

DRAFT SUBJECT TO CHANGE

SAN ONOFRE
COMMUNITY
ENGAGEMENT
PANEL

CEP Regular Meeting

SONGS Dismantlement Update

Thursday, August 11, 2022

5:30 – 8:30 p.m. PDT

Virtual Meeting for Social Distancing

THIS MEETING IS BEING RECORDED

Agenda Topics	Presenter(s)	Time
CEP and SCE opening comments	David Victor Doug Bauder	5:30 – 5:40
CEP general community updates	David Victor Dan Stetson	5:40 – 5:50
Action for Spent Fuel Solutions Now coalition and the federal spent fuel management program New federal legislation and coalition update	Sup. Jim Desmond Pauline Colvin (for Supervisor Bartlett)	5:50 – 6:00
SONGS decommissioning update The big picture	Doug Bauder	6:00 – 6:10
SONGS dismantlement update by Decommissioning General Contractor, SONGS Decommissioning Solutions - Dismantlement plan and timeline - Waste packaging and transportation - Environmental stewardship and mitigation measures	Rich Kalman	6:10 – 6:40
Break		6:40 – 6:45
General public comment period		6:45 – 7:45
Facilitated public dialogue	Dan Stetson Martha McNicholas	7:45 – 8:25
SCE and CEP summary comments	Doug Bauder David Victor	8:25 – 8:30

Opening Comments

David Victor

Opening Comments

David Victor

Instructions for meeting participation available [online](#)

1. Submitting comments in advance

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

2. Participating in public comment during meeting

- Submit a written comment and/or sign up to deliver an oral comment using the [CEP Public Comment Form](#)
- Dan Stetson and Martha McNicholas will facilitate

Opening Comments

Dan Stetson and David Victor

- “Consent-Based Siting of Interim Storage Facilities Without Yucca Mountain”
 - Panel discussion on June 15 at American Nuclear Society Annual Meeting in Anaheim
- Western Governors’ Association
 - [Policy Resolution 2022-09 Radioactive Materials Management](#)
- Meeting with DOE staff Sept. 16 to discuss consent-based siting for federal consolidated interim storage
 - Follow-up to visit by Energy Secretary Granholm to SONGS in April
 - Also need to get organized with other communities



Advocating for Spent Fuel Solutions

Jim Desmond

San Diego County Supervisor and ASFSN Co-Chair

Pauline Colvin

Communications Director

Orange County Supervisor and ASFSN Co-Chair Lisa Bartlett

New spent fuel legislation will help restart conversation on spent fuel disposition

Supervisor Jim Desmond

117TH CONGRESS
2D SESSION

S. _____

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

IN THE SENATE OF THE UNITED STATES

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

A BILL

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

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the
5 “Nuclear Waste Administration Act of 2022”.



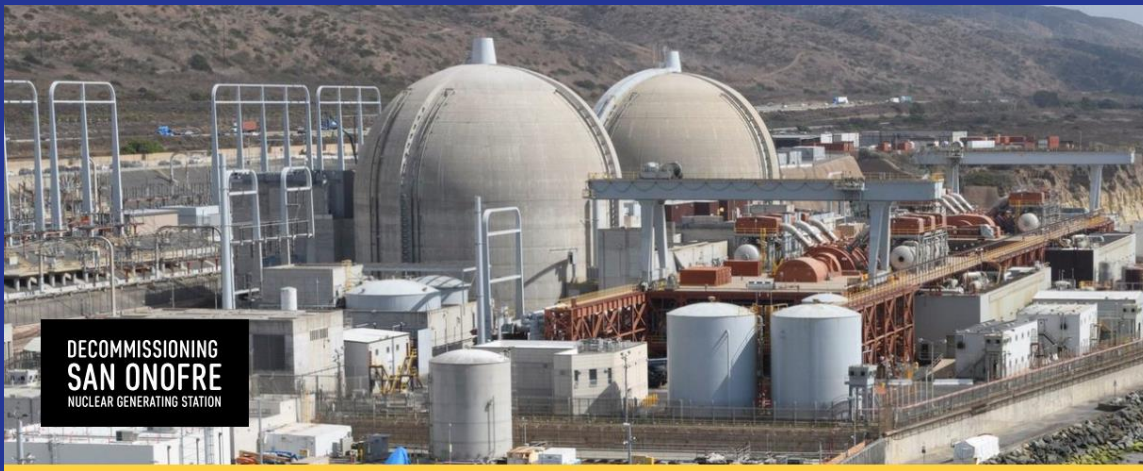
Coalition Update

Pauline Colvin

SONGS: The Big Picture

Doug Bauder

Vice President & Chief Nuclear Officer



Safety | Stewardship | Engagement



Decommissioning
San Onofre
Nuclear Generating Station

Safety | Stewardship | Engagement

Decommissioning Principles

SAFETY



STEWARDSHIP



ENGAGEMENT



Major Workstreams

1

Dismantling above-ground structures

2

Safely managing spent fuel onsite

3

Advocating for offsite storage /disposal

Available Resources

Doug Bauder



SAN ONOFRE DECOMMISSIONING UPDATE | JUNE 2022

Our first core principle in the decommissioning of SONGS is safety.

