

SONGS

2023 Decommissioning Progress Report

14 June 2024



SOUTHERN CALIFORNIA
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Submitted in compliance with Special Condition 3 of the 2019 SONGS Units 2 and 3 Onshore
Decommissioning CDP (CDP 9-19-0194)

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List of Acronyms

AP	Action Plan
CAB	Controlled Area Boundary
CACA	Corrective Action Consent Agreement
CAGN	Coastal California Gnatcatcher
CCC	California Coastal Commission
CDP	Coastal Development Permit
CGP	Construction General Permit
CSLC	California State Lands Commission
CTP	Conceptual Transportation Plan
D&D	Decontamination & Dismantlement
DOE	Department of Energy
DoN	U.S. Department of the Navy
DTSC	California Department of Toxic Substances Control
EAB	Exclusion Area Boundary
FEIR	Final Environmental Impact Report
GTCC	Greater Than Class C waste
ISFSI	Independent Spent Fuel Storage Installation
IRMS	ISFSI Radiation Monitoring System
MMP	Mitigation Monitoring Program
NRC	U.S. Nuclear Regulatory Commission
NPDES	National Pollutant Discharge Elimination System
RCRA	Resource Conservation and Recovery Act
RFI	Request for Information
SCE	Southern California Edison Company
SDG&E	San Diego Gas and Electric Company
SNF	Spent Nuclear Fuel
SONGS	San Onofre Nuclear Generating Station
SP	Strategic Plan
SWPPP	Stormwater Pollution Prevention Plan
WEAP	Worker Environmental Awareness Program

1 Introduction

Southern California Edison Company (SCE), on behalf of itself and its decommissioning co-participants San Diego Gas & Electric (SDG&E), the City of Riverside, and the City of Anaheim, provides this 2022 Annual Progress Report (the Report) for the San Onofre Nuclear Generating Station (SONGS) Units 2 and 3 Onshore Decommissioning Project (the Project) in compliance with Special Condition 3 of the California Coastal Commission's (CCC) 2019 Coastal Development Permit (CDP) for the Project (the 2019 Onshore Decommissioning CDP), CDP 9-19-0194.

The Project is located on lands owned by the U.S. Department of the Navy (DoN) and operated as Marine Corps Base Camp Pendleton in San Diego County. Project work includes the decontamination and dismantlement (D&D) of most above-grade structures at SONGS.

Special Condition 3 of the 2019 Onshore Decommissioning CDP states that SCE shall provide the CCC's Executive Director with annual progress reports by June 15 of each year, and that the reports shall include the following:

- a. A description of progress made in the previous year in conducting the Project;
- b. Results of any Final Status Surveys;
- c. Identification of any changes to the Project resulting from Final Status Surveys (e.g., identification of areas where additional structures or materials are required to be removed beyond that which is described in the FEIR for the Project), including the volume(s) of material proposed to be removed and/or placed as backfill, method(s) of decommissioning and disposal, and identification of SONGS structures that would be proposed to remain following the identified change to the Project;
- d. Updates regarding the opportunities for long-term storage and/or disposal of nuclear waste, including specific discussion of potential opportunities to relocate waste currently stored in the Independent Spent Fuel Storage Installation (ISFSI) either elsewhere on the SONGS site or at offsite locations;
- e. Interactions with the NRC regarding potential or proposed changes to the Exclusion Area;
- f. Any changes to project schedule that occurred or are anticipated in the subsequent year; and
- g. Assessment of the need for an amendment to this permit.

This Report provides information identified in categories "a" through "g" listed above.

This Report describes progress made in 2023. As with 2022, the 2023 activities generally consisted of demolition of buildings and below-ground foundations; shipments of waste off-site; implementing work plans for compliance with the California Department of Toxic Substances Control (DTSC) Corrective Action Consent Agreement (CACA) to close-out the facility's Resource Conservation and Recovery Act (RCRA) permit; removal of systems and structures within the two containment domes; and continuing mitigation measure and permit conditions submittals, monitoring, and compliance.

This Report provides an update on topics including SCE's efforts to relocate spent nuclear fuel offsite, the proposed future changes to the SONGS Exclusion Area Boundary (EAB), and anticipated schedule

activity milestones for 2023. As described in more detail below, no Final Status Surveys were performed, no changes to the Project are recommended, and no CDP amendment is required.

