

**Subject:** AXC-SGC - Travel to SONGS/Phoenix/Palo Verde/Flex

**Start:** Mon 02/04/2019 12:00 AM

**End:** Thu 02/07/2019 12:00 AM

**Show Time As:** Out of Office

**Recurrence:** (none)

**Organizer:** AXC\_Staff\_Daily\_Calendar Resource

Commissioner Caputo's  
calendar entry

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**Subject:** SONGS Drop-in  
**Start:** Thu 11/14/2019 12:00 PM  
**End:** Thu 11/14/2019 12:30 PM  
**Recurrence:** (none)  
**Organizer:** Lora, Kimberly

Commissioner Wright's  
calendar entry

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**Subject:** Meeting with Southern California Edison  
**Location:** O18/H1

Commissioner Baran's  
calendar entry

**Start:** Wed 04/17/2019 10:30 AM  
**End:** Wed 04/17/2019 11:00 AM

**Recurrence:** (none)

**Organizer:** Schumann, Stacy

**Categories:** Red Category, Drop-in

## April 11, 2019 Continued

Thursday

6:00 PM - 8:00 PM French Embassy - American Revolution & France

## April 12, 2019

Friday

11:30 AM - 1:00 PM Reserve

1:30 PM - 2:15 PM AP Interview -- O18E1

## April 15, 2019

Monday

10:30 AM - 12:00 PM Reserve

12:00 PM - 1:30 PM NRC alumni lunch -- Marriott

1:30 PM - 2:00 PM OPA Interview -- O18E1

## April 16, 2019

Tuesday

11:00 AM - 11:30 AM NRR Periodic -- O18E1

11:30 AM - 1:00 PM Reserve

1:30 PM - 2:30 PM NV/BR Discuss -- O18E1

3:00 PM - 3:30 PM DROP IN: Terrestrial Energy -- O18E1

## April 17, 2019

Wednesday

11:00 AM - 11:30 AM DROP IN: SONGS -- O18E1

11:30 AM - 1:00 PM Reserve

2:00 PM - 2:30 PM OGC Periodic -- O18E1

6:00 PM - 10:00 PM Private Appointment



# April 17, 2019

Wednesday

April 2019						May 2019							
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6				1	2	3	4
7	8	9	10	11	12	13	5	6	7	8	9	10	11
14	15	16	17	18	19	20	12	13	14	15	16	17	18
21	22	23	24	25	26	27	19	20	21	22	23	24	25
28	29	30					26	27	28	29	30	31	

WEDNESDAY	
	17
7 <sup>AM</sup>	
8	
9	9:00 - 9:15 Chairman Morning Meeting; 17F22
10	10:00 - 10:30 Meeting: ACRS; 17D1
11	11:30 - 12:00 Meeting: Southern California Edison (SONGS); 17F22
12 <sup>PM</sup>	
1	1:00 - 2:00 Security Read Conference Room O-2B2
2	2:00 - 2:30 Meeting: EDO; 17D1
3	
4	
5	
6	

# November 15, 2019

Friday

November 2019

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

December 2019

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

FRIDAY	
	15
7 <sup>AM</sup>	
8	
9	
10	10:00 - 10:15 Meeting: OCHCO; 17D1 10:30 - 11:00 South Texas Project; 17F22
11	11:00 - 11:15 NRR; 17D1 11:30 - 12:00 Southern California Edison (SONGS); 17F22
12 <sup>PM</sup>	
1	
2	
3	
4	
5	
6	

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**Subject:** Meeting with Southern California Edison  
**Location:** O18/H1

**Start:** Thu 11/14/2019 11:00 AM  
**End:** Thu 11/14/2019 11:30 AM

Commissioner  
Baran's calendar  
entry

**Recurrence:** (none)

**Organizer:** Schumann, Stacy

**Categories:** Red Category, Drop-in



# U.S. NRC

United States Nuclear Regulatory Commission

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*Protecting People and the Environment*

**DROP-IN VISIT BY  
SOUTHERN CALIFORNIA EDISON  
SAN ONOFRE NUCLEAR GENERATING STATION (SONGS)**

**WITH**

**CHAIRMAN SVINICKI  
COMMISSIONER BARAN  
COMMISSIONER CAPUTO  
COMMISSIONER WRIGHT  
MARGARET M. DOANE**

**November 14-15, 2019**

CONTACTS: Zahira Cruz Perez, NMSS  
301-415-3808

ADAMS Accession No. ML19311C659

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**AGENDA**

November 14, 2019

**ITINERARY**

<b>TIME</b>	<b>PERSON VISITED</b>	<b>CONTACT PERSON</b>	<b>EXTENSION</b>
11:00 a.m - 11:30 a.m.	Commissioner Baran	Stacy Schumann	301-415-1839
11:30 a.m. - 12:00 p.m.	Commissioner Caputo	Nicole Riddick	301-415-1855
12:00 p.m - 12:30 p.m.	Commissioner Wright	Kimberly Lora	301-415-1759

November 15, 2019

**ITINERARY**

<b>TIME</b>	<b>PERSON VISITED</b>	<b>CONTACT PERSON</b>	<b>EXTENSION</b>
11:00 a.m - 11:30 a.m.	Margaret Doane	Kathleen Blake	301-415-1700
11:30 a.m. - 12:00 p.m.	Chairman Svinicki	Janet Lepre	301-415-1750

**VISITORS REPRESENTING  
Southern California Edison**

- Doug Bauder, Vice President Decommissioning and Chief Nuclear Officer
- Vincent Bilovsky, Director Decommissioning Projects
- Al Bates, Manager Regulatory Affairs

**TOPIC OF DISCUSSION**

- Status update on current decommissioning activities at the San Onofre Nuclear Generating Station (SONGS)

## SIGNIFICANT ISSUES / TALKING POINTS

### Current Decommissioning Activities at SONGS

#### Expected Key Messages from Stakeholder:

- Active dismantlement of plant systems will begin shortly now that the Coastal Development Permit has been approved by the State of California; plans have been developed for all activities and will be executed by the decommissioning contractor.
- Southern California Edison (SCE) plans to complete movement of all spent fuel to dry storage in the Holtec UMAX ISFSI by mid-2020 and will continue to implement lessons learned from the NRC oversight activities during this undertaking.
- SCE anticipates that public opinion about decommissioning will continue to be an issue through the process and more lawsuits are possible.

#### Staff Key Messages:

- The staff intends to continue heightened oversight of SONGS throughout the fuel loading campaign via the inspection process, including the use of unannounced inspections.
- SCE has taken the appropriate corrective actions from past oversight findings in preparation for its movement of fuel into dry storage.
- The staff also anticipates that the level of public interest in the SONGS decommissioning process will remain high and has developed communication tools to address it (e.g., FAQs).

### Summary of Issues in Adjudication

The following topics are under adjudication (either with the Atomic Safety and Licensing Board or the Commission) and should not be discussed during the visit:

- Legality of issuance of license transfer, license amendment, and exemption under Atomic Energy Act and National Environmental Policy Act, and appropriateness of issuing these decisions prior to completion of hearing, including no significant hazards consideration determination.

The following topics are subject to pending Federal court litigation and are provided for awareness:

- The same topics raised above are also the subject of federal court litigation before the D.C. Circuit and are also the subject of a motion to stay. The agency intends to move to dismiss the petition for review because the same issues are currently pending before the Commission.
- Public Watchdogs has filed suits in the district court in California and in the Ninth Circuit seeking to stop the loading of fuel into SCE's Holtec systems. The NRC has moved to dismiss the district court litigation; the Ninth Circuit has not taken action on the lawsuit.



Discussion

SONGS, Units 2 and 3, have been shut down since January 2012 due to issues with the replacement steam generators for both units. In June 2013, the licensee elected to permanently discontinue operations. Per its Post-Shutdown Decommissioning Activities Report (PSDAR), the licensee opted for the DECON decommissioning option (i.e., prompt decontamination and dismantlement after an initial planning period). By letter dated August 20, 2015, the NRC informed the licensee that the PSDAR contained the information required by 10 CFR 50.82(a)(4)(i), and was consistent with Regulatory Guide 1.185.

The licensee selected SONGS Decommissioning Solutions (SDS), a joint venture between EnergySolutions and AECOM, as the general contractor to conduct the majority of the decommissioning work. The licensee plans to provide direct oversight of the work as it is being conducted by its contractors.

Two incidents involving SCE contractors or their subcontractors, led to additional oversight of decommissioning activities. The first was a misalignment incident involving a loaded canister, where supervisors were available, but these individuals were stationed at a low-dose waiting area and were unable to directly observe some of the canister movement activities. The second involved the incorrect removal of seismic restraints while preparing the SONGS, Unit 1 reactor pressure vessel (RPV) for shipment to the EnergySolutions disposal site in Clive, Utah. Both incidents are described in detail in the Briefing Book prepared for the NMSS Director's participation at the California Coastal Committee meeting in mid-October ([ML19241A537](#)).

The NRC staff has been performing unannounced inspections at SONGS since the return to fuel transfer operations. The staff provided oversight of several key dry cask loading evolutions and other ISFSI related activities. Specifically, the NRC has performed inspections which covered key dry fuel storage operations, including (1) a review of SCE/Holtec dry (practice) runs; (2) training of dry cask storage personnel; (3) transfer and downloading canister #30 from the Unit 3 SFP into the UMAX ISFSI; (4) loading and downloading of canister #31 into the UMAX ISFSI; (5) Holtec canister flushing activities on site; (6) loading of a fuel canister containing damaged fuel; and (7) loading and downloading canister #32 into the UMAX ISFSI.

Region IV maintains an onsite presence for approximately one week per month to inspect fuel loading activities and will continue to re-evaluate inspection frequency based on licensee performance.



**FACILITY INFORMATION**

**Facility Data**

**San Onofre Nuclear Generating Station (SONGS)**

Utility: Southern California Edison (SCE)\*  
Location: 4 miles southeast of San Clemente, California  
County: San Diego County, California

	<u>Unit 1**</u>	<u>Unit 2</u>	<u>Unit 3</u>
Docket Nos.	50-206	50-361	50-362
License Nos.	DPR-13	NPF-10	NPF-15
Construction Permit	1963	10/18/1973	10/18/1973
Full Power License	03/27/1967	09/07/1982	09/16/1983
Commercial Operation	01/01/1968	08/08/1983	04/01/1984
Expiration Date	**	02/16/2022	11/15/2022
Cessation of Operations	11/30/1992	06/12/2013	06/12/2013
Defueled Letter	03/08/1993	07/22/2013	06/28/2013

**PLANT CHARACTERISTICS**

**Units 2 and 3**

Reactor Type: Combustion Engineering (CE) 2-loop  
Containment Type: Large Dry  
3,438 Megawatt thermal (MWt) (1070/1080  
Megawatt electric (MWe))  
Thermal Power Limit:  
Architect/Engineer: Bechtel  
Nuclear Steam Supply System  
Vendor: CE  
Turbine Generator: English Electric

\* SONGS is jointly owned by SCE (78.21 percent), San Diego Gas & Electric (20 percent), and the city of Riverside (1.79 percent). SCE is authorized to act as agent for the other co-owners and has exclusive responsibility and control over the physical construction, operation, and maintenance of the facility.

\*\* Unit 1, a Westinghouse 3-loop pressurized water reactor constructed by Bechtel and rated at 1,347 MWt, began commercial operation on January 1, 1968, and permanently ceased operation on November 30, 1992. The unit was initially placed in SAFSTOR until 2000 when active decommissioning (DECON) began. Decommissioning activities were completed, except for removal of the reactor pressure vessel, in 2010. The Unit 1 site is now the location of the site industrial area and Independent Spent Fuel Storage Installation (ISFSI).

## SONGS Decommissioning Timeline

- **June 7, 2013** – SCE announced plans to permanently retire SONGS, Units 2 and 3.
- **June 12, 2013** – SCE submitted certification to the NRC indicating that it permanently ceased power operations at SONGS on **June 7, 2013**.
- **July 22, 2013** and **June 28, 2013** – SCE certified that it had permanently defueled the SONGS, Units 2 and 3, reactor vessels, respectively.
- **August 29, 2013** – The inspection program was transferred from the Reactor Oversight Program to the Reactor Decommissioning Inspection Program (IMC 2561).
- **January 2014** – SCE informed the NRC of its plan to identify a contractor and begin prompt dismantlement in 2016. SCE also announced its plans to establish a Community Engagement Panel (CEP) to “encourage public dialogue on San Onofre decommissioning.”
- **September 23, 2014** – SCE submitted the Post-Shutdown Decommissioning Activities Report (PSDAR), including a site-specific decommissioning cost estimate (DCE), and an Irradiated Fuel Management Plan (IFMP). A public meeting was held on October 27, 2014, in Carlsbad, CA, and the NRC completed its review of the PSDAR on August 20, 2015.
- **December 11, 2014** – SCE selected Holtec International to expand the SONGS spent fuel storage facility and indicated that they will utilize an amendment to the system that provides a seismically enhanced version of the HI-STORM UMAX canisters.
- **August 25, 2015** – SONGS project management responsibility was transferred from the NRR operation reactor group to the NMSS decommissioning reactor group.
- **December 20, 2016** – SCE announced that it has selected SONGS Decommissioning Solutions (SDS), a joint venture of Energy Solutions and AECOM, as the general contractor to complete decommissioning, dismantlement, and remediation activities at SONGS
- **May 3, 2017** – SCE completed the ISFSI pad expansion and fuel offload campaign to dry storage preparations, which is expected to be completed by the end of 2019. All fuel assemblies were inspected during the previous year to help create the canister loading plan.
- **December 2017** – Mobilization and readiness preparations were completed by SDS at the SONGS site. Numerous SCE programs were transferred in whole or in part for implementation and control by SDS, with SCE in a contract oversight role.
- **January 2018** – Start of fuel offload campaign to the expanded onsite ISFSI, which is expected to be completed by the end of 2019. Numerous NRC inspections have been conducted related to the preparations to begin moving fuel, as well as in response to emergent issues during fuel movement, as described in the “Significant Issues” section.
- **October 2019** – Completion date of the CEQA and CCC process, ending with approval of the Coastal Development Permit to allow active dismantlement activities at the SONGS site.

## **Facility Oversight Information**

### ***Transition of Programs to SONGS Decommissioning Solutions (SDS)***

Since the licensee announced its decommissioning general contractor, SDS, on December 20, 2016, both the licensee and SDS have been transitioning towards an organizational structure that allows a contracted workforce under SDS to perform the majority of the remaining decommissioning work activities with appropriate licensee oversight.