During this quarter a worker suffered a shoulder injury that required hospitalization. I'm pleased to report the worker is recovering from those injuries.

After this event, we paused related work on the site and began a learning process to understand exactly what happened and why. Though work has ramped back up, a deeper evaluation of overall site safety is continuing. Some of the interim actions put in place to allow work to proceed will become permanent, such as enhanced supervisory oversight.

Vince Lombardi, the great football coach of the Green Bay Packers once said, "Perfection is not attainable, but if we chase perfection, we can catch excellence." Excellence in safety, environmental stewardship and engaging with the community is what we are after throughout this decommissioning of SONGS.

This was a busy quarter for us. We transferred two canisters of Greater-Than-Class-C waste to our dry storage facility. We will transfer 10 more before that project is done. Work on the Unit 3 turbine building is progressing, as is the work in the containment domes.

We welcomed U.S. Secretary of Energy Jennifer Granholm to the site to talk about relocating the spent nuclear fuel stored at SONGS. We cannot fully decommission the site and return it to the U.S. Navy until the fuel is gone, so we welcome her engagement (and yours) on this important issue.

As always, I encourage you to visit our website, www.songscommunity.com, and reach out to us with any questions you may have.

Doug Bauder
Vice President and Chief Nuclear Officer
San Onofre Nuclear Generating Station
Southern California Edison



San Onofre Decommissioning Update mailed June 2022

Available online:

<https://www.songscommunity.com/about-decommissioning/decommissioning-san-onofre-nuclear-generating-station>



