Spent Fuel Dry Cask Storage Defense-In-Depth</td>
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<tr>
<td><strong>CEP Member Consultation Meeting</strong></td>
<td>TBD</td>
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Thank you

Stay safe and healthy
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<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
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<tbody>
<tr>
<td>ACM</td>
<td>Asbestos Containing Material</td>
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<tr>
<td>AHSM</td>
<td>Advanced Horizontal Storage Module</td>
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<tr>
<td>ALARA</td>
<td>As Low As Reasonably Achievable</td>
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<tr>
<td>AMP</td>
<td>Aging Management Program</td>
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<tr>
<td>ASME</td>
<td>American Society of Mechanical Engineering</td>
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<tr>
<td>C&amp;D</td>
<td>Cold &amp; Dark</td>
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<tr>
<td>CAP</td>
<td>Corrective Action Program</td>
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<td>CCC</td>
<td>California Coastal Commission</td>
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<td>CDP</td>
<td>Coastal Development Permit</td>
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<td>CDPH</td>
<td>California Department of Public Health</td>
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<tr>
<td>CEC</td>
<td>California Energy Commission; Cavity Enclosure Container</td>
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<td>CEP</td>
<td>Community Engagement Panel</td>
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<td>CEQA</td>
<td>California Environmental Quality Act</td>
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<td>CFR</td>
<td>Code of Federal Regulations</td>
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<tr>
<td>CH&amp;S</td>
<td>Corporate Health &amp; Safety</td>
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<td>CIS</td>
<td>Consolidated Interim Storage</td>
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<td>CNO</td>
<td>Chief Nuclear Officer</td>
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<td>CPEN</td>
<td>Camp Pendleton</td>
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<tr>
<td>CPUC</td>
<td>California Public Utilities Commission</td>
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<td>CSLC</td>
<td>California State Lands Commission</td>
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<tr>
<td>D&amp;D</td>
<td>Decontamination &amp; Dismantlement</td>
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<td>DA</td>
<td>Decommissioning Agreement; Decommissioning Agent</td>
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<td>DCE</td>
<td>Decommissioning Cost Estimate</td>
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<td>Decommissioning General Contractor</td>
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<td>DGCL</td>
<td>Derived Concentration Guideline Levels</td>
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<td>Defense-in-Depth</td>
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<td>DOE</td>
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<td>Department of Navy</td>
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<td>DPH</td>
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<tr>
<td>DSAR</td>
<td>Defueled Safety Analysis Report (replaces FSAR)</td>
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<td>DSC</td>
<td>Dry Storage Canister</td>
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<tr>
<td>D-SEIS</td>
<td>Draft Supplemental Environmental Impact Statement</td>
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<td>D-SER</td>
<td>Draft Safety Evaluation Report</td>
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<td>Division of Spent Fuel Management (NRC)</td>
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<td>DTF</td>
<td>Decommissioning Trust Fund</td>
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<td>DTSC</td>
<td>Department of Toxic Substances Control</td>
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<td>EAL</td>
<td>Emergency Action Level</td>
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<tr>
<td>EH&amp;S</td>
<td>Environmental, Health &amp; Safety</td>
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<tr>
<td>EIR</td>
<td>Environmental Impact Report (under CEQA)</td>
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<td>EIS</td>
<td>Environmental Impact Study (under NEPA)</td>
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<td>EP</td>
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<td>FA</td>
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<td>FEIR</td>
<td>Final Environmental Impact Report</td>
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<td>FSAR</td>
<td>Final Safety Analysis Report</td>
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<td>FSSR</td>
<td>Final Status Survey Report</td>
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<td>FTO</td>
<td>Fuel Transfer Operations; Field Training Officer</td>
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<tr>
<td>GTCC</td>
<td>Greater Than Class C (Waste)</td>
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<tr>
<td>HAZ</td>
<td>Heat Affected Zone</td>
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<td>HI-TRAC</td>
<td>Holtec International Transfer Cask</td>
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<td>HI-PORT</td>
<td>Holtec International Transporter</td>
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<td>HI-STORM</td>
<td>Holtec International Storage Module</td>
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<tr>
<td>HSM</td>
<td>Horizontal Storage Module</td>
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Acronyms

IOEP  ISFSI-Only Emergency Plan
IPC   Interjurisdictional Planning Committee
IRMS  ISFSI Radiation Monitoring System
ISA   Industrial Security Area
ISFSI Independent Spent Fuel Storage Installation
LAR   License Amendment Request
LOED  Large Organism Exclusion Device
LTP   License Termination Plan
MARSSIM Multi-Agency Radiation Survey Site & Investigation Manuel
MOU   Memorandum of Understanding
MPC   Multi-Purpose Canister
NDTF  Nuclear Decommissioning Trust Fund
NEI   Nuclear Energy Institute
NEPA  National Environmental Policy Act
NOP   Notice of Preparation
NOV/IO Notice of Violation and Investigative Order
NPDES National Pollutant Discharge Elimination System
NPP   Nuclear Power Plant
NRC   Nuclear Regulatory Commission
NTP   Notice to Proceed
NUREG Nuclear Regulation
OC    Orange County
O&M   Operation & Maintenance
OE    Operating Experience
OSHA  Occupational Safety & Health Administration
PA    Protected Area
PDEP  Permanently Defueled Emergency Plan
PDTS  Permanently Defueled Technical Specifications
PPE   Personal Protective Equipment
PSDAR Post-Shutdown Decommissioning Activities Report
Q&A   Questions and Answers
REIR  Request for Environmental Impact Review
REMP  Radiological Environmental Monitoring Program
RCP   Reactor Coolant Pump
RP    Radiological Protection
RPV   Reactor Pressure Vessel
RSI   Request for Supplemental Information
RV    Reactor Vessel
RVI   Reactor Vessel Internals
RWQCB Regional Water Quality Control Board
SCE   Southern California Edison
SD    San Diego
SDDEH San Diego Department of Environmental Health
SDS   SONGS Decommissioning Solutions
SFP   Spent Fuel Pool; Support Foundation Pad (ISFSI)
SFPI  Spent Fuel Pool Island
SLC   State Lands Commission (CA)
SLR   Sea Level Rise
STP   Sewage Treatment Plant
T&D   Transmission & Distribution
TBA   To Be Announced
TBD   To Be Determined
TEDE Total Effective Dose Equivalent
UFSAR Updated Final Safety Analysis Report
UT    Ultrasonic Testing
UU    Unrestricted Use
VCT   Vertical Canister Transporter
WHI   Wheeler North Reef (Marine Mitigation)