The NRC regional staff perform inspections on the implementation of the transitioned programs to ensure that regulatory requirements are being maintained. The inspections also review the capabilities of SCE's oversight and assessment of the SDS programs. Thus far, the inspections have identified that SDS has adequately implemented programs that meet regulatory requirements, and SCE has provided appropriate oversight, with the exception of the two incidents mentioned previously involving a spent fuel canister misalignment and the Unit 1 RPV.

### ***Recent Inspection Findings***

Between June 2017 and June 2018, the NRC Region IV and headquarters staff conducted a series of inspections of the licensee's preoperational testing and initial loading activities for the new UMAX ISFSI. The NRC issued the team inspection report on August 24, 2018. The team inspection identified one non-cited violation related to design control of field changes made to important-to-safety equipment associated with loading activities.

The NRC's July 2018 routine decommissioning inspection report was issued by letter dated August 10, 2018. The NRC identified one non-cited violation related to the licensee's failure to implement the Fire Protection Program as required by Technical Specifications involving combustible materials. The current routine decommissioning inspections at SONGS have not resulted in any cited violations against licensee performance. Next decommissioning inspections are scheduled for the week of November 18, 2019.

## **Other Topics of Interest**

### ***California State Lands Commission and Coastal Commission Proceedings***

Decommissioning activities cannot proceed until the State of California has completed its environmental review responsibilities under the California Environmental Quality Act (CEQA). On June 27, 2018, the California State Lands Commission (CSLC) noticed the Draft Environmental Impact Report (EIR) and Notice of Public Hearings for the SONGS Units 2 & 3 Decommissioning Project. The public review period ended August 30, 2018. The Final EIR was published in February 2019. The CSLC's consideration of the Final EIR and the project occurred at a meeting on March 21, 2019. The final EIR was used to inform the activities of the California Coastal Commission (CCC) in giving SCE a permit to begin active dismantlement and decommissioning activities at SONGS.

The CCC hosted a meeting on October 17, 2019, to discuss and vote on SCE's Coastal Development Permit for the decommissioning activities at SONGS. NRC's Director of NMSS attended the meeting to answer questions related to the storage and transportation of spent nuclear fuel as well as the overall decommissioning process. The CCC unanimously voted to approve the SONGS permit, with certain conditions, before the close of the meeting, which will allow active dismantlement and other decommissioning activities to commence at the facility.

#### **10 CFR 2.206 Petition Request for Action**

On August 3, 2019, the NRC received a 10 CFR 2.206 petition from the *Oceansiders against San Onofre Corruption* related to SCE and the Holtec UMAX ISFSI. The Petitioner "demands that the NRC revoke [California Coastal Commission Permit] CDP No. 9-15-0228 and issue an immediate cease and desist to SCE et. Al." This permit, issued in 2015, allowed for construction of the Holtec UMAX ISFSI. The Petitioner is also insisting on a "requirement that SCE procure storage for the SONGS spent fuel assemblies in thick walled, easily transportable canisters, and relocate them to a temporary storage site further away from the densely populated areas and not on a military installation." The staff is currently performing the screening review of the content of the petition. SCE has not been formally notified about this petition.

On September 24, 2019, the NRC received a 10 CFR 2.206 petition from the Public Watchdogs against SCE and San Diego Gas & Electric Company related to decommissioning activities at SONGS. The Petitioner requests that the NRC immediately suspend all decommissioning operations at the SONGS and to require the Licensee to submit an amended decommissioning plan to account for spent nuclear fuel being placed in storage at SONGS. The Petitioner also requests that the NRC prepare a supplemental environmental impact statement that evaluates site-specific environmental issues not addressed in the decommissioning Generic Environmental Impact Statement. The NRC has subsequently determined that the concerns raised do not present an immediate health and safety hazard. The staff is currently performing the screening review of the content of the petition. SCE has not been formally notified about this petition.

#### **Public Watchdogs Lawsuits**

On August 29, 2019, the NRC was named in a lawsuit filed by Public Watchdogs calling for all spent fuel transfers to halt at SONGS until a full hearing on the project can be convened. The lawsuit asserts that the NRC has improperly permitted amendments to the SONGS license and certificates of compliance for Holtec canisters, improperly issued exemptions related to the decommissioning of the facility, and failed to properly enforce applicable requirements. It further asserts, as claims against SCE and Holtec, that the storage plan is a public nuisance and violates strict product liability rules. Specifically, the lawsuit contends that the Holtec fuel storage canisters are defective and accuses SCE of racking up a series of regulatory violations, maintaining an unsafe worksite, and tolerating lax safety standards, among other lapses. It also targets Holtec, claiming that it manufactured flawed storage canisters and violated federal regulations, bribed a public official years ago in Tennessee, and later lied to officials in New Jersey to collect hundreds of millions of dollars in tax breaks. The case was filed with the U.S. District Court in the Southern District of California. All parties named in the lawsuit have filed motions to dismiss the case based on lack of technical merit and the absence of jurisdiction over the matter. A hearing on the motions to dismiss has been scheduled for November 25.

Among the arguments that the NRC raised before the district court in support of its motion to dismiss is that Public Watchdogs' remedy for the violations it has identified is the petition under 10 CFR 2.206 filed on September 24, 2019 (discussed above). However, on October 23, 2019, having not been provided with a response to the petition by the agency, Public Watchdogs filed a petition for a writ of mandamus to the U.S. Court of Appeals for the Ninth Circuit, requesting that the court step in immediately and take action to prevent imminent danger caused by the loading of fuel into canisters. Public Watchdogs asserts that the agency has ignored the 2.206 petition and has failed to take necessary regulatory action based on the allegations identified above. The agency is not permitted or required to respond to the mandamus petition until the ordered to do so by the court; as of yet, no action has been taken.

### ***Congressional Interest***

On September 21, 2017, NRC staff briefed the Office of Representative Darrel Issa regarding the ongoing decommissioning activities at SONGS and some specific questions raised by constituents regarding the plans for long term spent fuel storage at the site. In addition, on October 17, 2017, Representative Issa's office submitted a letter to the Commission capturing several of these constituents' questions and asking for a formal response from the NRC.

Congressman Mike Levin, who succeeded Congressman Issa in representing California's 49th District, said his top priority "is addressing the nuclear waste challenges at San Onofre," and he is "already beginning the critical work that needs to be done" to make his district's communities safer. Congressman Levin assembled "a task force on San Onofre that will convene local experts and stakeholders to help drive solutions, with the ultimate goal of crafting comprehensive policy that can improve safety at nuclear sites across the country." The task force is chaired by retired Rear Admiral Leendert "Len" Hering Sr. and former NRC Chairman Gregory Jaczko. The panel, which also includes other stakeholders and experts, convened its first meeting in Summer 2019.

### ***Interactions with the Department of the Navy***

SCE has recently reached out to NRC with respect to the termination of their leasehold interest in the "Mesa" area (land on the eastside of Interstate 5) and its return to the control of the Department of the Navy. The Mesa area is outside of the NRC's licensed boundary for SONGS, and therefore, absent any evidence of current radiological contamination linked to licensed activities at SONGS, is not subject to the NRC's regulatory authority.

### ***Community Engagement Panel (CEP)***

The licensee established a CEP in early 2014 to allow SCE to learn about the concerns of the community and to provide the community with the opportunity to learn about the impacts of SONGS decommissioning. Mr. David Victor, Professor, University of California-San Diego, who is an expert on energy markets, serves as the chairman of the CEP.

The committee consists of 18 members, including public officials and non-government, labor, business, environmental, and Native American organizations. Meetings are held at least quarterly, and the meetings include public comments and questions directed to SCE or subject matter experts. In addition, workshops and expert presentations are provided. The CEP is not a formal decision-making body and has no official oversight function. SCE provides resources for the meeting, funded by the decommissioning trust fund.

Organizations that have accepted invitations to serve on the CEP include: American Nuclear Society, San Diego Chapter; Laborers International Union of North America Local 89; Oceanside; Orange County Coastkeeper; Orange County Sheriff's Department; Orange County Residents Organized for a Safe Environment; San Clemente; San Diego County; San Juan Capistrano; California State Parks; and Camp Pendleton.

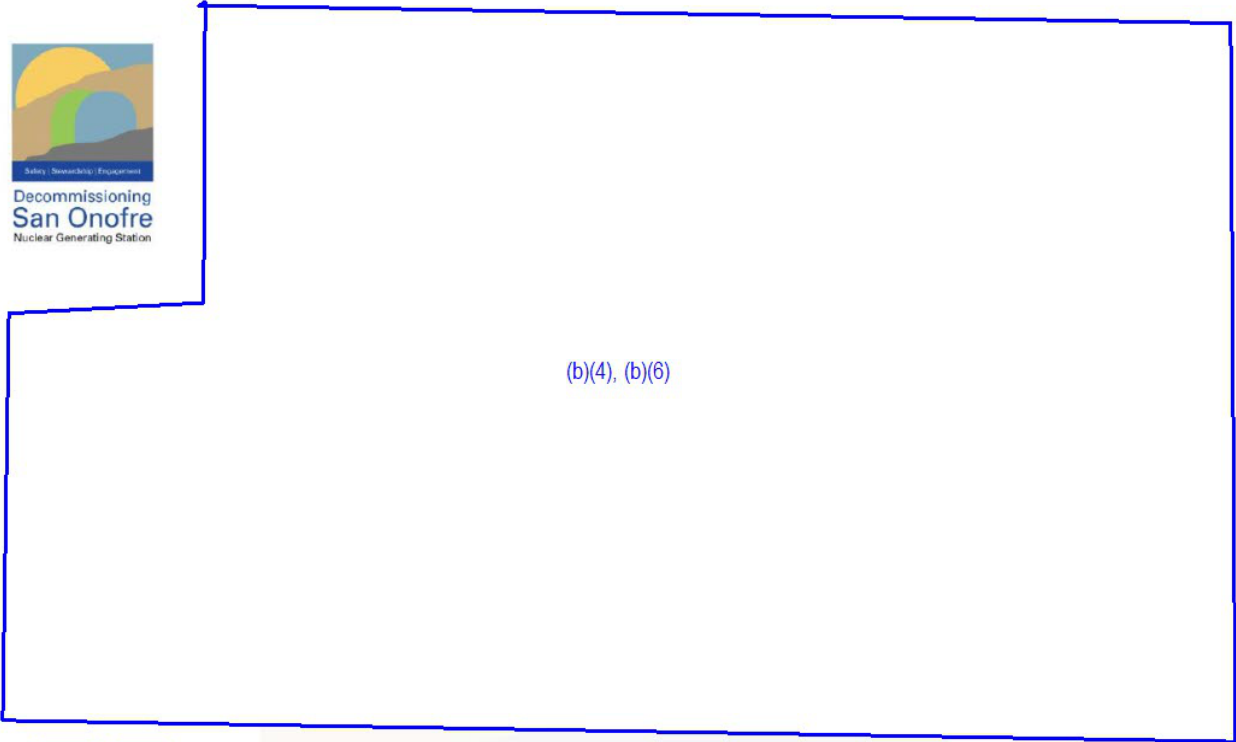
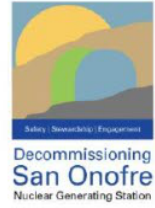
The NRC occasionally attends or provides presentations during CEP meetings. During the November 2018 and March 2019 meetings, the NRC Region IV Deputy Regional Administrator and Regional Administrator, respectively, provided presentations about the results of the NRC special inspection that was conducted in response to the canister misalignment incident.

On August 29, 2019, members of the CEP spoke at a meeting hosted by the NRC in accordance with the provisions of the Nuclear Energy Modernization and Innovation Act (NEIMA) to collect feedback and lessons learned on the best practices for the establishment and operation of CABs at decommissioning nuclear power plants. The SONGS CEP members provided insights on both the successes (strong organizational structure, well supported, diverse membership) and challenges (perception of too much reliance on licensee, complaints about speaking times) associated with the CEP. The feedback will be incorporated, along with similar comments received from CABs and other interested parties involved with decommissioning facilities across the country, into a report to Congress by July 2020.



## MANAGEMENT INFORMATION

### Facility Organization



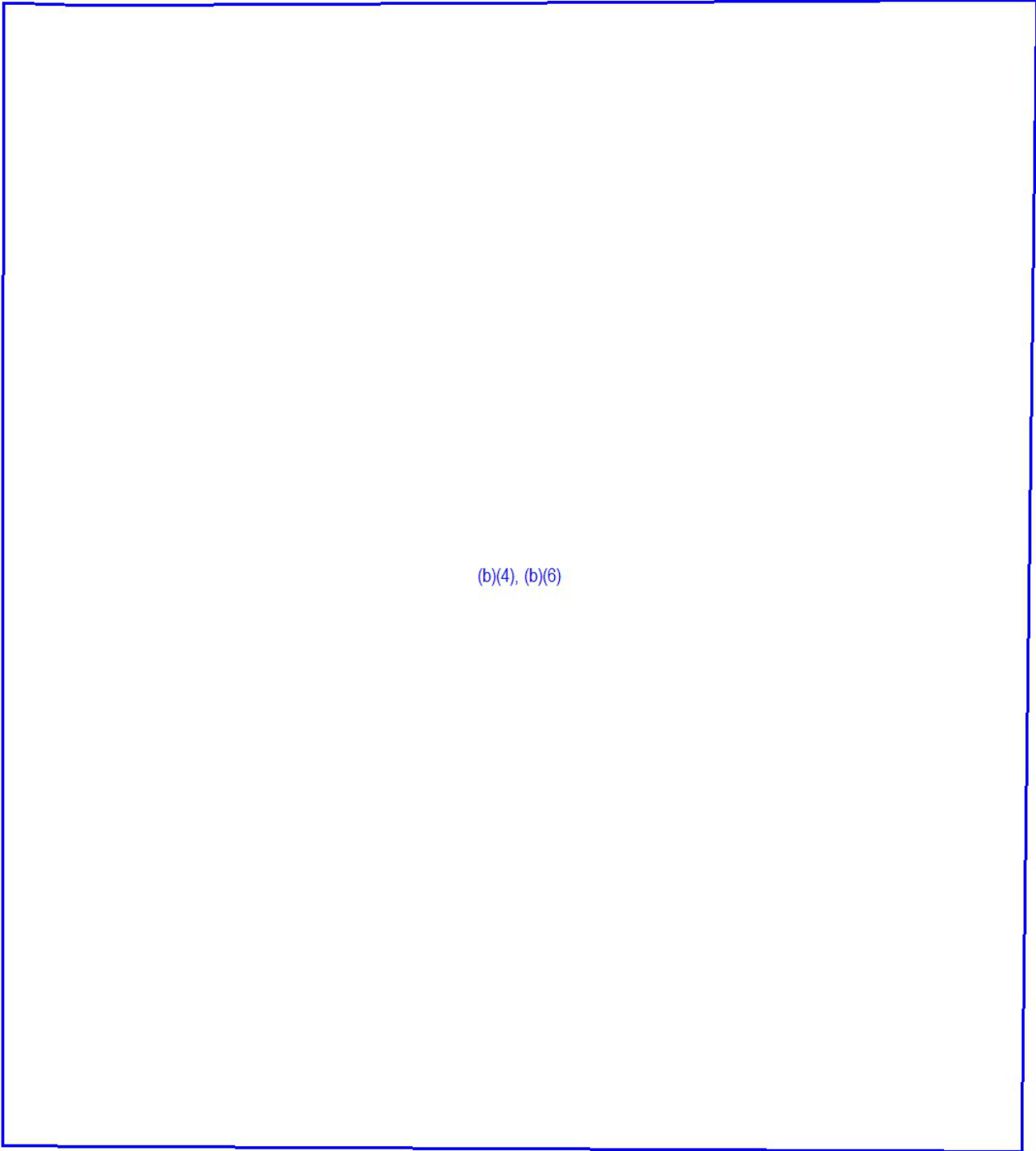
Legend	
Non-Represented	
UWUA	
Matrix Position	
Contractor Position	