An AECOM EnergySolutions Joint Venture

SONGS

Decommissioning Activity Status

Richard Kalman
SDS Executive Sponsor

Presentation Summary

SDS Principles, Safety and
Management Commitment

Decommissioning Plan and Timeline

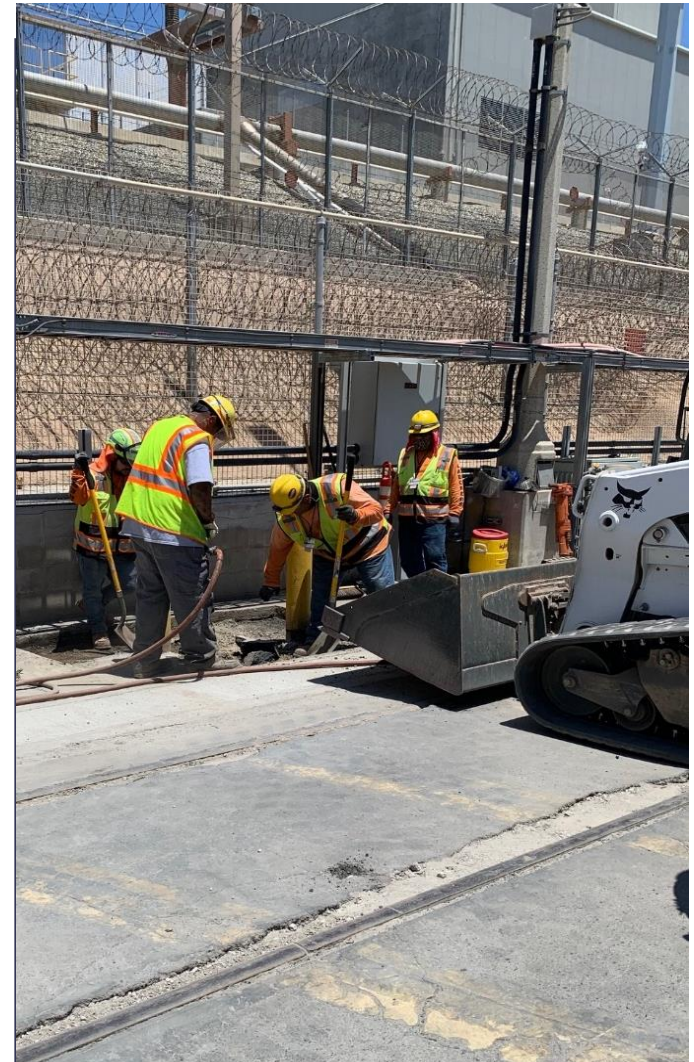
Project Schedule Summary

Waste Management, Packaging and
Transportation

Environmental Stewardship and
Mitigation Measures

SDS Guiding Principles

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



Removing asphalt/concrete in preparation for capping fire main valves



Worker Safety

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



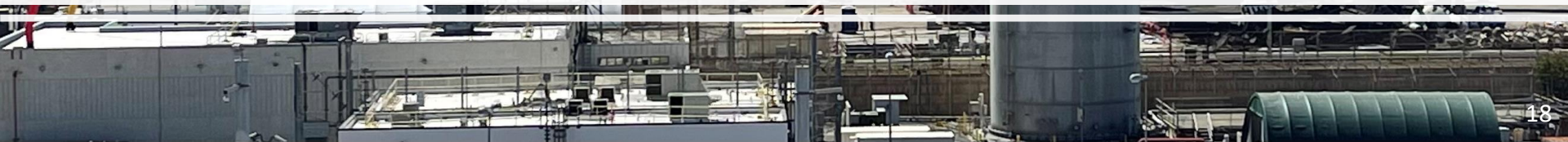
Management Commitment

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

Downsizing Unit 3 reactor head



Decommissioning Progress



Demolition Status Map

SONGS site map indicates types of work in progress

ACM = Asbestos-Containing Material

HAZ = Hazardous Material Isolation = terminate water and electricity

Green	ACM & HAZ Complete
Red	Isolations Complete
Black	Demolition Complete
Yellow	ACM & HAZ In Progress
Blue	Demolition in Progress
Pink	Isolations in Progress

Updated: 8-4-2022

SONGS site map indicates types of work in progress

ACM = Asbestos-Containing Material

HAZ = Hazardous Material

Isolation = terminate water and electricity

ACM = Asbestos-Containing Material

HAZ = Hazardous Material

Isolation = terminate water and electricity

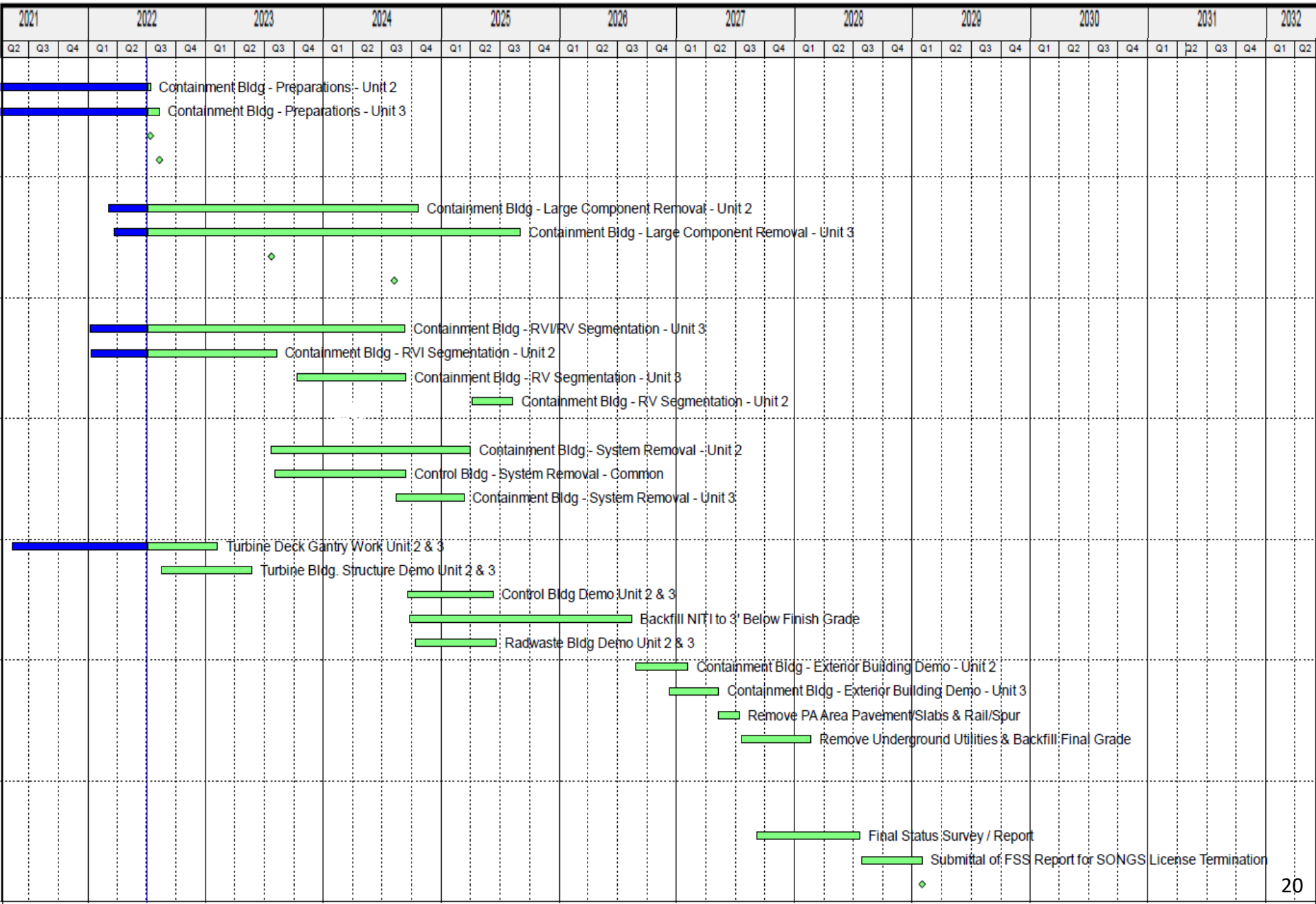
	ACM & HAZ Complete
	Isolations Complete
	Demolition Complete
	ACM & HAZ In Progress
	Demolition in Progress
	Isolations in Progress