Additional information on decommissioning is provided by the SONGS Community Engagement Panel (CEP), which holds quarterly meetings focusing on public education and matters of interest to area communities related to the shutdown and decommissioning of SONGS. The CEP comprises of volunteer rotating representatives from surrounding cities and counties, including elected officials, public servants, as well as representatives of the U.S. military, local environmental organizations, the business and labor communities, and local school districts.

The CEP met on 23 March, 15 June, 17 August and 26 October 2023 and in addition to decommissioning progress updates, covered topics of environmental stewardship, Department of Energy (DoE) funding related to community engagement on consent-based siting of consolidated interim storage facilities, spent fuel storage defense-in-depth, and a joint DoE and Pacific Northwest National Laboratory spent fuel transportation update.

Meeting materials and presentation recordings can be accessed here:

<https://www.songscommunity.com/community-engagement/meetings>

2 2023 Annual Progress Report

SCE's 2023 progress regarding the items identified in Special Condition 3 is set forth below.

a. 2023 Demolition Activities and Environmental Permit Compliance

Demolition activities and off-site waste shipments continued in 2023. Actions to support environmental compliance and the Project's CACA with DTSC for non-radiological soil and groundwater investigation needed to close out the SONGS RCRA permit were ongoing.

i. Containment Dome Dismantlement

Within the containment domes, work continued to remove systems and structures in advance of future demolition of both structures. Completed activities in 2023 included removal of the Unit 2 spent fuel pool racks and drainage of the Unit 2 spent fuel pool. Eight of the 10 canisters of Greater Than Class C (GTCC) waste from reactor vessel internals were transferred to the site's Independent Spent Fuel Storage Installation (ISFSI). The remaining two canisters will be transferred in 2024 with the completion of the segmentation cutting of both units' reactor vessel internals.

ii. Building and Structure Demolition

By the end of 2023, 33 of the 62 total buildings and structures at SONGS had been demolished through the decommissioning process. Key 2023 achievements included the demolishment of the former Multi-Purpose Handling Facility building and dismantlement of the 445-ton Unit 3 Gantry Crane after it was brought down from the Turbine Building deck. As with the Unit 2 process in 2022, this facilitated

demolition of the Unit 3 Turbine Building interior and concrete pedestals supporting the building. Demolition of the Unit 2 and 3 Intake Systems, isolated in 2022, was completed.

iii. Waste Shipments

Since demolition began in 2021, the site has removed over 303 million pounds of the anticipated one billion total pounds of waste for off-site recycling and disposal. Rail and truck waste shipments sent off-site in 2023 totaled over 144 million pounds, of which 33,702,710 pounds were recycled.

The site continued to sort and package building debris for out-of-state disposal. Radioactive waste is transported by rail to Clive Utah, which will dispose of over 90-percent of the Project's radioactive waste, and the remaining is sent by truck to Andrews, Texas. Non-radioactive waste is transported by truck to La Paz, Arizona. A total of 4,563 shipments of all types of waste have left the site since the start of the Project.

iv. Environmental and Permit Compliance, Monitoring, and Reporting

In 2023, SCE continued its timely compliance with the California State Lands Commission's (CSLC) Mitigation Monitoring Program (MMP) found in Exhibit C of general lease No. 6785.1 (SONGS decommissioning lease) and with the Special Conditions of the 2019 Onshore Decommissioning CDP.

SCE submitted six biological survey reports in 2023. Surveys for rare plants and sensitive bat species yielded negative findings. The Project's Nesting Bird Management Plan provided protection through species-specific disturbance-free buffers. Protective measures and construction noise monitoring for coastal California gnatcatcher (CAGN) previously approved by both United States Fish and Wildlife Service and California Department of Fish and Wildlife were not needed in 2023. All CAGN found during surveys were located outside of the SONGS site, within the 500-foot survey buffer radius, and in areas that were not planned for vegetation clearing due to Project activities.

The ISFSI Gamma Radiation Monitoring System (IRMS) continues to provide real-time radiation data streams to local and state agencies. The Radiologic Health Branch of the California Department of Public Health provides a monthly report of the data on their website.

Quarterly decommissioning updates were provided by US mail to residents within a five-mile radius of SONGS and emailed to applicable agencies and stakeholders. Additionally, quarterly summaries of any public complaints, comments, and concerns received by the SCE Deconstruction Liaison were provided to the CSLC. If contact information was provided, SCE responded within 72-hours. Most phone calls and emails were for employment opportunities and no complaints or concerns with D&D activities were received.