1

Contractor Organization Chart

**Phase I**

Transition/Planning



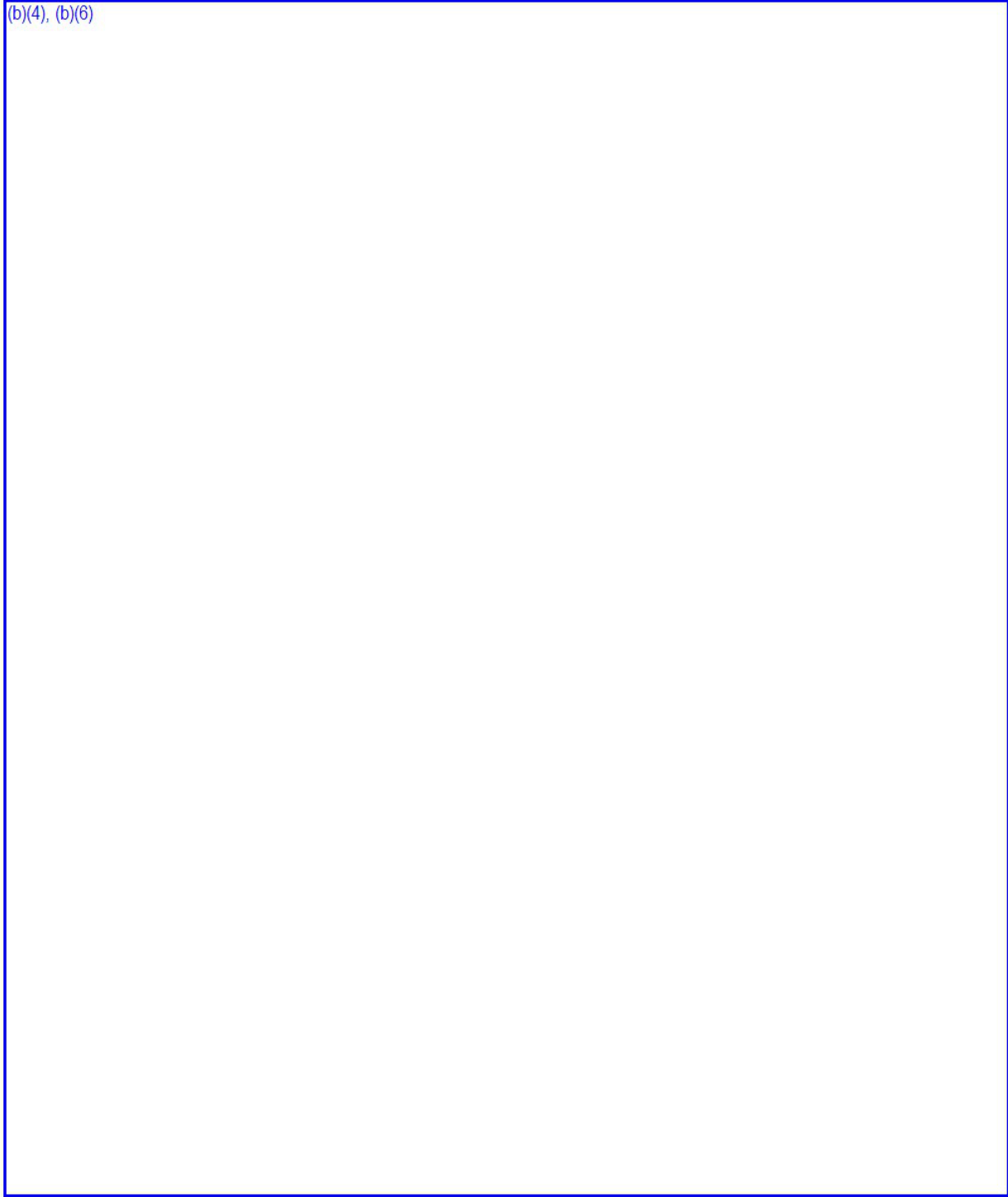


Contractor Organization Chart

**Phase II**

Execution

(b)(4), (b)(6)



## Licensee Biographical Information



**Douglas R. Bauder**

*Vice President Decommissioning and Chief Nuclear Officer  
Southern California Edison*

Douglas Bauder is the Vice President Decommissioning and Chief Nuclear Officer (CNO) at the San Onofre Nuclear Generating Station (SONGS). He is responsible for overseeing all aspects of the planned decommissioning of the plant.

Prior to this position, Bauder served as Vice President, Operational Services, Safety, Security, Business Resiliency and Chief Procurement Officer at Southern California Edison (SCE). In this role, Bauder managed the company's extensive safety and security programs, as well as business resiliency and procurement activities. As Chief Procurement Officer for SCE, he managed expenditures for materials and services in excess of \$4 billion annually.

Bauder also served as vice president and station manager for SONGS, responsible for the strategic oversight of the plant operation and maintenance, including procurement activities. Bauder joined SCE in February 2009 as plant manager for SONGS, responsible for day-to-day plant activities associated with the operation and maintenance of SONGS. Prior to joining SCE, Bauder served as plant general manager for the Calvert Cliffs Nuclear Power Plant in Maryland.

During his 20 years at Calvert Cliffs, he handled all aspects of plant management and implemented a site excellence plan and standard integrated program that directly contributed to improved human business performance functions. Bauder served as a United States Naval Submarine Officer in Norfolk, Virginia.



**Vincent Bilovsky**

*Director, Deputy Decommissioning Officer  
Southern California Edison*

Vincent J. Bilovsky serves as Director, Deputy Decommissioning Officer at the San Onofre Nuclear Generating Station (SONGS). He is responsible for oversight of spent fuel transfer and decommissioning contracts at SONGS.

Bilovsky is a 20+ year nuclear industry veteran and has spent most of his career in spent fuel management and decommissioning. Prior to his current role, he served as Executive Vice President for Siempelkamp Nuclear, where he was responsible for the Zion Reactor Vessel and Reactor Vessel Internals segmentation project.

Bilovsky also served as Deputy Director General with Holtec where he was responsible for the initial phases of the Chernobyl spent fuel disposition project.

Bilovsky holds Bachelor of Science and Master of Science degrees in Nuclear Engineering from Penn State, and a Masters of Business Administration from the Wharton School of Business.



**Albert Bates**

*Manager, Regulatory and Oversight  
Southern California Edison*

Al Bates serves as Manager, Regulatory and Oversight at SONGS and is responsible for interface with regulatory agencies and oversight of quality-affecting activities during decommissioning.

Prior to assuming the role of Manager, Regulatory and Oversight, Bates served as Manager of Decommissioning Project Oversight where he established the organizational and functional framework for the Decommissioning Agent, and created the transition strategy for moving most of the site's work to the Decommissioning General Contractor.

During his 39 year career in the nuclear field, he has held leadership roles as Director, Engineering and Projects at PG&E's Diablo Canyon Nuclear Plant, Senior Manager Plant Engineering at SONGS, Senior Reactor Operator / Control Room Supervisor, and Manager, Computer and Digital Systems.

Al began his career serving as a commissioning engineer and started-up numerous nuclear power plants in the U.S. and abroad. In 1979, just days after the Three Mile Island accident, Bates became a member of the accident recovery team. He holds a B.S. degree in Nuclear Engineering from Purdue University, and has advanced technical certificates in wireless communications, computer networks, and cyber security. He is a 2015 graduate of the Institute of Nuclear Power Operations Senior Nuclear Plant Managers course.

As a member of the San Onofre Decommissioning Agent team, Bates will participate in D&D activities on the two reactors he administered initial critical testing some 35 years earlier.



# U.S. NRC

United States Nuclear Regulatory Commission

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*Protecting People and the Environment*

**DROP-IN VISIT BY  
SOUTHERN CALIFORNIA EDISON  
SAN ONOFE NUCLEAR GENERATING STATION (SONGS)**

**WITH**

**CHAIRMAN SVINICKI  
COMMISSIONER BARAN  
COMMISSIONER BURNS  
MARGARET M. DOANE, EDO**

**April 17, 2019**

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ADAMS Accession No. ML19100A343

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**AGENDA**

April 17, 2019

**ITINERARY**

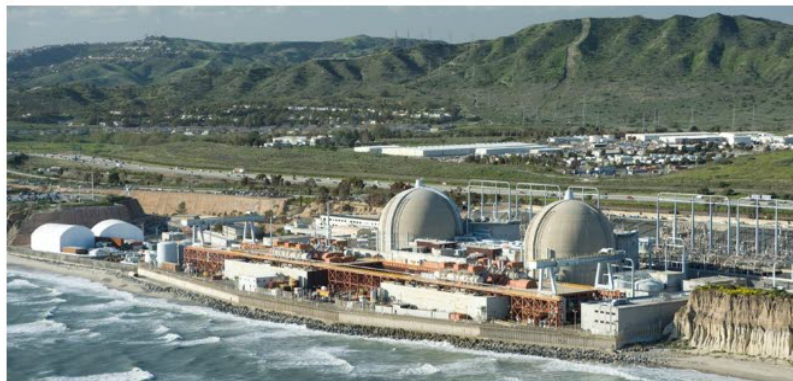
<b>TIME</b>	<b>PERSONS VISITED</b>	<b>CONTACT PERSON</b>	<b>EXTENSION</b>
10:30 AM – 11:00 AM	Commissioner Baran	Stacy Schumann	301-415-1839
11:00 AM – 11:30 AM	Commissioner Burns	Sandy Cianci	301-415-8420
11:30 AM – 12:00 PM	Chairman Svinicki	Janet Lepre	301-415-1750
1:00 PM – 1:30 PM	Margaret M. Doane, K. Steven West, and Catherine Haney, OEDO	Kathleen Blake	301-415-1700

**VISITORS REPRESENTING  
SOUTHERN CALIFORNIA EDISON**

- Doug Bauder, Vice President and Chief Nuclear Officer
- Al Bates, Manager, Nuclear Regulatory Affairs and Oversight

**TOPICS OF DISCUSSION**

- Introduction to new Chief Nuclear Officer (CNO) and Decommissioning Vice President (VP)
- Status update on the decommissioning activities at SONGS



San Onofre Nuclear Generating Station, prior to expansion of the ISFSI pad

## **SIGNIFICANT ISSUES / TALKING POINTS**

### **TOPICS FOR DISCUSSION**

The licensee has selected contractors to conduct the majority of the decommissioning work; the licensee plans to provide direct oversight of the work as it is being conducted by its contractors.

In December 2016, the licensee announced that it had selected SONGS Decommissioning Solutions (SDS), a joint venture between EnergySolutions and AECOM, as the general contractor to complete decommissioning, dismantlement, and remediation activities at SONGS. Holtec International was selected to conduct the remaining ISFSI work. Both contractors plan to use subcontractors for many of the individual work activities. For example, Holtec currently uses Westinghouse for fuel handling activities and PCI for welding and non-destructive examinations. The licensee continues to provide members of its staff for oversight. For example, a senior reactor operator monitors fuel movement activities.

The licensee has transitioned 21 programs to SDS. SDS plans to initiate site decommissioning, including active dismantlement and remediation, once all of the spent fuel has been moved from the SONGS, Units 2 and 3, spent fuel pools (SFPs) to the ISFSI, and the licensee has received the required permit from the California State Lands Commission (described below).

The Region IV inspection staff is aware of two incidents that have occurred involving SCE's contractors or their subcontractors, suggesting that more oversight of the work by the licensee is needed. The first example includes a misalignment incident involving a loaded canister. In this situation, supervisory oversight was available, but these individuals were stationed at a low-dose waiting area and were unable to directly observe some of the canister movement activities. The second example involves the incorrect removal of seismic restraints while preparing the SONGS, Unit 1 reactor pressure vessel (RPV) for shipment to the EnergySolutions disposal site in Clive, Utah. Both incidents are described below.

#### ***Canister Misalignment Incident***

On Friday, August 3, 2018, at approximately 12:45 pm PDT, SONGS staff and contractors were moving a loaded spent fuel storage canister (Canister 29) into its storage vault in the underground UMAX ISFSI, when a misalignment incident occurred. As the canister was being lowered into the storage vault using lifting and rigging equipment attached to a vertical cask transporter (VCT), cask loading personnel failed to notice that the canister was misaligned in the storage vault and had stopped its downward progress. The workers continued to lower the VCT lift beam until they believed that the canister had been fully lowered to the bottom of the storage vault. Unbeknownst to the workers, the canister was actually sitting on the divider insert shield ring near the top of the vault, and the canister was situated approximately 17-18 feet above the bottom of the vault floor with slack lifting cables. As a result, the rigging and lifting equipment was not bearing the load of the loaded spent fuel canister. A drop of a loaded spent fuel canister was not postulated or considered in the Final Safety Analysis Report (FSAR) for the HI-STORM UMAX spent fuel storage system.

In response to the incident, the NRC chartered a special inspection on August 17, 2018. The special inspection began on September 10, 2018, and ended on November 1, 2018. The inspection resulted in three Notices of Violations and two apparent violations that were considered for escalated enforcement. A pre-decisional enforcement conference was held with the licensee on January 24, 2019, to disposition the two apparent violations using the NRC's



enforcement process. The apparent violations involve the licensee's failure to report the event in a timely manner and failure to provide redundant drop protection.