Updated: 8-4-2022

	ACM & HAZ Complete
	Isolations Complete
	Demolition Complete
	ACM & HAZ In Progress
	Demolition in Progress
	Isolations in Progress

Updated: 8-4-2022

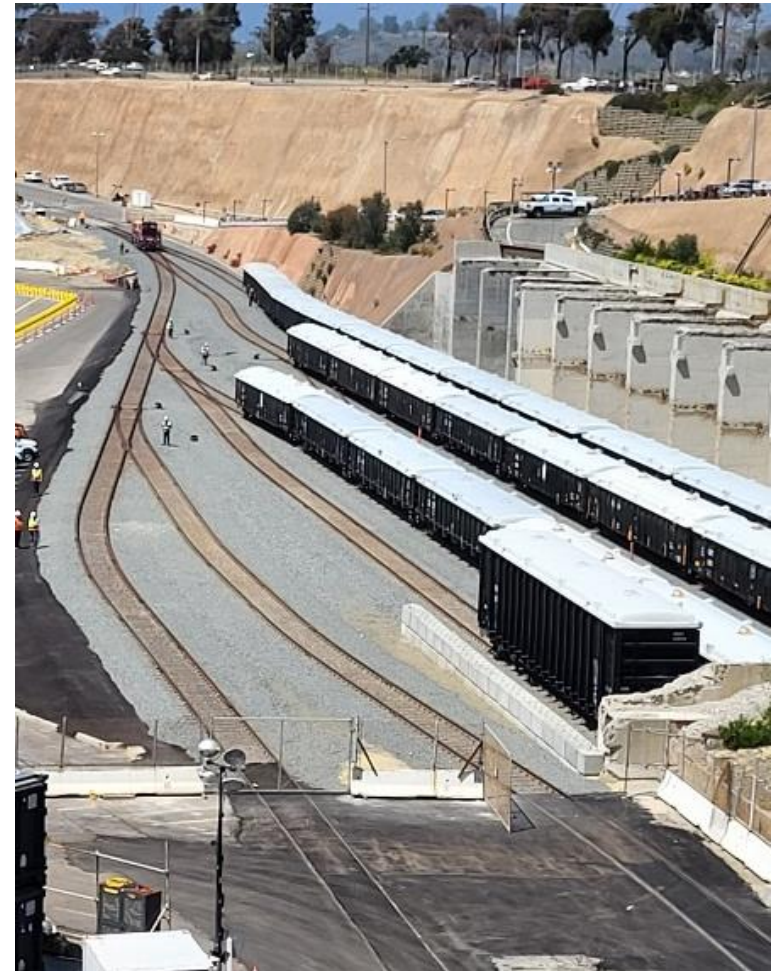
Project Schedule Summary



Decontamination & Dismantlement (D&D) Progress

Rail

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



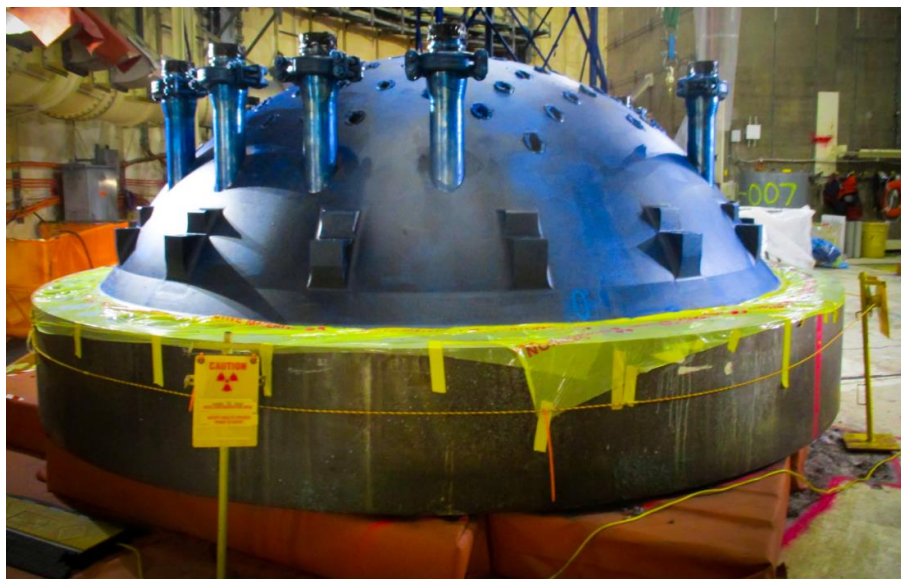
D&D Progress

Unit 2 Reactor Head Shipment