Aspen Environmental Group, retained by the CSLC to provide environmental compliance monitoring and reporting, conducted regular site visits. Seven monitoring reports were generated, none of which indicated any instance of non-compliance with the MMP. Worker Environmental Awareness Program (WEAP) training for biological resources was provided to 217 new decommissioning personnel by a qualified biologist. Training sign-in sheets are provided to CSLC and Aspen and are available on-site for review.

The SONGS individual National Pollutant Discharge Elimination System (NPDES) permit (Order No. R9-2015-0073, Permit No. CA0109282) continues to cover the site's wastewater treatment plant effluent, and incidental waste streams that result from the operation of the facility. In 2023, the San Diego Regional Water Quality Control Board unanimously approved the NPDES permit renewal application SCE submitted in 2020. The new permit went into effect on 01 June 2023.

Stormwater management in areas disturbed by construction, demolition, or decommissioning activities are covered under the California State Water Resources Control Board's Construction General Permit (CGP) through the Project's Storm Water Pollution Prevention Plan (SWPPP) established in 2019. SWPPP monitoring and inspections continued in 2023 with no non-compliances reported.

In 2019, the site entered a CACA with DTSC to close out the SONGS RCRA permit. Key deliverables to the DTSC for the CACA were developed and submitted with comments received, resolved, and incorporated for final approval. Sampling, air monitoring and reporting was provided throughout 2023 and four quarterly reports were provided.

Coordination calls with all affiliated and interested Tribes under Assembly Bill 52 outreach continued throughout 2023. Tribal monitoring is provided by the Rincon Band of Luiseño Indians and conducted with cultural resource and paleontological resource monitoring for decommissioning onshore ground disturbance.

b. Results of Any Final Status Surveys

Decommissioning work has been and will continue to be conducted pursuant to Nuclear Regulatory Commission (NRC) regulations and oversight to meet the NRC's decontamination release requirements for unrestricted use of the land following D&D. For unrestricted use and the ultimate return of the property to the DoN, above-grade structures and all below-grade structures are anticipated to be removed to at least three feet (in most cases) below the existing SONGS Units 2 and 3 grade, consistent with the permitted Project description.

Above-grade structures to remain at the end of the Project include the shoreline riprap, seawall, and pedestrian walkway (covered by SCE's lease with the CSLC), the ISFSI, SONGS Unit 1 subsurface materials located under the ISFSI, utilities supporting the North Industrial Area and the SDG&E switchyard and related facilities, security features, access roads, parking areas and gunite-covered slopes.

A Final Status Survey will be performed on the remaining below-grade structures, systems and components and their associated soil areas. Additionally, a Final Status Survey for the ISFSI and associated security areas will be conducted once all spent fuel is permanently moved offsite. The survey data will be verified by the NRC or an NRC-appointed independent third party.

After Final Status Surveys are verified and the remaining below-grade structures and/or open areas are deemed to meet NRC license termination requirements, the site will be graded and stabilized per the Onshore Grading Plan (approved by the CCC for Special Condition 4 on 4 December 2019) and per the requirements of the project's SWPPP (approved by the CCC for Special Condition 2 on 6 December 2019), respectively.

Final Status Survey work was conducted in the following areas in 2023:

- Unit 2 and Unit 3 Intake Area
- Units 2 and Unit 3 Circulation Pump Discharge and Return Tunnels
- Unit 3 Gate Slots
- Unit 2/3 Salt Water Cooling Pipe Tunnel

Results of these Final Status Surveys concluded the original contamination met the acceptance criteria.

c. Identification of Any Changes to the Project from Final Status Surveys

Final Status Surveys conducted prior in 2023 did not identify any changes to the Project. The remaining Final Status Surveys will be completed prior to the end of decommissioning work, anticipated to be 2028.

d. Updates Regarding Opportunities for Long-Term Storage/Disposal of Nuclear Fuel

SCE's ongoing efforts regarding opportunities for the long-term offsite storage and disposal of spent nuclear fuel (SNF) include the following:

i. Strategic Plan

To assess alternatives for relocating SONGS SNF to an offsite storage or disposal facility, SCE released a *Strategic Plan for the Relocation of SONGS Spent Nuclear Fuel to an Offsite Storage Facility or a Repository* (SP) in March 2021. The SP evaluates various alternatives for the safe, commercially reasonable offsite relocation of SONGS SNF so that SCE may restore the SONGS site and return full control of the property to its owner, the DoN.