Corrective actions taken by the licensee include revamping the training program and installing new or revised engineering controls including cameras, load cells, and software. A tell-tale rope was installed to verify canister movement. Communications were enhanced amongst the VCT operators and supervisors. The licensee also conducted a load drop analysis that was submitted to the NRC. The analysis concluded that the canister would not have been breached if it had fallen the full 18 feet to the bottom of the vault, but fuel damage would have been expected to occur within the sealed canister.

By letter dated December 26, 2018, the licensee responded to the three Notices of Violation that were issued by the NRC on November 28, 2018. In its letter, the licensee stated that it will not re-start fuel transfer operations until the NRC has reviewed SCE's corrective actions, and SCE management is satisfied that full readiness has been achieved to ensure safe and effective fuel transfer operations. In the NRC's reply letter dated January 17, 2019, the NRC informed the licensee that it planned to review the licensee's corrective actions during a future inspection.

NRC Region IV inspectors performed two follow-up inspections at SONGS during the weeks of January 28 and February 11, 2019. The purpose of the inspection effort was to continue to review analyses completed by SCE and their corrective actions. The inspectors identified several potential weaknesses and issues involving the licensee's fuel handling program.

On March 25, 2019, the NRC provided SONGS senior managers with the results of the NRC's final enforcement action, in advance of a Public Meeting Webinar to discuss the enforcement action, the preliminary results of the follow-up inspections, and the review of SCE's progress in preparing to resume fuel loading operations. The details of NRC's final enforcement action are:

- For violation 1, loss of redundant drop protection features, this was categorized as a Severity Level II violation. The NRC considered whether credit was warranted for identification and corrective action. No identification credit and no corrective action credit was granted to the licensee for this violation. Per the NRC Enforcement Policy this violation was assessed a civil penalty of \$116,000.
- For violation 2, failure to make proper notification to the NRC, this was categorized as a Severity Level III violation. Since SONGS has not been the subject of escalated enforcement within the last 2 years, we considered whether corrective action credit was warranted. NRC determined that corrective action credit was warranted, and no civil penalty was assessed for this violation.
- A single Notice of Violation was issued that includes both violations. A response to the Notice of Violation is required within 30 days of March 25, 2019.

Region IV senior managers attended the March 28, 2019, SONGS Community Engagement Panel (CEP) meeting in California to provide an update and answer questions on the special inspection effort. Currently, the NRC continues to review the findings of the follow-up inspections to assess whether there are additional potential violations. Region IV plans to conduct the exit meeting for the follow-up inspections with SCE in mid-April 2019. The inspection report will be issued no later than 45 days following the NRC exit meeting. Moving forward, as directed by Regional management, NRC inspectors will observe fuel

loading operations when the licensee resumes fuel loading to ensure that the licensee's corrective actions are adequate. In addition, SCE has initiated a program to inspect a sample of the 29 canisters that have already been downloaded, and Region IV and NMSS staff continue to evaluate the results of the licensee's canister inspection activities sampling program. Finally, Region IV and NMSS plan to conduct a lessons-learned review of issues identified including licensee oversight of fuel transfer operations.

***Incorrect Removal of Seismic Restraints from Unit 1 RPV***

In 2002, the licensee removed the SONGS, Unit 1 RPV from containment and placed the vessel directly into a shipping container. At that time, the licensee planned to ship the container offsite for disposal, but for various reasons, the shipment did not occur. Instead, the licensee staged the SONGS, Unit 1 RPV container on a skid adjacent to the onsite ISFSI.



SONGS, Unit 1 RPV and associated skid prior to modification

Recently, the licensee decided to ship the RPV to the EnergySolutions site in Clive, Utah for disposal as Class A waste now that it has decayed to that extent. To ship the package by rail, the licensee had to modify the package to reduce the physical dimensions of the package.

On November 30, 2018, SDS's subcontractor started work on the skid using an approved SDS work package. The workers removed the seismic restraints in a sequence other than specified in the work instructions. The sequence was important, in part, to keep the RPV attached to the skid in the event of a seismic event. A calculation was performed to demonstrate that the remaining tie-downs were sufficient to restrain the RPV if a seismic event were to occur.



### ***California State Lands Commission Proceedings***

Decommissioning activities cannot proceed until the State of California has completed its environmental review responsibilities under the California Environmental Quality Act (CEQA). On June 27, 2018, the California State Lands Commission (CSLC) noticed the Draft Environmental Impact Report (EIR) and Notice of Public Hearings for the SONGS Units 2 & 3 Decommissioning Project. The public review period ended August 30, 2018. The Final EIR was published in February 2019. The CSLC's consideration of the Final EIR and the project occurred at a meeting on March 21, 2019. Information about the CSLC's activities is provided at [http://www.slc.ca.gov/Info/CEQA/San\\_Onofre.html](http://www.slc.ca.gov/Info/CEQA/San_Onofre.html). Once the Final EIR is certified, it will be used to inform the activities of the California Coastal Commission (CCC) in giving SCE a permit to begin active dismantlement and decommissioning activities at SONGS.

### ***Holtec Shim Standoff Pin Issue***

Four of the 29 spent fuel canisters being stored in the SONGS UMAX ISFSI have an updated fuel basket shim design. The shims consist of stainless steel pins at the bottom of the canister to facilitate helium flow for cooling. The problem is that these stainless steel pins have been shown to be prone to failure (bending and breakage) at both SONGS and the Callaway Nuclear Generating Station. The remaining 26 loaded canisters (including Canister 30 which is currently being stored in the Unit 3 SFP) have an older but approved shim design. Holtec International concluded that failure of the shim standoffs will not impact the canisters' ability to maintain cooling; however, the NRC has not completed its review of Holtec's conclusion.

A pre-decisional enforcement conference was held with Holtec on January 9, 2019, to discuss apparent violations involving the design of the spent fuel storage casks. The NRC staff is examining a potential safety concern of the failure of multiple shim standoffs in conjunction with potential cask loads of higher heat loads that could challenge the design basis safety limits of the cask system. The results of the pre-decisional enforcement conference will be presented to Holtec International under separate correspondence in approximately the June 2019 timeframe.

### ***Letter from Congressmen Levin, Vargas, Rouda, and Peters***

By letter to Chairman Svinicki dated January 18, 2019, four members of Congress, including Congressman Mike Levin, expressed concerns about the recent events that resulted in pre-decisional enforcement conferences for both Holtec International and SCE. In their letter, the Congressmen asked the NRC to relocate the January 24, 2019, pre-decisional enforcement conference to the vicinity of SONGS, so that local communities have direct access to the proceedings. The Congressmen also requested that the NRC adopt appropriate enforcement actions to ensure that involved parties change the processes that led to these incidents, as well as any processes that could lead to future safety violations.

Since the pre-decisional enforcement conference is a meeting between the NRC and the licensee, the Region IV Office elected to hold the conference in the Arlington, Texas office. The NRC broadcast the event live via a public webinar. Following the NRC's protocols for enforcement panels, the NRC staff answered questions from the public after the conclusion of the formal portion of the conference. In addition, Region IV staff attended the SONGS CEP meeting on March 28, 2019, to discuss the ongoing SONGS ISFSI inspection and oversight activities, and plans to present information in another public forum, perhaps via another webinar, after the NRC has completed the documentation for the follow-up ISFSI inspections and prior to restart of ISFSI operations by the licensee.

**FACILITY INFORMATION**

**Facility Data**

**San Onofre Nuclear Generating Station (SONGS)**

Utility: Southern California Edison (SCE)\*  
Location: 4 miles southeast of San Clemente, California  
County: San Diego County, California

	<u>Unit 1**</u>	<u>Unit 2</u>	<u>Unit 3</u>
Docket Nos.	50-206	50-361	50-362
License Nos.	DPR-13	NPF-10	NPF-15
Construction Permit	1963	10/18/1973	10/18/1973
Full Power License	03/27/1967	09/07/1982	09/16/1983
Commercial Operation	01/01/1968	08/08/1983	04/01/1984
Expiration Date	**	02/16/2022	11/15/2022
Cessation of Operations	11/30/1992	06/12/2013	06/12/2013
Defueled Letter	03/08/1993	07/22/2013	06/28/2013

<u>Plant Characteristics</u>	<u>Units 2 and 3</u>
Reactor Type:	Combustion Engineering (CE) 2-loop
Containment Type:	Large Dry
Thermal Power Limit:	3,438 MegaWatt thermal (MWt) (1070/1080 MegaWatt electric (MWe))
Architect/Engineer:	Bechtel
Nuclear Steam Supply System Vendor:	CE
Turbine Generator:	English Electric

\* SONGS is jointly owned by SCE (78.21 percent), San Diego Gas & Electric (20 percent), and the city of Riverside (1.79 percent). SCE is authorized to act as agent for the other co-owners and has exclusive responsibility and control over the physical construction, operation, and maintenance of the facility.

\*\* Unit 1, a Westinghouse 3-loop pressurized water reactor constructed by Bechtel and rated at 1,347 MWt, began commercial operation on January 1, 1968, and permanently ceased operation on November 30, 1992. The unit was initially placed in SAFSTOR until 2000 when active decommissioning (DECON) began. Decommissioning activities were completed, except for removal of the reactor pressure vessel, in 2010. The Unit 1 site is now the location of the site industrial area and Independent Spent Fuel Storage Installation (ISFSI).

### SONGS Decommissioning Timeline

- **June 7, 2013** – SCE announced plans to permanently retire SONGS, Units 2 and 3.
- **June 12, 2013** – SCE submitted certification to the NRC indicating that it permanently ceased power operations at SONGS on **June 7, 2013**.
- **July 22, 2013** and **June 28, 2013** – SCE certified that it had permanently defueled the SONGS, Units 2 and 3, reactor vessels, respectively.
- **August 29, 2013** – The inspection program was transferred from the Reactor Oversight Program to the Reactor Decommissioning Inspection Program (IMC 2561).
- **January 2014** – SCE informed the NRC of its plan to identify a contractor and begin prompt dismantlement in 2016. SCE also announced its plans to establish a Community Engagement Panel (CEP) to “encourage public dialogue on San Onofre decommissioning.”
- **September 23, 2014** – SCE submitted the Post-Shutdown Decommissioning Activities Report (PSDAR), including a site-specific decommissioning cost estimate (DCE), and an Irradiated Fuel Management Plan (IFMP). A public meeting was held on October 27, 2014, in Carlsbad, CA, and the NRC completed its review of the PSDAR on August 20, 2015.
- **December 11, 2014** – SCE selected Holtec International to expand the SONGS spent fuel storage facility and indicated that they will utilize an amendment to the system that provides a seismically enhanced version of the HI-STORM UMAX canisters.
- **August 25, 2015** – SONGS project management responsibility was transferred from the NRR operation reactor group to the NMSS decommissioning reactor group.
- **December 20, 2016** – SCE announced that it has selected SONGS Decommissioning Solutions (SDS), a joint venture of Energy Solutions and AECOM, as the general contractor to complete decommissioning, dismantlement, and remediation activities at SONGS
- **May 3, 2017** – SCE completed the ISFSI pad expansion and fuel offload campaign to dry storage preparations, which is expected to be completed by the end of 2019. All fuel assemblies were inspected during the previous year to help create the canister loading plan.
- **December 2017** – Mobilization and readiness preparations were completed by SDS at the SONGS site. Numerous SCE programs were transferred in whole or in part for implementation and control by SDS, with SCE in a contract oversight role.
- **January 2018** – Start of fuel offload campaign to the expanded onsite ISFSI, which is expected to be completed by the end of 2019. Numerous NRC inspections have been conducted related to the preparations to begin moving fuel, as well as in response to emergent issues during fuel movement, as described in the “Current Issues” section.
- **Late 2019** – Expected completion date of the California environmental review (CEQA) process and start of active dismantlement activities at the SONGS site by SDS.

### Current Issues

## **FACILITY OVERSIGHT INFORMATION**

### ***Current Decommissioning Activities***

SONGS, Units 2 and 3, have been shut down since January 2012 due to issues with the replacement steam generators for both units. In June 2013, the licensee elected to permanently discontinue operations. By letter dated June 12, 2013, the licensee certified the permanent cessation of power operations. The licensee subsequently submitted a Post Shutdown Decommissioning Activities Report (PSDAR) to the NRC by letter dated September 23, 2014. The proposed decommissioning option was DECON; that is, prompt decontamination and dismantlement after an initial planning period. By letter dated August 20, 2015, the NRC informed the licensee that the PSDAR contained the information required by 10 CFR 50.82(a)(4)(i), and was consistent with Regulatory Guide 1.185.

The licensee installed a stand-alone spent fuel pool (SFP) island for each unit, which isolates the SFP cooling and makeup systems from the permanent plant equipment. This allowed the licensee and its contractors to de-energize, physically isolate, and drain the permanent plant equipment that was previously used to support SFP operations.

In 2016, to support the transition to “cold and dark,” the licensee completed the installation of a stand-alone, 12-kilovolt, non-safety and seismic Category III, electrical ring bus and associated equipment that will facilitate decommissioning of various plant systems.

### ***Fuel Handling Operations***

Site operations at all three SONGS units resulted in 3,855 fuel assemblies that require interim onsite storage until transfer to the Department of Energy (DOE). The licensee also continues to store an additional 270 fuel assemblies from SONGS, Unit 1 at the GE facility in Morris, Illinois. These fuel assemblies are not expected to be returned to the SONGS site but will be transferred directly to DOE at a later date. When the licensee elected to permanently discontinue operations in 2013, it had 108 unburned (new) fuel assemblies in its possession at Unit 2. The licensee subsequently transferred the fuel to Areva for reconstitution.

There are 50 fuel storage canisters, plus one canister with greater than Class C (GTCC) wastes, being stored in the Nuhoms TN Horizontal Storage Module System. An additional 29 canisters are being stored at the SONGS Holtec UMAX ISFSI. Currently, 40% of the spent fuel has been moved from the SONGS, Units 2 and 3, SFPs to the UMAX ISFSI pad.

### ***Transition of Programs to the Songs Decommissioning Solutions (SDS)***

Since the licensee announced its decommissioning general contractor, SDS, on December 20, 2016, both the licensee and SDS have been transitioning towards an organizational structure that allows a contracted workforce under SDS to perform the majority of the remaining decommissioning work activities with appropriate licensee oversight.