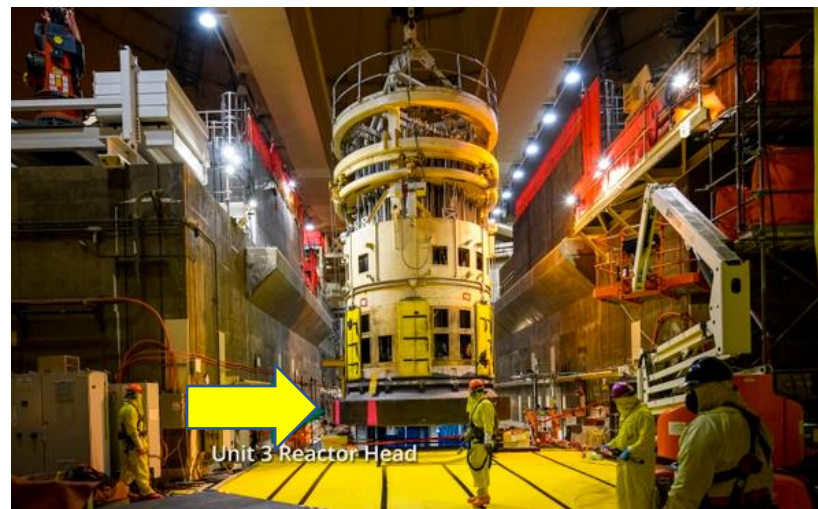
- Unit 2 reactor vessel head shipment to EnergySolutions facility in Clive, Utah - **complete**
- Decomm Digest [here](#)



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



The Unit 2 reactor head weighs approximately 77 tons



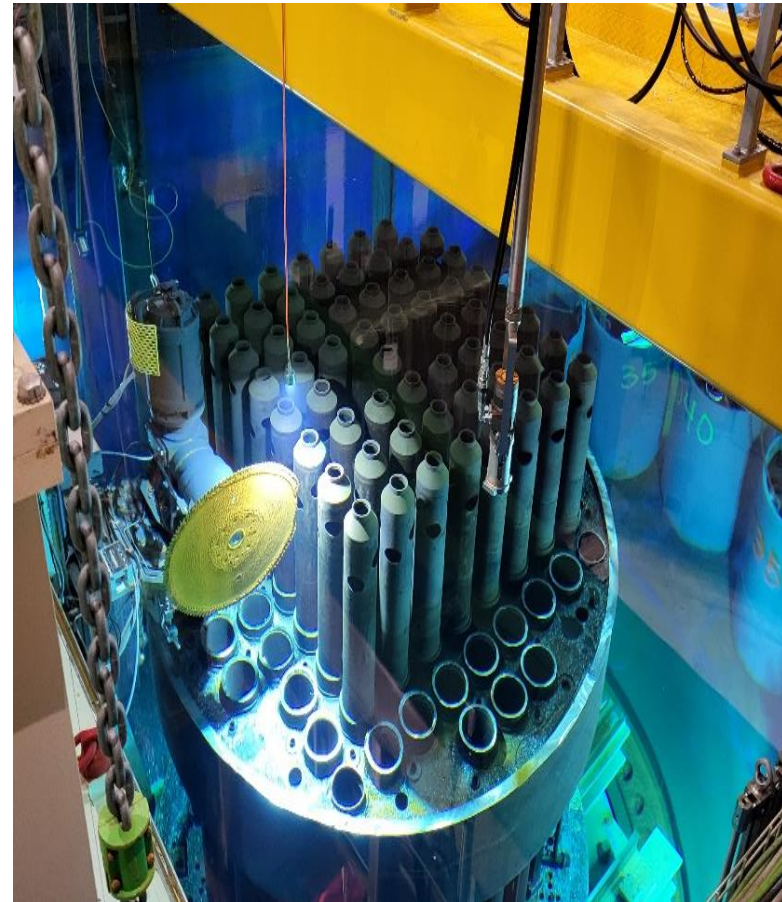
The reactor vessel head is located at the bottom of the reactor head assembly (Unit 3 pictured)

D&D Progress

Reactor Vessel Internals (RVI)