ii. Conceptual Transportation Plan

In addition to the SP, SCE released a *Conceptual Transportation Plan for the Relocation of SONGS Spent Nuclear Fuel to an Offsite Storage Facility or Repository* (CTP) in March 2021 supporting the eventual removal of SNF from SONGS. The CTP focuses on offsite transportation logistics, as well as actions that SCE can take to prepare for shipment.

iii. Action Plan

Based on findings and recommendations in the SP and CTP, SCE released an *Action Plan for the Relocation of SONGS Spent Nuclear Fuel to an Offsite Storage Facility or a Repository* (AP). The AP was released together with the SP and CTP in March 2021.

Concurrent with release of these plans, SCE announced the formation of the Spent Fuel Solutions coalition, whose mission is to advocate for federal solutions to offsite SNF storage and disposal. In addition to SCE, co-founders included the County of Orange, County of San Diego, San Diego Gas & Electric Company and the City of Riverside. By the spring of 2023, the coalition had grown to include approximately 250 members representing diverse stakeholder groups, from Native American and organized labor to business groups and environmental organizations.

iv. Federal Spent Fuel Management Program

In December 2021, the federal government – the United States Department of Energy (DOE), in particular – effectively restarted the federal SNF management program with the issuance of a Request for Information (RFI) on federal consolidated interim storage facilities for commercial SNF. Input on the RFI was due by 4 March 2022. SCE and the Spent Fuel Solutions coalition were among 225 entities and individuals who provided input to DOE.

Appropriations and direction from Congress have facilitated the renewed efforts. Senior DOE officials have stated that significant work can be done to advance consolidated interim storage under existing authorization.

v. Consortia and Consent-Based Siting

On 20 September 2022, DOE issued a funding opportunity announcement to provide for consortia across the country to benefit from planning and capacity building. The effort initially included \$16 million in awards and subsequently was increased to \$26 million for award recipients to promote dialogue that helps foster the development of innovative community ideas, incorporates principles of equity and environmental justice into community engagement strategies, and captures feedback related to the interim storage of spent nuclear fuel and high-level radioactive waste.

During a news conference at SONGS on 9 June 2023, DOE Secretary of Energy Jennifer Granholm announced a total of \$26 million in awards to 12 entities, referred to as a consent-based siting consortia. Each received approximately \$2 million in funding. The consortia collectively are fostering community discussion and collecting feedback on consolidated interim storage of spent nuclear fuel with a performance period of 18 to 24 months.

DOE held public webinars with the consortia on 25 July 2023 and 2 November 2023 to share information about progress made by the consortia in carrying out community engagement activities and providing direct sub-grants to communities wanting to learn more. The webinars also provided a venue for members of the public to ask questions of DOE officials and better understand the consent-based siting process.

In October 2023, DOE announced Paul Murray as Deputy Assistant Secretary for Spent Fuel and Waste Disposition to lead the federal spent fuel management program.

vi. Updated Roadmap for Consolidated Interim Storage

In April 2023, the DOE provided an updated roadmap on the 10-to-15-year process to license, construct, and operate one or more federal consolidated interim storage facilities. The roadmap consists of three stages. The first is focused on building relationships, mutual learning, and developing a common understanding of waste management-related topics. Stage 2 will focus on site screening and assessment during which DOE will issue initial criteria for suitable sites followed by a national call for volunteers, community-led development of additional criteria, and preliminary and detailed assessments. During the final stage, DOE will negotiate agreements with willing and informed host communities culminating in the licensing, construction, and operation activities to follow.

vii. Federal Legislative Reform

Logically, for a community to commit to hosting a consolidated interim storage facility, it will require at least an active siting process for a permanent repository so that interim does not become permanent by default. Current federal law identifies only Yucca Mountain in Nevada as an authorized repository, but the State of Nevada is strongly opposed. Most stakeholders, including SCE, believe that Congress must authorize the DOE to begin a consent-based siting process for one or more permanent disposal facilities, what are known as “deep geologic repositories.” Toward this end, SCE is working through the broad-based Spent Fuel Solutions coalition and an informal working group of stakeholders from across the country to advance policies that would enable progress on repositories as well as other elements of an integrated federal spent fuel management program. Policies at the center of SCE’s advocacy efforts remain informed by the Strategic and Conceptual Transportation Plans.

e. Potential or Proposed Changes to the Exclusion Area

During 2023, no reductions in the Exclusionary Area Boundary (EAB) were performed.