The NRC regional staff perform inspections on the implementation of the transitioned programs to ensure that regulatory requirements are being maintained. The inspections also review the capabilities of SCE’s oversight and assessment of the SDS programs. Thus far, the inspections have identified that SDS has adequately implemented programs that meet regulatory



requirements, and SCE has provided appropriate oversight, with the exception of the two incidents described previously involving a spent fuel canister misalignment and the Unit 1 RPV.

### ***Recent Inspection Findings***

Between June 2017 and June 2018, the NRC Region IV and headquarters staff conducted a series of inspections of the licensee's preoperational testing and initial loading activities for the new UMAX ISFSI. The NRC issued the team inspection report on August 24, 2018. The team inspection identified one non-cited violation related to design control of field changes made to important-to-safety equipment associated with loading activities.

The NRC's July 2018 routine decommissioning inspection report was issued by letter dated August 10, 2018. The NRC identified one non-cited violation related to the licensee's failure to implement the Fire Protection Program as required by Technical Specifications involving combustible materials. Other routine decommissioning inspections at SONGS have not resulted in any cited violations against licensee performance.

### **OTHER TOPICS OF INTEREST**

#### ***Financial-Based Exemptions***

By letter dated February 13, 2014, SCE requested exemptions from the regulations in 10 CFR 50.75(h)(2) and 10 CFR 50.82(a)(8)(i)(A), to provide SCE access to the Nuclear Decommissioning Trust funds to commence activities associated with irradiated fuel management and site restoration activities. SCE had included funds for radiological decommissioning (as required by 10 CFR 50.82), irradiated fuel management, and site restoration activities in its Nuclear Decommissioning Trust funds for SONGS, Units 2 and 3. The NRC regulations in 10 CFR 50.75 and 10 CFR 50.82 preclude the use of decommissioning trust funds to support activities other than "radiological decommissioning." By letter dated September 5, 2014, the NRC staff granted the exemptions.

By letter dated September 16, 2015, SCE submitted an exemption request from certain financial protection requirements of 10 CFR 140.11(a)(11) to more fully reflect the permanently shut down status of the facility. The NRC approved a reduction in the required level of offsite primary insurance coverage from \$400,000,000 to \$100,000,000, eliminated the requirement for SONGS to carry secondary financial protection, and permitted SCE to withdraw from participation in the industry retrospective rating plan.

By letter dated October 22, 2015, SCE submitted an exemption request from certain onsite insurance coverage requirements of 10 CFR 50.54(w)(1) to more fully reflect the permanently shut down status of the facility. The NRC approved a reduction in the required level of onsite insurance coverage from \$1.06 billion to \$50 million.

#### ***Emergency Preparedness***

For the SONGS site, the NRC approved exemptions from certain emergency planning requirements provided in 10 CFR 50.47(b), 10 CFR 50.47(c)(2), and 10 CFR Part 50, Appendix E, Section IV, which became effective on June 5, 2015. These changes revised the SONGS emergency action level (EAL) scheme and emergency plan, respectively, to reflect the low likelihood of any credible accident at the plant in its permanently shut down and defueled condition that could result in radiological releases requiring offsite protective measures.

The NRC approved a license amendment request dated December 15, 2016, to revise the Permanently Defueled Emergency Plan (PDEP) to an ISFSI-Only Emergency Plan (IOEP), and to revise the EAL scheme to ISFSI-only EALs for the SONGS Units 1, 2, and 3 ISFSI. The changes reflect the future status of the facility, as well as the reduced scope of potential radiological accidents, once all spent fuel has been moved to dry cask storage within the onsite ISFSI. This activity is currently scheduled for completion in 2019, and the changes will not be implemented until fuel movement is completed.

### ***Security-Related Topics***

In May 2017, SCE requested that the cyber security requirements be removed from the SONGS, Units 2 and 3, licenses on the basis that these requirements are no longer necessary for a plant that has entered decommissioning and is transitioning to an ISFSI-only status. The NRC approved the removal of the cyber security plan from the licenses in TS amendments dated November 9, 2017.

By letter dated November 14, 2018, the NRC informed SCE that it no longer had to comply with the enhanced Foreign Ownership, Control, or Influence (FOCI) reporting obligations that exceed the requirements specified in 10 CFR Part 95, Facility Security Clearance and Safeguarding of National Security Information and Restricted Data. However, the licensee must still comply with the additional National Industrial Security Program Operating Manual reporting requirements that were specified in the NRC's letter dated April 20, 2012.

### ***Recent Licensing Actions***

On January 9, 2018, the NRC approved license amendments to change the SONGS licenses and technical specifications (TSs) to reflect the removal of all spent nuclear fuel from the SFPs and its transfer to dry cask storage within the onsite ISFSI. The changes also made conforming revisions to the SONGS, Unit 1 TSs and combined them with the SONGS, Units 2 and 3, TSs. This license amendment will become effective as of the date the licensee submits a written notification to the NRC that all spent nuclear fuel assemblies have been transferred out of the SONGS SFPs and placed in storage within the onsite ISFSI.

### ***Decommissioning Quality Assurance***

By letter dated September 24, 2018, the NRC approved the licensee's proposed changes to the Decommissioning Quality Assurance Program (DQAP), submitted to the NRC by letter dated May 1, 2018, to reflect ISFSI-only status. After transfer of all fuel to the ISFSI, there will no longer be any structures, systems, or components (SSCs), items or activities classified as safety-related as defined in Appendix B to 10 CFR Part 50. In addition, the highest level of safety significance for the remaining items and activities at the facility will be designated as important to safety under 10 CFR Part 71 and 10 CFR Part 72.

### ***Community Engagement Panel (CEP)***

The licensee established a CEP in early 2014 to allow SCE to learn about the concerns of the community and to provide the community with the opportunity to learn about the impacts of SONGS decommissioning. Mr. David Victor, Professor, University of California-San Diego, who is an expert on energy markets, serves as the chairman of the CEP.



The committee consists of 18 members, including public officials and non-government, labor, business, environmental, and Native American organizations. Meetings are held at least quarterly, and the meetings include public comments and questions directed to SCE or subject matter experts. In addition, workshops and expert presentations are provided. The CEP is not a formal decision-making body and has no official oversight function. SCE provides resources for the meeting, funded by the decommissioning trust fund.

Organizations that have accepted invitations to serve on the CEP include: American Nuclear Society, San Diego Chapter; Laborers International Union of North America Local 89; Oceanside; Orange County Coastkeeper; Orange County Sheriff's Department; Orange County Residents Organized for a Safe Environment; San Clemente; San Diego County; San Juan Capistrano; California State Parks; and Camp Pendleton.

The NRC occasionally attends or provides presentations during CEP meetings. During the November 2018 and March 2019 meetings, the NRC Region IV Deputy Regional Administrator and Regional Administrator, respectively, provided presentations about the results of the NRC special inspection that was conducted in response to the canister misalignment incident.

### ***SONGS Settlement with Citizens Oversight, Inc. Over the CCC Permit Process***

Per a settlement agreement reached on August 25, 2017, between SCE, the California Coastal Commission (CCC), and members of Citizens Oversight, Inc. regarding the permit that was granted by the CCC to expand the onsite ISFSI at SONGS, SCE has committed to take the following actions:

- Pending the development by DOE of a permanent nuclear spent fuel repository facility that can store the SONGS spent fuel, SCE shall use commercially reasonable efforts to relocate the SONGS spent fuel to an offsite storage facility, including, but not limited to: (1) a consolidated interim storage (CIS) facility to be developed and operated by a third party; or (2) an expanded ISFSI at the Palo Verde Nuclear Generating Station located near Tonopah, Arizona.
- To implement the above, SCE shall retain a team of expert consultants including at least one expert from each of the following fields: nuclear engineering (or equivalent); spent fuel siting and licensing; spent fuel transportation; and radiation detection and monitoring. The expert team will advise SCE on issues related to the proposed relocation of SONGS spent fuel to an offsite storage facility.
- To assess the feasibility of relocating SONGS spent fuel to an offsite storage facility, SCE shall: (1) develop a conceptual plan for the transportation of the SONGS spent fuel to an offsite storage facility assumed to be located in the southwestern region of the United States; and (2) develop a strategic plan for supporting the development of a commercially reasonable offsite storage facility.
- SCE will develop an Inspection and Maintenance Program for the ISFSI by October 6, 2020, rather than the October 6, 2022, the date currently planned.
- SCE will develop a written plan addressing contingencies for damaged or cracked canisters consistent with NRC regulations and requirements by October 6, 2020.

- Starting on January 1, 2018, and continuing until all fuel in "wet" storage pools in SONGS, Units 2 and 3, has been transferred to the ISFSI, SCE shall provide a monthly progress report on the storage of spent fuel at SONGS.
- SCE shall spend up to, but no more than, \$4,000,000 (four million dollars) on consultant fees and other costs for satisfying the above commitments.

### ***Congressional Interest***

On September 21, 2017, NRC staff briefed the Office of Representative Darrel Issa regarding the ongoing decommissioning activities at SONGS and some specific questions raised by constituents regarding the plans for long term spent fuel storage at the site. In addition, on October 17, 2017, Representative Issa's office submitted a letter to the Commission capturing several of these constituents' questions and asking for a formal response from the NRC.

Congressman Mike Levin, who succeeded Congressman Issa in representing California's 49th District, said his top priority "is addressing the nuclear waste challenges at San Onofre," and he is "already beginning the critical work that needs to be done" to make his district's communities safer. Congressman Levin has assembled "a task force on San Onofre that will convene local experts and stakeholders to help drive solutions, with the ultimate goal of crafting comprehensive policy that can improve safety at nuclear sites across the country." The task force will be chaired by retired Rear Admiral Leendert "Len" Hering Sr. and Gregory Jaczko, a former NRC chairman. The panel, which also will include other stakeholders and experts, is scheduled to convene its first meeting in Summer 2019.

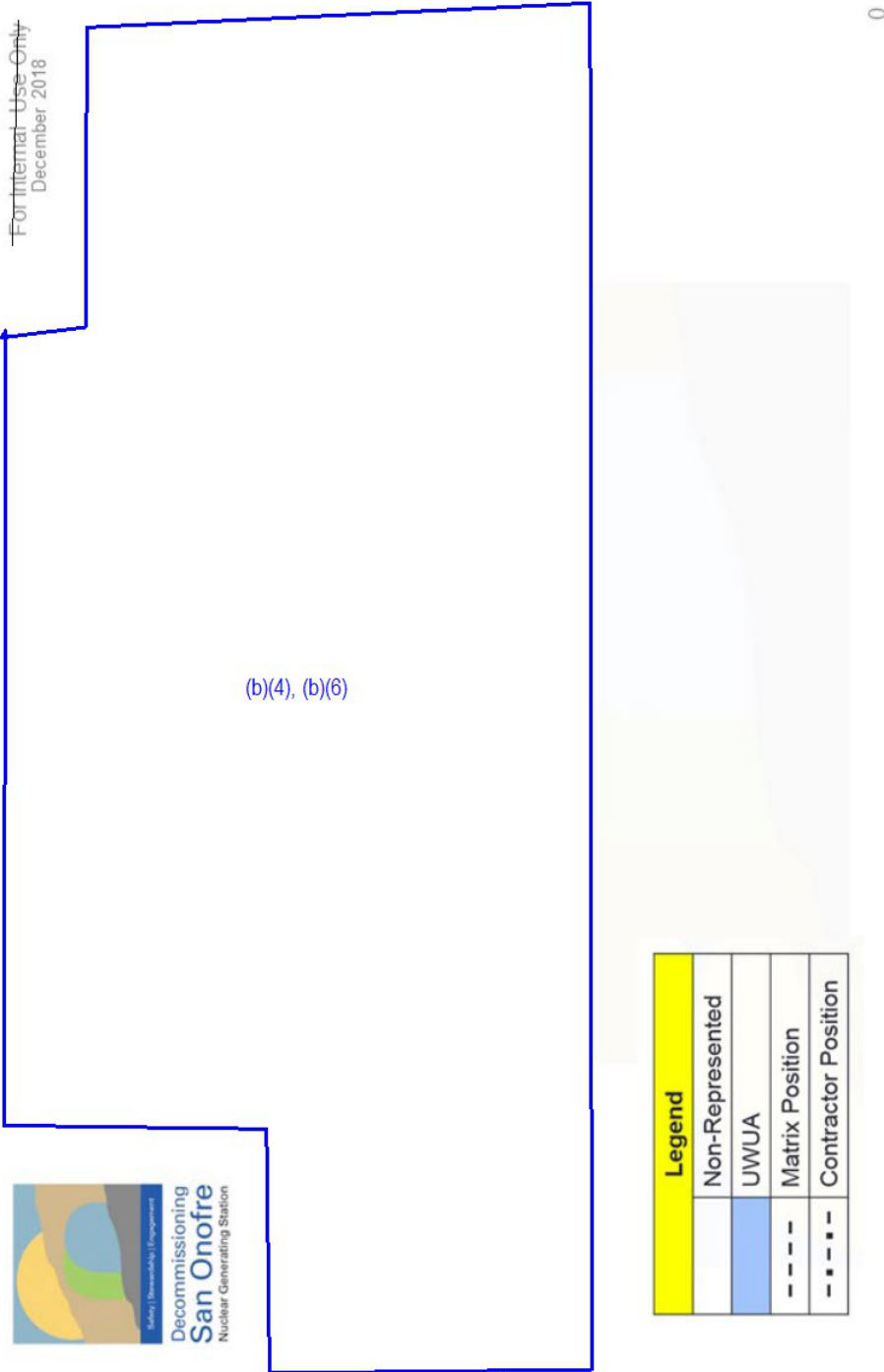
### ***Potential Minority Ownership Changes for SONGS***

In October 2016 the City of Anaheim solicited "expressions of interest from credit-worthy parties, companies, or institutions interested in assuming Anaheim's decommissioning interest (3 percent nominal) in SONGS, including (1) residual operating environmental, marine, and decommissioning liabilities, (2) decommissioning trust fund, (3) NRC fuel licenses, and (4) all project governance rights pursuant to operating, settlement, and decommissioning agreements." If an entity does take over Anaheim's ownership and the associated risk they would potentially receive Anaheim's share of any monies leftover in the trust fund when decommissioning is complete (currently estimated at \$22 million per the Decommissioning Cost Estimate). There is also a possibility that one of the potential decommissioning general contractors could take on Anaheim's ownership share in order to sway SCE's decision in their favor as a partial owner. The final proposals from qualified parties interested in acquiring Anaheim's interest in SONGS were due in August 2017, and are still under review. The names of potentially interested parties have not been released by the City of Anaheim.