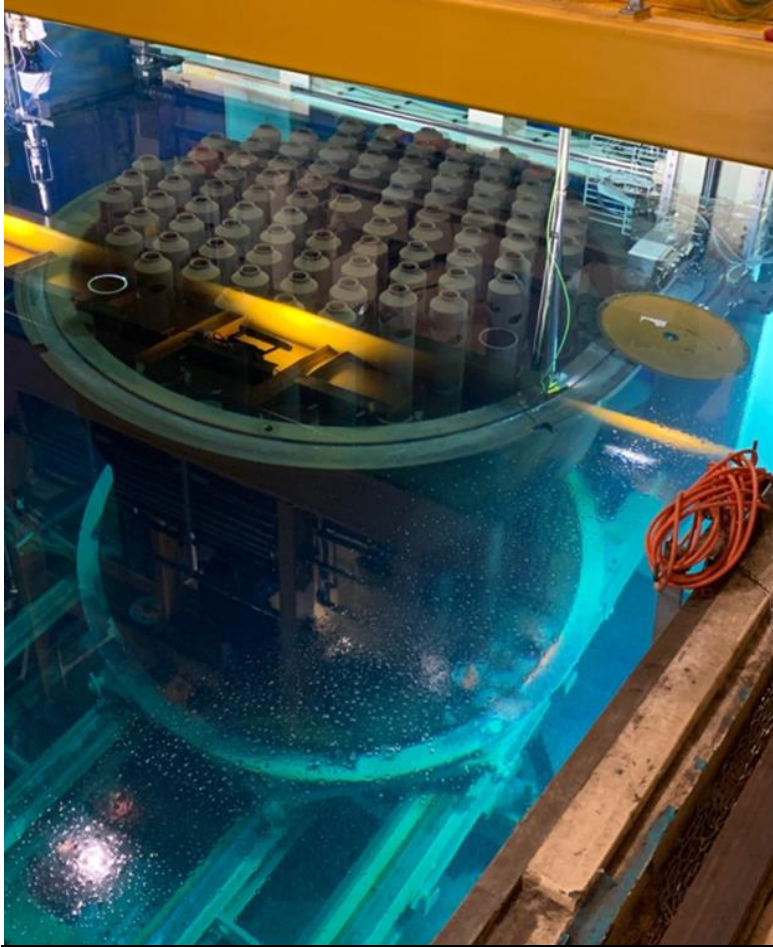
Unit 2

- Core Support Barrel (CSB) -
first three rings are completed
- CSB Total - **working in field**
- Upper Guide Structure (UGS) -
working in field

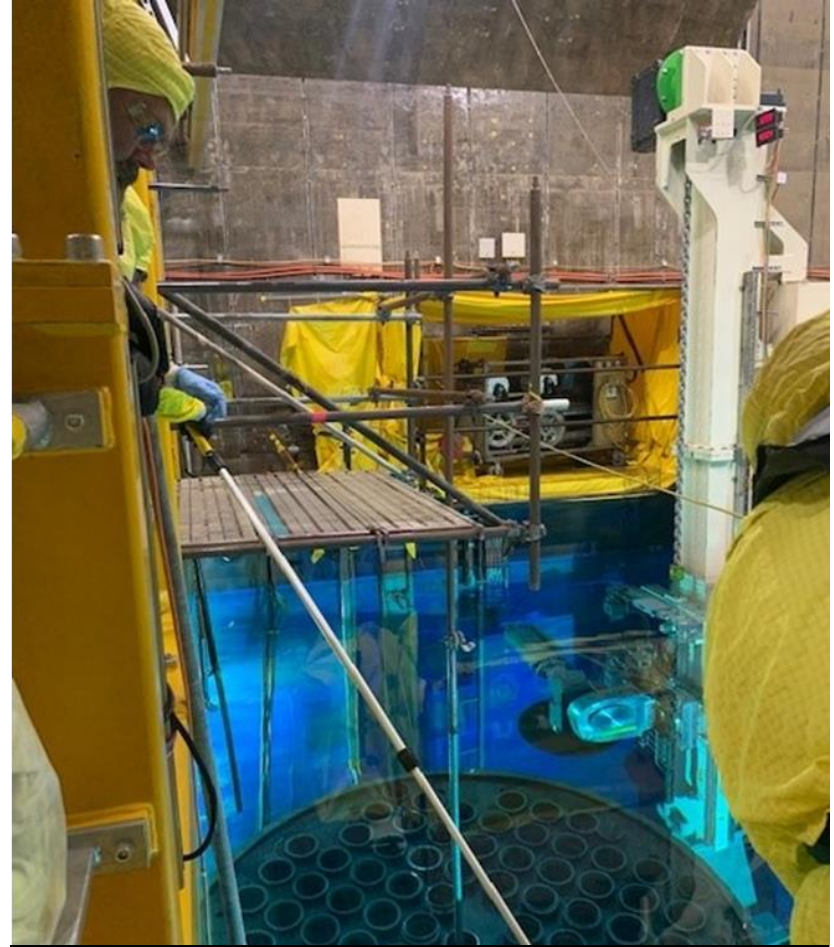


D&D Progress

Unit 2 Reactor Vessel Internals (RVI)