Special Provision 32 of the SONGS Unit 2 and 3 Offshore lease requires SCE to decrease the SONGS EAB “to the minimum required by law” once the spent fuel transfer to the ISFSI is complete. This provision also requires SCE and CSLC to “jointly consult with the California Coastal Commission (CCC) to ensure that [reducing the EAB] will not interfere with [SCE’s] compliance with CCC permit conditions.”

The EAB is a requirement of operating nuclear power plants as one of several boundaries used to demonstrate compliance with off-site accident dose requirements. Now that SONGS has permanently ceased operations and the spent nuclear fuel is relocated to the ISFSI, there is no longer any potential for an accident with off-site dose potential and an EAB is no longer required.

SCE intends to eliminate the EAB after the completion of moving GTCC waste into the site’s ISFSI, which is expected in spring 2024. This action does not require NRC approval.

The license exemption request to reduce the Control Area Boundary (CAB) submitted to the NRC on 16 December 2021 ([NRC ADAMS Record ML21355A241](#)) was granted in January 2023. This reduction is consistent with the “ISFSI Only” licensing requirements for off-site dose limits. The CAB, which limits personnel access to control and restrict radiation exposure, currently overlaps the EAB. This change, brings the CAB wholly within the NRC Licensed Boundary with physical barriers to control access.

SCE will submit an immaterial amendment application to the CCC in 2024 to Coastal Development Permit (CDP) 9-19-0194 as part of the consultation required in CSLC Lease Special Provision 32. The application will confirm removal of the EAB boundary will not affect SCE’s compliance with CCC permit conditions, specifically SCE’s obligation to maintain the SONGS public walkway.

f. Changes to Project Schedule Activities that Occurred or are Anticipated In 2024

With major D&D activities underway, work in 2024 will continue to focus on demolition of buildings and below-ground foundations; shipments of waste off-site; implementing work plans for compliance with the DTSC CACA to close-out the facility’s RCRA permit; removal of systems and structures within the two

containment domes; and continuing mitigation measure and permit conditions submittals, monitoring, and compliance.

See Table 1, below, for major work activities anticipated in 2024:

Table 1: 2023 Major Work Schedule Activities (schedules are subject to change)

Work Location	Major Work Activity	Q1 2024	Q2 2024	Q3 2024	Q4 2024
North and East Plant Side (i.e., Parking Lots 3 & 4)	Material Delivery, Staging, and Removal	✓	✓	✓	✓
Containment Buildings	Reactor Segmentation and Removing Large Components	✓	✓	✓	✓
Containment Buildings and Adjacent Structures	Demolition	✓	✓	✓	✓
Containment Buildings and Adjacent Buildings	Hazardous Materials Removal	✓	✓	✓	✓
Outer (former administration) Buildings Area	Clean and Remove from Service the Oil/Water Separator and Sewage Treatment Plant	✓	✓		
Outer (former administration and maintenance) Buildings Area	Material Loading for Rail Delivery in Material Handling Tent			✓	✓
Site Wide	Site Characterization & Waste Shipments	✓	✓	✓	✓

g. Assessment of Any Need to Amend This Permit – None

Demolition work and off-site transportation of waste were again the focus of 2023 activities. Site activities included biological surveys; preparation and removal activities inside the containment domes; completing demolition of the Intake Structures, dismantlement and demolition of the Unit 3 Gantry Crane and Turbine Building, and continued sampling, monitoring and reporting to support the DTSC CACA. The 2023 schedule milestones, as conveyed in the 2022 Progress Report, were met with no change to 2023 forecasted Project activities or approach. Therefore, there is no need for a CDP amendment at this time.

3 Conclusion

With D&D work as the focus for 2023, all 2023 schedule milestones met, and with no change to forecasted Project activities or approach, there is no need for a CDP amendment at this time.

In accordance with Special Condition 3, SCE will submit its 2024 Annual Progress Report on or about 15 June 2024.

4 Site Photographs

UNIT 2 SPENT FUEL RACK REMOVAL



UNIT 2 (LEFT) AND 3 (RIGHT) TURBINE BUILDING DEMOLITION



UNIT 2 CONTAINMENT MAIN STEAM NOZZLE REMOVAL