**FACILITY MANAGEMENT INFORMATION**

**Licensee Organization Chart**

**Contractor Organization Chart**



(b)(4), (b)(6)



**Licensee Biographical Information**



**Douglas R. Bauder**  
*VP of Decommissioning and CNO*  
*Southern California Edison*

Douglas Bauder is the VP of Decommissioning and CNO at the San Onofre Nuclear Generating Station (SONGS). He is responsible for overseeing all aspects of the planned decommissioning of the plant.

Prior to this position, Bauder served as Vice President, Operational Services, Safety, Security, Business Resiliency and Chief Procurement Officer at Southern California Edison (SCE). In this role, Bauder managed the company's extensive safety and security programs, as well as business resiliency and procurement activities. As Chief Procurement Officer for SCE, he managed expenditures for materials and services in excess of \$4 billion annually.

Bauder also served as vice president and station manager for SONGS, responsible for the strategic oversight of the plant operation and maintenance, including procurement activities. Bauder joined SCE in February 2009 as plant manager for SONGS, responsible for day-to-day plant activities associated with the operation and maintenance of SONGS. Prior to joining SCE, Bauder served as plant general manager for the Calvert Cliffs Nuclear Power Plant in Maryland.

During his 20 years at Calvert Cliffs, he handled all aspects of plant management and implemented a site excellence plan and standard integrated program that directly contributed to improved human business performance functions. Bauder served as a United States Naval Submarine Officer in Norfolk, Virginia.



**Albert Bates**  
*Manager, Regulatory and Oversight*  
*Southern California Edison*

Al Bates serves as Manager, Regulatory and Oversight at SONGS and is responsible for interface with regulatory agencies and oversight of quality affecting activities during decommissioning.

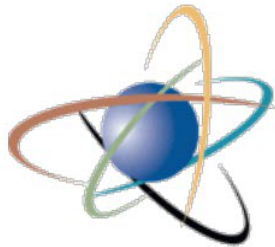
Prior to assuming the role of Manager, Regulatory and Oversight, Al served as Manager of Decommissioning Project Oversight where he established the organizational and functional framework for the Decommissioning Agent, and created the transition strategy for moving most of the site's work to the Decommissioning General Contractor.

During his 39 year career in the nuclear field, he has held leadership roles as Director, Engineering and Projects at PG&E's Diablo Canyon Nuclear Plant, Senior Manager Plant Engineering at SONGS, Senior Reactor Operator / Control Room Supervisor (SONGS), and Manager, Computer and Digital Systems.

Al began his career serving as a commissioning engineer and started-up numerous nuclear power plants in the U.S. and abroad. In 1979, just days after the Three Mile Island accident, Al became a member of the accident recovery team. He holds a BS degree in Nuclear Engineering from Purdue University, and has advanced technical certificates in wireless communications, computer networks, and cyber security. He is a 2015 graduate of the INPO Senior Nuclear Plant Managers course.

As a member of the San Onofre Decommissioning Agent team, Al will participate in D&D activities on the two reactors he administered initial critical testing some 35 years earlier.





# U.S. NRC

United States Nuclear Regulatory Commission

*Protecting People and the Environment*

**SITE VISIT TO  
SAN ONOFRE NUCLEAR GENERATING STATION,  
STRATEGIC ALLIANCE FOR FLEX EMERGENCY RESPONSE  
(SAFER) CENTER, ENERGY EDUCATION CENTER, AND  
PALO VERDE NUCLEAR GENERATING STATION**

**BY**

**COMMISSIONER CAPUTO**

**February 4 – 6, 2019**

CONTACTS: Janine Katanic, Branch Chief, Region IV  
Neil O'Keefe, Branch Chief, Region IV  
ADAMS Accession No. ML19025A161

# CONTENTS

## TAB A:

### Site Visit to San Onofre Nuclear Generating Station

Non-Responsive Record

**TAB A**  
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**AGENDA**

San Onofre Nuclear Generating Station

**Monday, February 4, 2019**

Note: All times below are Pacific Standard Time (PST)

<b><u>Time</u></b>	<b><u>Activity</u></b>
1115	Arrive at San Diego International Airport (SAN)
1315	Arrive at SONGS site; receive visitors badges at central processing facility adjacent to parking lot
1330	Agenda and Introductions (Doug Bauder)
1335	Safety and security briefing; security processing for protected area forms (Security Officer)
1345	SONGS overview presentation; working lunch (Al Bates, Doug Bauder, Ron Pontes)
1420	Plant tour (Al Bates, Ron Pontes)
1540	ISFSI Tour (Al Bates, Ron Pontes)
1610	Additional Q&A, End of meeting (Doug Bauder, Al Bates)
1645	Depart site for hotel

## EXECUTIVE SUMMARY

### Purpose of the Visit/Meeting

- Meet with Southern California Edison (SCE) senior management to discuss decommissioning performance
- Tour SONGS facility including Independent Spent Fuel Storage Installation (ISFSI)

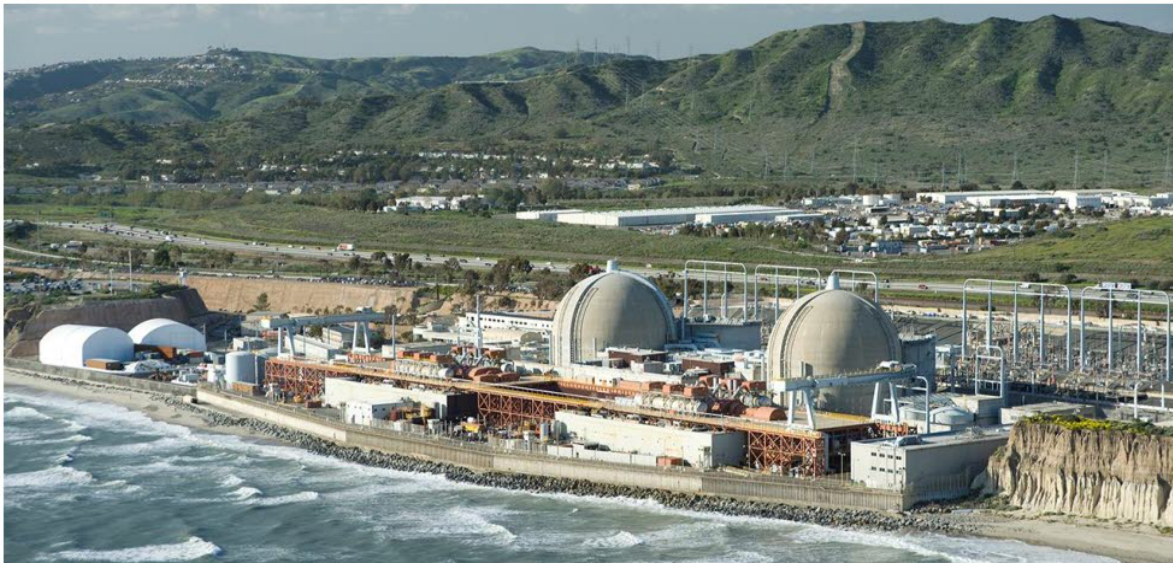
### Topics for Discussion

- Decommissioning process/challenges
- ISFSI Issues

### Interfaces

#### **Licensee Staff**

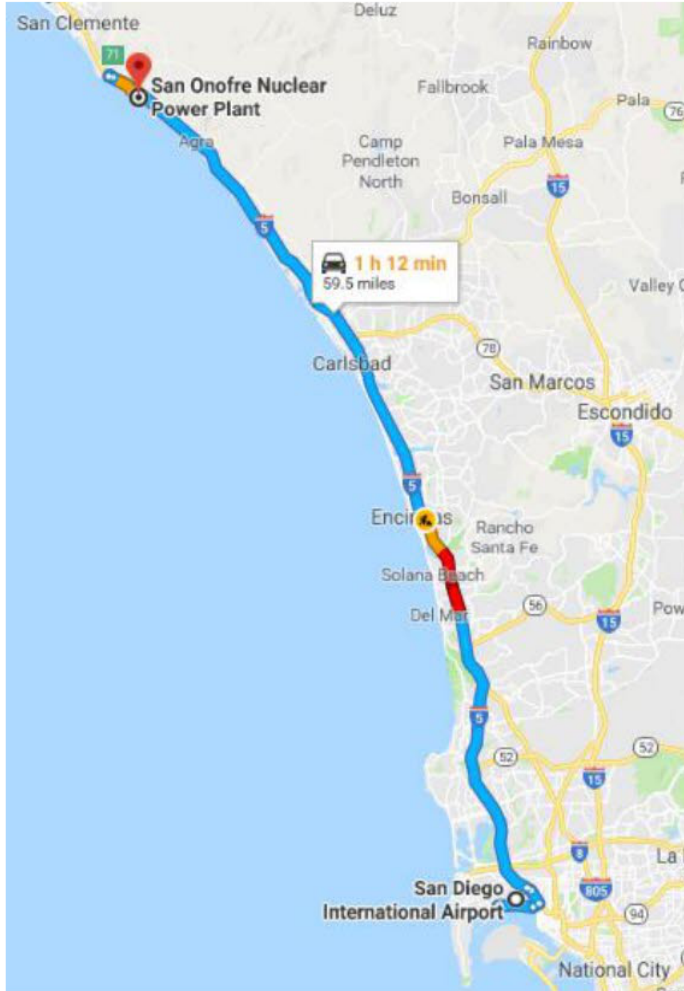
- Doug Bauder, Vice President and Chief Nuclear Officer
- Al Bates, Manager, Regulatory and Oversight, (b)(6) (c)
- Julie Holt, Senior Project Manager, (b)(6) (c)
- Ton Palmisano, VP, External Engagement
- Amy Pressler, Director of Public Affairs (EIX, DC Office)
- Manuel Camargo, Manager, Strategic Planning, Stakeholder Engagement
- Ron Pontes, Manager, Environmental Decommissioning Strategy
- Shawn Smith, City of Anaheim



San Onofre Nuclear Generating Station, prior to expansion of ISFSI pad

## FACILITY LOCATION MAP AND DIRECTIONS

**From: San Diego International Airport  
To: San Onofre Nuclear Generating Station**



1. Head east on N Harbor Dr toward McCain Rd
2. Use the left 2 lanes to turn left onto W Laurel St
3. Use the left 2 lanes to turn left onto India St
4. Use the left 2 lanes to turn left onto I-5 N
5. Merge onto I-5 N
6. Take exit 71 for Basilone Rd toward San Onofre
7. Turn left onto Basilone Rd heading west from exit ramp, crossing over I-5



8. Once you have exited Basilone Road:
  - Head south on Old Pacific Coast Highway for about 1.5 miles
  - Continue through the first traffic light, stay in the LEFT lane
  - Continue and stay in the LEFT lane, the road will turn into a single lane (the RIGHT lane takes a sudden sharp turn – do NOT take the RIGHT turn)
  - Continue for about 700 ft, look for a flag pole and the Southern California Edison sign – turn right into parking lot (see red-lines on map)
  - Park in any parking space assigned to NRC on left
  - Bring your valid Driver's License and pick up your Visitor's Badge from the Central Processing Facility (CPF)

San Onofre Nuclear Generating Station  
Old Pacific Highway, Pendleton CA 920058

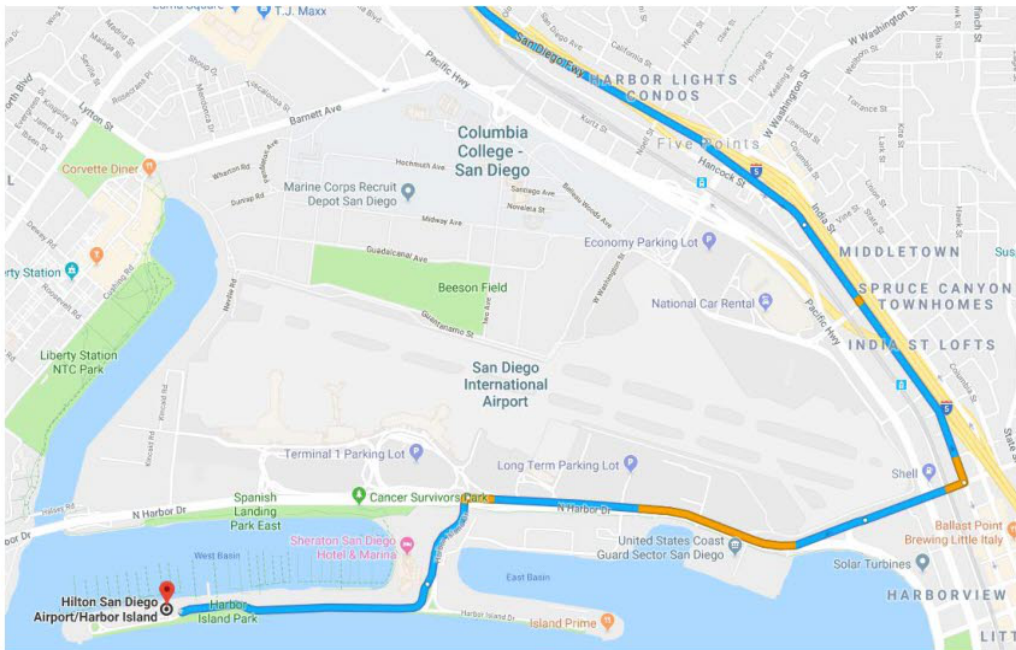
Location Map for San Onofre Nuclear Generating Station



**Southern California Edison sign at Parking Lot**



**From: San Onofre Nuclear Generating Station  
To: Hilton San Diego Hotel**



**From SONGS Parking Lot to Interstate-5 South**

1. Head north inside parking lot – there is only one way to leave, it is a one-way street
2. Make RIGHT turn at the 4-way stop, at end of parking lot. The road will loop right and travel under the I-5-freeway
3. Make a RIGHT turn at the stop sign, this is Old Pacific Coast Hwy, stay in the RIGHT LANE
4. Continue on Old Pacific Coast Hwy for about 1.5 miles, heading back to Basilone Road
5. I-5 Southbound on-ramp will be on right hand side, it is a sharp right turn
6. Once on I-5 South, travel approximately 53 miles
7. Follow I-5 S to Kettner Blvd in San Diego. Take exit toward Sassafras St/San Diego Airport from I-5 S
8. Follow Kettner Blvd and N Harbor Dr to Harbor Island Dr

Hilton San Diego Airport/Harbor Island,  
1960 Harbor Island Dr, San Diego, CA 92101

## FACILITY INFORMATION

### Facility Data

#### **San Onofre Nuclear Generating Station (SONGS)**

Utility: Southern California Edison (SCE)\*  
Location: 4 miles southeast of San Clemente, California  
County: San Diego County, California

	<u>UNIT 1</u>	<u>UNIT 2</u>	<u>UNIT 3</u>
Docket Nos.	50-206	50-361	50-362
License Nos.	DPR-13	NPF-10	NPF-15
Construction Permit	1963	10/18/73	10/18/73
Full Power License	03/27/67	09/07/82	09/16/83
Commercial Operation	01/01/68	08/08/83	04/01/84
OL Expiration Date	**	02/16/22	11/15/22

#### PLANT CHARACTERISTICS UNITS 2 and 3

Reactor Type                      Combustion Engineering 2-loop  
Containment Type                Large Dry  
Power Level                        3,438 MWt (1070/1080 MWe)  
NSSS Vendor                      Combustion Engineering

\* SONGS-2,3 are jointly owned by SCE (78.21%), San Diego Gas & Electric (20%), and the city of Riverside (1.79%). SCE is authorized to act as agent for the other co-owners and has exclusive responsibility and control over the physical construction, operation, and maintenance of the facility. The San Onofre Unit 1 owners are: SCE 80% and SDG&E 20%.