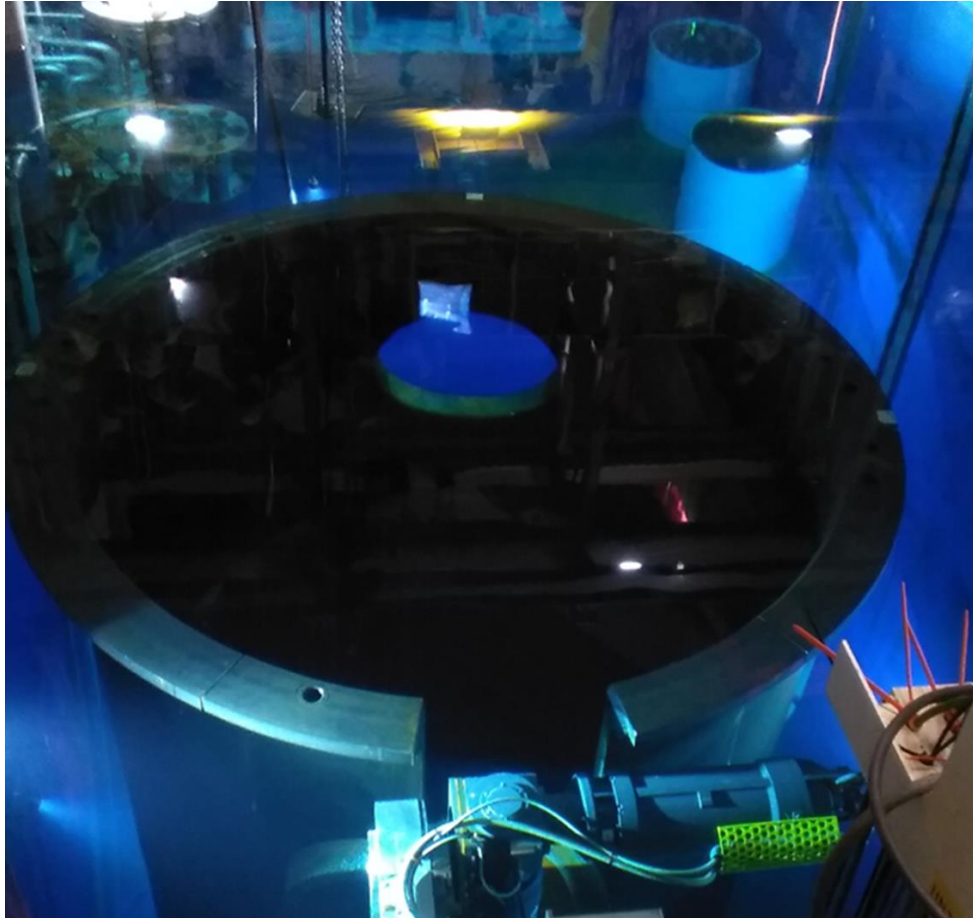
Unit 2 upper guide structure (UGS) install on volume reduction station (VRS)-2



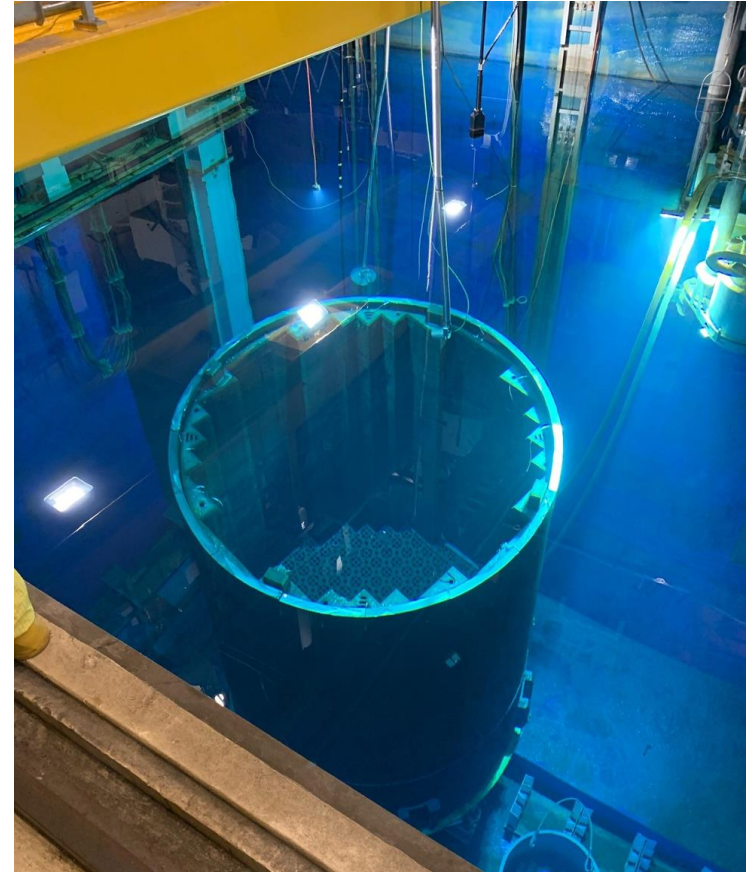
Unit 2 diamond wire saw modifications to complete vertical segmentations on UGS plate

D&D Progress

Unit 2 Reactor Vessel Internals (RVI)