\*\* Unit 1, a Westinghouse 3-loop pressurized water reactor constructed by Bechtel and rated at 1,347 MWt, began commercial operation on January 1, 1968, and permanently ceased operation on November 30, 1992. The unit was initially placed in SAFSTOR until 2000 when active decommissioning (DECON) began. Decommissioning activities were completed in 2010, except for offsite shipment of the reactor pressure vessel (RPV). The Independent Spent Fuel Storage Installation (ISFSI) is situated on the former Unit 1 footprint. The Unit 1 RPV is currently being stored in its shipping container adjacent to the ISFSI.

## Current Issues

### TOPICS FOR DISCUSSION

In December 2016, the licensee announced that it had selected SONGS Decommissioning Solutions (SDS), a joint venture between EnergySolutions and AECOM, as the general contractor to complete decommissioning, dismantlement, and remediation activities at SONGS. Holtec International was selected to conduct the remaining ISFSI work. Both contractors plan to use subcontractors for many of the individual work activities. For example, Holtec currently uses Westinghouse for fuel handling activities and PCI for welding and non-destructive examinations. The licensee continues to provide members of its staff for oversight. A senior reactor operator, for example, monitors fuel movement activities.

The licensee has transitioned 21 programs to SDS. SDS plans to initiate site decommissioning once all of the spent fuel has been moved from the Units 2 and 3 spent fuel pools to the ISFSI, and the licensee has received the required permit from the California State Lands Commission (described below).

The Region IV inspection staff is actively evaluating two incidents that have occurred involving the contractors or their subcontractors, suggesting that more oversight of the work by the licensee is needed. The first example includes a misalignment incident involving a loaded canister. In this situation, supervisory oversight was available, but these individuals were stationed at a low-dose waiting area and were unable to directly observe some of the canister movement activities. The second example involves the incorrect removal of seismic restraints while preparing the Unit 1 reactor pressure vessel (RPV) for shipment to the EnergySolutions disposal site in Clive, Utah. Both incidents are described below.

#### **Canister Misalignment Incident**

On Friday, August 3, 2018, at approximately 12:45 pm PDT, SONGS staff and contractors were moving a loaded spent fuel storage canister (Canister 29) into its storage vault in the underground UMAX ISFSI, when a misalignment incident occurred. As the canister was being lowered into the storage vault using lifting and rigging equipment attached to a vertical cask transporter (VCT), cask loading personnel failed to notice that the canister was misaligned in the storage vault and had stopped its downward progress. The workers continued to lower the VCT lift beam until they believed that the canister had been fully lowered to the bottom of the storage vault. Unbeknownst to the workers, the canister was actually sitting on the divider insert shield ring near the top of the vault, and the canister was situated approximately 17-18 feet above the bottom of the vault floor with slack lifting cables.

In response to the incident, the NRC chartered a special inspection on August 17, 2018. The special inspection began on September 10, 2018, and ended on November 1, 2018. The inspection resulted in three Notices of Violations and two apparent violations which are being considered for escalated enforcement. A pre-decisional enforcement conference was held with the licensee on January 24, 2019, to disposition the two apparent violations using the NRC's enforcement process. The apparent violations involve the licensee's failure to provide redundant drop protection and failure to report the event in a timely manner.

Corrective actions taken by the licensee include revamping the training program and installing new or revised engineering controls including cameras, load cells, and software. A tell-tale rope



(tag line) was also installed to verify canister movement. Communications were enhanced amongst the VCT operators and supervisors. The licensee also conducted a load drop analysis that was submitted to the NRC. The analysis concluded that the canister would not have been breached if it had fallen the full 18 feet to the bottom of the vault, but fuel damage would have been expected to occur within the sealed canister.

By letter dated December 26, 2018, the licensee responded to the three Notices of Violation that were issued by the NRC on November 28, 2018. In its letter, the licensee re-affirmed that it will not re-start fuel transfer operations until the NRC has reviewed SCE's corrective actions, and SCE management is satisfied that full readiness has been achieved to ensure safe and effective fuel transfer operations. In the NRC's reply letter dated January 17, 2019, the NRC informed the licensee that it planned to review the licensee's corrective actions during a future inspection. The next NRC inspections of the ISFSI program are currently planned for the weeks of January 28 and February 11, 2019.

### **Incorrect Removal of Seismic Restraints from Unit 1 RPV**

In 2002, the licensee removed the SONGS Unit 1 RPV from containment and placed the vessel directly into a shipping container. At that time, the licensee planned to ship the container offsite for disposal, but for various reasons, the shipment did not occur. Instead, the licensee staged the Unit 1 RPV container on a skid adjacent to the onsite ISFSI.



Unit 1 RPV and associated skid prior to modification

Recently, the licensee decided to ship the RPV to the EnergySolutions site in Utah for disposal as Class A waste. To ship the package by rail, the licensee had to modify the package to reduce its physical dimensions.

On November 30, 2018, SDS's subcontractor started work on the skid using an approved SDS work package. The workers removed the seismic restraints in a sequence other than that specified in the work instructions. The sequence was important, in part, to keep the RPV attached to the skid in the event of a seismic event. Subsequently, a calculation was performed to demonstrate that the remaining tie-downs were sufficient to restrain the RPV if a seismic event were to occur.

### California State Lands Commission Proceedings

Decommissioning activities cannot proceed until the State of California has completed its environmental review responsibilities under the California Environmental Quality Act (CEQA). On June 27, 2018, the California State Lands Commission (CSLC) noticed the Draft Environmental Impact Report (EIR) and Notice of Public Hearings for the SONGS Units 2 & 3 Decommissioning Project. The public review period ended August 30, 2018. The Final EIR is expected to be published in February 2019. The CSLC's consideration of the Final EIR and the project is anticipated to occur in March 2019. Information about the CSLC's activities is provided at [http://www.slc.ca.gov/Info/CEQA/San\\_Onofre.html](http://www.slc.ca.gov/Info/CEQA/San_Onofre.html).

### Holtec Shim Standoff Pin Issue

Four of the 29 spent fuel canisters being stored in the SONGS UMAX ISFSI have an updated fuel basket shim design. The shims consist of stainless steel pins at the bottom to facilitate helium flow for cooling. The problem is that these stainless steel pins have been shown to be prone to failure (bending and breakage). The remaining 26 loaded canisters (including Canister 30 which is currently being stored in Unit 3) have an older but approved shim design. Holtec International concluded that failure of the shim standoffs will not impact the canisters' ability to maintain cooling; however, the NRC has not completed its review of Holtec's conclusion.



Original design: machined slots (left) and new design: stand off pins (right)

A pre-decisional enforcement conference was held with Holtec International on January 9, 2019, to discuss the apparent violations involving the design of the spent fuel storage casks. The results of the pre-decisional enforcement conference will be presented to Holtec International under separate correspondence at a later date.



## **Letter from Congressmen Levin, Vargas, Rouda, and Peters**

By letter to Chairwoman Svinicki dated January 18, 2019, four members of Congress, including Congressman Mike Levin, expressed concerns about the recent events that resulted in pre-decisional enforcement conferences for both Holtec International and SCE. In their letter, the Congressmen asked the NRC to relocate the upcoming January 24, 2019, pre-decisional enforcement conference to the vicinity of SONGS, so that local communities have direct access to the proceedings. The Congressmen also requested that the NRC adopt appropriate enforcement actions to ensure that involved parties change the processes that led to these incidents, as well as any processes that could lead to future safety violations.

Since the pre-decisional enforcement conference is a meeting between the NRC and the licensee, the Region IV Office elected to hold the conference in the Arlington, Texas office. The NRC will broadcast the event live via webinar. Following the NRC's protocols for enforcement panels, the NRC will answer questions from the public after the conclusion of the formal portion of the conference. In addition, the Region IV Office plans to present information in a public forum, perhaps another webinar, after the NRC has completed its future ISFSI inspections and prior to restart of ISFSI operations by the licensee.

## **FACILITY OVERSIGHT PROCESS INFORMATION**

### **Current Decommissioning Activities**

SONGS Units 2 and 3 have been shut down since January 2012 due to issues with the replacement steam generators for both units. In June 2013, the licensee elected to permanently discontinue operations. By letter dated June 12, 2013, the licensee certified the permanent cessation of power operations. The licensee subsequently submitted a Post Shutdown Decommissioning Activities Report (PSDAR) to the NRC by letter dated September 23, 2014. The proposed decommissioning option was DECON; that is, prompt decontamination and dismantlement after an initial planning period. By letter dated August 20, 2015, the NRC informed the licensee that the PSDAR contained the information required by 10 CFR 50.82(a)(4)(i), and was consistent with Regulatory Guide 1.185.

The licensee installed a stand-alone spent fuel pool island for each unit, which isolates the spent fuel pool cooling and makeup systems from the permanent plant equipment. This allowed the licensee and its contractors to de-energize, physically isolate, and drain the permanent plant equipment that was previously used to support spent fuel pool operations.

In 2016, to support the transition to "cold and dark," the licensee completed the installation of a stand-alone, 12-kilovolt, non-safety and seismic Category III, electrical ring bus and associated equipment that will facilitate decommissioning of various plant systems. (Seismic Category III refers to structures, components, and systems whose failure could inconvenience normal plant operations.)

### **Fuel Handling Operations**

Site operations at all three SONGS units resulted in 3,855 fuel assemblies that require interim onsite storage until transfer to the Department of Energy (DOE). The licensee also continues to store an additional 270 fuel assemblies from Unit 1 at the GE facility in Morris, Illinois. These fuel assemblies are not expected to be returned to the SONGS site but will be transferred directly to DOE at a later date. When the licensee elected to permanently discontinue

operations in 2013, it had 108 unburned (new) fuel assemblies in its possession at Unit 2. The licensee subsequently transferred the fuel to Areva for reconstitution.

There are 50 fuel storage canisters, plus one canister with Greater Than Class C (GTCC) wastes being stored in the Nuhoms TN Horizontal Storage Module System. An additional 29 canisters are being stored at the SONGS Holtec UMAX ISFSI. Currently, 40% of the spent fuel has been moved from the Units 2 and 3 spent fuel pools to the UMAX ISFSI pad.

### **Transition of Programs to the Songs Decommissioning Solutions**

Since the licensee announced its decommissioning general contractor, SONGS Decommissioning Solutions (SDS), on December 20, 2016, both the licensee and SDS have been transitioning towards an organizational structure that allows a contracted workforce under SDS to perform the majority of the remaining decommissioning work activities with appropriate licensee oversight.

The regional staff perform inspections on the implementation of the transitioned programs to ensure that regulatory requirements are being maintained. The inspections also review the capabilities of SCE's oversight and assessment of the SDS programs. Thus far, inspections have identified that SDS has adequately implemented programs that meet regulatory requirements.

### **Recent Inspection Findings**

Between June 2017 and June 2018, the NRC conducted a series of inspections of the licensee's preoperational testing and initial loading activities for the new UMAX ISFSI. The NRC issued the team inspection report on August 24, 2018. The team identified one non-cited violation related to design control of field changes made to important to safety equipment associated with loading activities.

The NRC's July 2018 routine decommissioning inspection report was issued by letter dated August 10, 2018. The NRC identified one non-cited violation related to the licensee's failure to implement the Fire Protection Program as required by Technical Specifications involving combustible materials.

### **OTHER TOPICS OF INTEREST**

#### **Financial-Based Exemptions**

By letter dated February 13, 2014, SCE requested exemptions from the regulations in 10 CFR 50.75(h)(2) and 10 CFR 50.82(a)(8)(i)(A), to provide SCE limited access to the Nuclear Decommissioning Trust Funds to commence activities associated with irradiated fuel management and site restoration activities. SCE had included comingled funds for radiological decommissioning (as required by 10 CFR 50.82), irradiated fuel management, and site restoration activities in its Nuclear Decommissioning Trust Funds for SONGS Units 2 and 3. NRC regulations in 10 CFR 50.75 and 50.82 preclude the use of trust funds to support activities other than "radiological decommissioning." By letter dated September 5, 2014, the NRC staff granted the exemptions.

By letter dated September 16, 2015, SCE submitted an exemption request from certain financial protection requirements of 10 CFR 140.11(a)(11) to more fully reflect the permanently shut-down status of the facility. The NRC approved a reduction in the required level of offsite primary insurance coverage from \$400,000,000 to \$100,000,000, eliminated the requirement for SONGS to carry secondary financial protection, and permitted SCE to withdraw from participation in the industry retrospective rating plan.

By letter dated October 22, 2015, SCE submitted an exemption request from certain onsite insurance coverage requirements of 10 CFR 50.54(w)(1) to more fully reflect the permanently shut down status of the facility. The NRC approved a reduction in the required level of onsite insurance coverage from \$1.06 billion to \$50 million.

### **Emergency Preparedness**

For the SONGS site, the NRC approved exemptions from certain emergency planning requirements provided in 10 CFR 50.47(b), 10 CFR 50.47(c)(2), and 10 CFR Part 50, Appendix E, Section IV, which became effective on June 5, 2015. These changes revised the SONGS emergency action level (EAL) scheme and emergency plan, respectively, to reflect the low likelihood of any credible accident at the plant in its permanently shut down and defueled condition that could result in radiological releases requiring offsite protective measures.

The NRC approved a license amendment request dated December 15, 2016, to revise the Permanently Defueled Emergency Plan (PDEP) to an ISFSI-Only Emergency Plan (IOEP), and to revise the EAL scheme to ISFSI-only EALs for the SONGS Units 1, 2, and 3 ISFSI. The changes reflect the future status of the facility, as well as the reduced scope of potential radiological accidents, once all spent fuel has been moved to dry cask storage within the onsite ISFSI. This activity is currently scheduled for completion in 2019, and the changes will not be implemented until fuel movement is completed.

### **Recent Licensing Actions**

On January 9, 2018, the NRC approved license amendments to change the SONGS licenses and Technical Specifications to reflect the removal of all spent nuclear fuel from the spent fuel pools and its transfer to dry cask storage within the onsite ISFSI. The changes also made conforming revisions to the SONGS, Unit 1, Technical Specifications and combined them with the SONGS, Units 2 and 3, Technical Specifications. This license amendment will become effective as of the date the licensee submits a written notification to the NRC that all spent nuclear fuel assemblies have been transferred out of the SONGS spent fuel pools and placed in storage within the onsite ISFSI.

### **Security-Related Topics**

In May 2017, SCE requested that the NRC's cyber security requirements be removed from the SONGS, Units 2 and 3, licenses on the basis that these requirements are no longer necessary for a plant that has entered decommissioning and is transitioning to an ISFSI-only status. The NRC approved the removal of the cyber security plan from the licenses in TS amendments dated November 9, 2017.

By letter dated November 14, 2018, the NRC informed SCE that it no longer had to comply with the enhanced Foreign Ownership, Control, or Influence (FOCI) reporting obligations that exceed

the requirements specified in 10 CFR Part 95, Facility Security Clearance and Safeguarding of National Security Information and Restricted Data. However, the licensee must still comply with the additional National Industrial Security Program Operating Manual reporting requirements that were specified in the NRC's letter dated April 20, 2012.

### **Decommissioning Quality Assurance**

By letter dated September 24, 2018, the NRC approved the licensee's proposed changes to the Decommissioning Quality Assurance Program (DQAP), submitted to the NRC by letter dated May 1, 2018. After transfer of all spent fuel to the ISFSI, there will no longer be any structures, systems, or components (SSCs), items or activities classified as safety-related as defined in Appendix B to 10 CFR Part 50. In addition, the highest level of safety significance for the remaining items and activities at the facility will be designated as important to safety under 10 CFR Part 71 and 10 CFR Part 72.

### **Community Engagement Panel**

The licensee established a Community Engagement Panel (CEP) in early 2014 to allow SCE to learn about the concerns of the community and to provide the community with the opportunity to learn about the impacts of SONGS decommissioning. Mr. David Victor, Professor, University of California-San Diego, who is an expert on energy markets, serves as the chairman of the CEP.

The committee consists of 18 members including public officials and non-government, labor, business, environmental, and Native American organizations. Meetings are held at least quarterly, and the meetings include public comments and questions directed to SCE or subject matter experts. In addition, workshops and expert presentations are provided. The CEP is not a formal decision-making body and has no official oversight function. SCE provides resources for the meeting, funded by the decommissioning trust fund.

Organizations that have accepted invitations to serve on the CEP include: American Nuclear Society, San Diego Chapter; Laborers International Union of North America Local 89; Oceanside; Orange County Coastkeeper; Orange County Sheriff's Department; Orange County Residents Organized for a Safe Environment; San Clemente; San Diego County; San Juan Capistrano; California State Parks; and Camp Pendleton.

The NRC occasionally attends or provides presentations during CEP meetings. During the November 2018 meeting, the NRC Region IV Deputy Regional Administrator provided a presentation about the recent NRC special inspection that was conducted in response to the August 3, 2018, canister misalignment incident.

### **SONGS Settlement with Citizens Oversight, Inc. Over the California Coastal Commission Permit Process**

Per a settlement agreement reached on August 25, 2017, between SCE, the California Coastal Commission (CCC), and members of Citizens Oversight, Inc. regarding the permit that was granted by the CCC to expand the onsite ISFSI at SONGS, SCE has committed to take the following actions:

- Pending the development by DOE of a permanent nuclear spent fuel repository facility that can store the SONGS spent fuel, SCE shall use commercially reasonable efforts to relocate

the SONGS spent fuel to an offsite storage facility, including, but not limited to: (1) a consolidated interim storage ("CIS") facility to be developed and operated by a third party; or (2) an expanded ISFSI at the Palo Verde Nuclear Generating Station located near Tonopah, Arizona.

- To implement the above, SCE shall retain a team of expert consultants including at least one expert from each of the following fields: nuclear engineering (or equivalent); spent fuel siting and licensing; spent fuel transportation; and radiation detection and monitoring. The expert team will advise SCE on issues related to the proposed relocation of SONGS spent fuel to an offsite storage facility.
- To assess the feasibility of relocating SONGS spent fuel to an offsite storage facility, SCE shall: (1) develop a conceptual plan for the transportation of the SONGS spent fuel to an offsite storage facility assumed to be located in the southwestern region of the United States; and (2) develop a strategic plan for supporting the development of a commercially reasonable offsite storage facility.
- SCE will develop an Inspection and Maintenance Program for the ISFSI by October 6, 2020, rather than the October 6, 2022, the date currently planned.
- SCE will develop a written plan addressing contingencies for damaged or cracked canisters consistent with NRC regulations and requirements by October 6, 2020.
- Starting on January 1, 2018, and continuing until all fuel in "wet" storage pools in SONGS, Units 2 and 3, has been transferred to the ISFSI, SCE shall provide a monthly progress report on the storage of spent fuel at SONGS.
- SCE shall spend up to, but no more than, \$4,000,000 (four million dollars) on consultant fees and other costs for satisfying the above commitments.

### **Congressional Interest**

On September 21, 2017, NRC staff briefed the Office of Representative Darrel Issa regarding the ongoing decommissioning activities at SONGS and some specific questions raised by constituents regarding the plans for long term spent fuel storage at the site. In addition, on October 17, 2017, Representative Issa's office submitted a letter to the Commission capturing several of these constituents' questions and asking for a formal response from the NRC.

Congressman Mike Levin, a Democrat representing California's 49th District, writing for the San Diego Union-Tribune (1/18/19), said his top priority "is addressing the nuclear waste challenges at San Onofre," and he is "already beginning the critical work that needs to be done" to make his district's communities safer. Congressman Levin says he is "assembling a task force on San Onofre that will convene local experts and stakeholders to help drive solutions, with the ultimate goal of crafting comprehensive policy that can improve safety at nuclear sites across the country."

### **Task Force Formed to Review Safety Challenges at SONGS**

On January 25, 2019, the Orange County Register (and other news outlets) reported that U.S. Rep. Mike Levin “has formed a task force on safety challenges at the shuttered San Onofre Nuclear Generating Station.” Leading the panel will be Gregory Jaczko, former Chairman of the Nuclear Regulatory Commission, and retired Navy Rear Adm. Leendert “Len” Hering Sr., Levin’s office said on Friday, Jan. 25. Locals also will have a seat at the table, and Levin said the group will meet regularly “with the goal of driving solutions to move and safely store sensitive waste located at SONGS.”



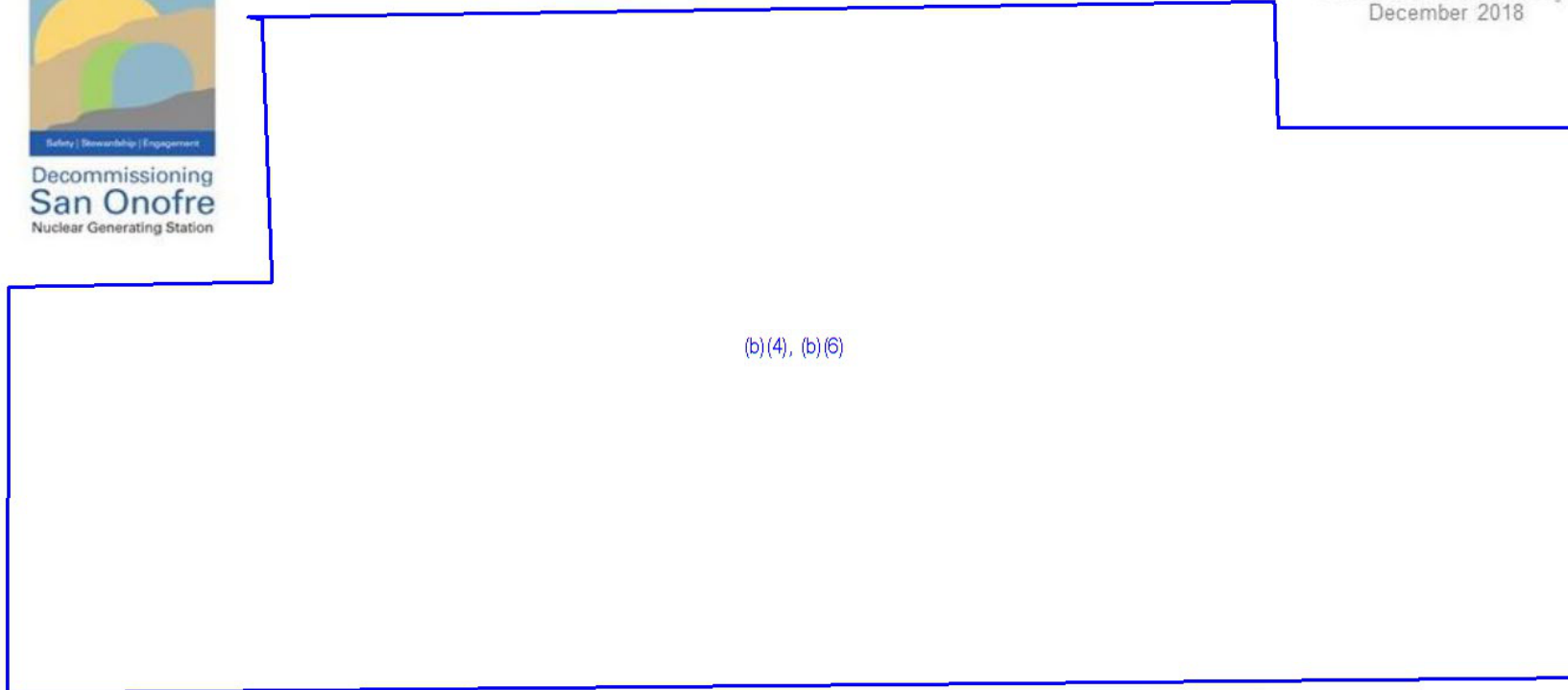
## FACILITY MANAGEMENT INFORMATION

### Facility Organization Chart



Decommissioning  
**San Onofre**  
Nuclear Generating Station

~~For Internal Use Only~~  
December 2018




(b)(4), (b)(6)

Legend	
	Non-Represented
	UWUA
- - - -	Matrix Position
- . . . -	Contractor Position

CONTRACTOR ORGANIZATION CHART

**Phase I** Transition/Planning

(b)(4), (b)(6)




CONTRACTOR ORGANIZATION CHART

**Phase II**

Execution

(b)(4), (b)(6)



## Licensee Biographical Information



**Douglas R. Bauder**

*Vice President Decommissioning and Chief Nuclear Officer  
Southern California Edison*

Douglas Bauder is Vice President Decommissioning and Chief Nuclear Officer (CNO) at the San Onofre Nuclear Generating Station (SONGS). He is responsible for overseeing all aspects of the planned decommissioning of the plant.

Prior to this position, Bauder served as Vice President, Operational Services, Safety, Security, Business Resiliency and Chief Procurement Officer at Southern California Edison (SCE). In this role, Bauder managed the company's extensive safety and security programs, as well as business resiliency and procurement activities. As Chief Procurement Officer for SCE, he managed expenditures for materials and services in excess of \$4 billion annually.

Bauder also served as vice president and station manager for SONGS, responsible for the strategic oversight of the plant operation and maintenance, including procurement activities. Bauder joined SCE in February 2009 as plant manager for SONGS, responsible for day-to-day plant activities associated with the operation and maintenance of SONGS. Prior to joining SCE, Bauder served as plant general manager for Calvert Cliffs Nuclear Power Plant in Maryland. During his 20 years at Calvert Cliffs, he handled all aspects of plant management and implemented a site excellence plan and standard integrated program that directly contributed to improved human business performance functions. Bauder served as a United States Naval Submarine Officer in Norfolk, Virginia.



**Thomas J. Palmisano**  
*Vice President External Engagement*  
*Southern California Edison*

Tom Palmisano serves as vice president External Engagement at the San Onofre Nuclear Generating Station (SONGS) in the important leadership role of external engagement officer responsible for developing and maintaining relationships with critical stakeholders, such as the Community Engagement Panel, the Nuclear Regulatory Commission, local agencies and stakeholder groups.

Prior to assuming the role of vice president, External Engagement, Palmisano prepared SONGS for the actual decommissioning and completion of the independent spent fuel storage installation as vice president decommissioning and chief nuclear officer. He also served as site vice president and vice president of Engineering, Projects, and Site Support Services.

During his 30-year career in the commercial nuclear industry, Palmisano has held leadership roles as vice president of Nuclear Oversight for Entergy Nuclear located in Mississippi, site vice president for Prairie Island Nuclear Generating Plant, Monticello Nuclear Generating Plant and Cooper Nuclear Station. His career also includes roles as site vice president, general plant manager, operations manager and systems engineering manager at Palisades Nuclear Plant. Palmisano began his career serving as an officer in the U.S. Navy Nuclear Propulsion Program. He holds an MBA from Saginaw Valley State University and a bachelor's degree in electrical engineering from Ohio Northern University.



**Louis Bosch, P.E.**  
*Plant Manager*  
*Southern California Edison*

Lou Bosch serves as the Plant Manager at the San Onofre Nuclear Generating Station (SONGS). As Plant Manager, he is responsible for Operations, Radiological Controls, Chemistry, Maintenance/Work Control, Security, and Performance Improvement activities performed at SONGS.

Prior to assuming the role as Plant Manager at SONGS, Lou held several leadership positions at the station, including Shift Manger, Engineering Manager and Manager of Nuclear Oversight and Safety Concerns. During his 34-year career in the commercial nuclear industry, he has held leadership roles in operations, maintenance, engineering and Nuclear Oversight.

Lou began his career serving in the U.S. Navy Nuclear Propulsion Program as a Reactor Operator/Engineering Watch Supervisor aboard the fast attack submarine USS Hammerhead. He holds a Bachelor's of Science from the University of the State of New York, obtained a Senior Reactor Operators License for the San Onofre Nuclear Generating station and is a licensed Professional Electrical Engineer.