Unit 2 A-ring piece removed



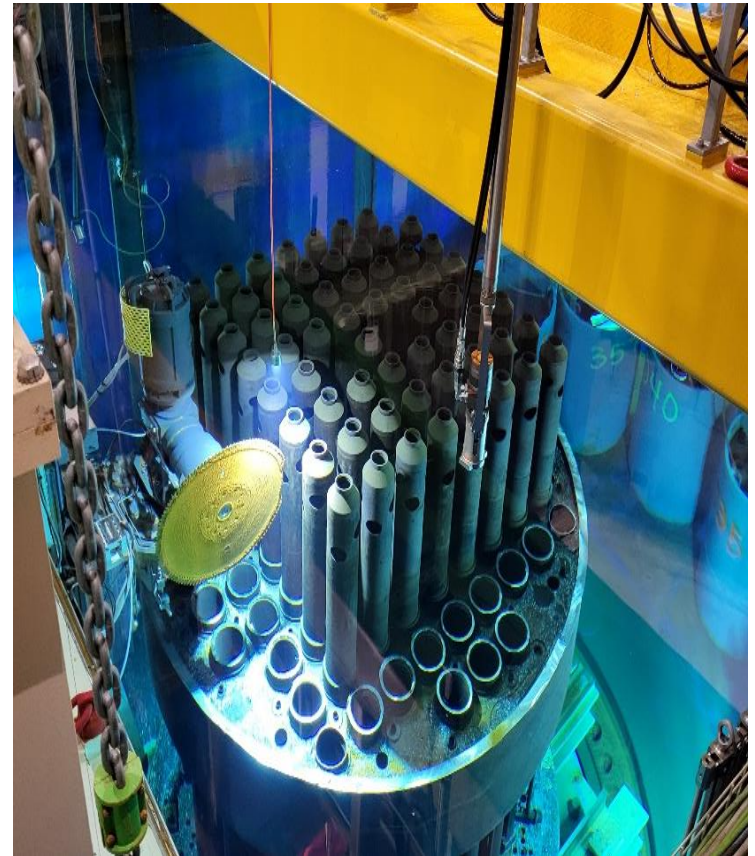
Unit 2 core support barrel (CBS) C-ring complete

D&D Progress

Reactor Vessel Internals (RVI)

Unit 3

- First two rings - **completed**
- CSB A-Ring and B-Ring
Segmentation - **completed**
- C-Ring Segmentation - **started**
- CSB UGS - **working in field**



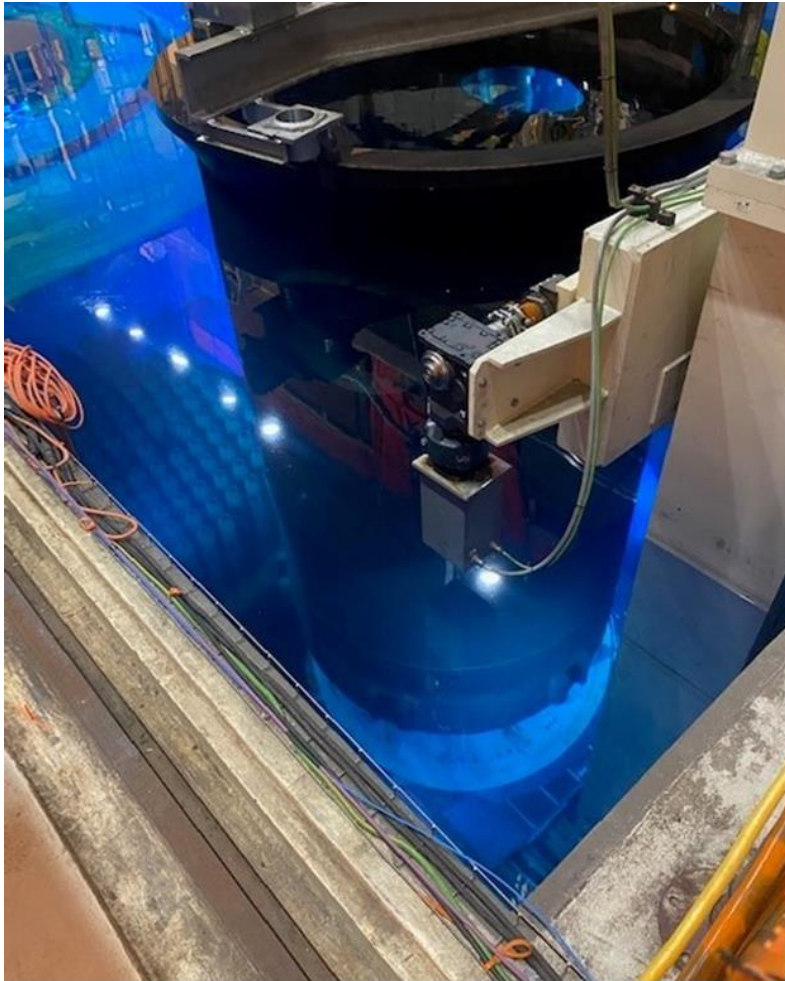
D&D Progress

Unit 3 Reactor Vessel Internals (RVI)



D&D Progress

Unit 3 Reactor Vessel Internals (RVI)

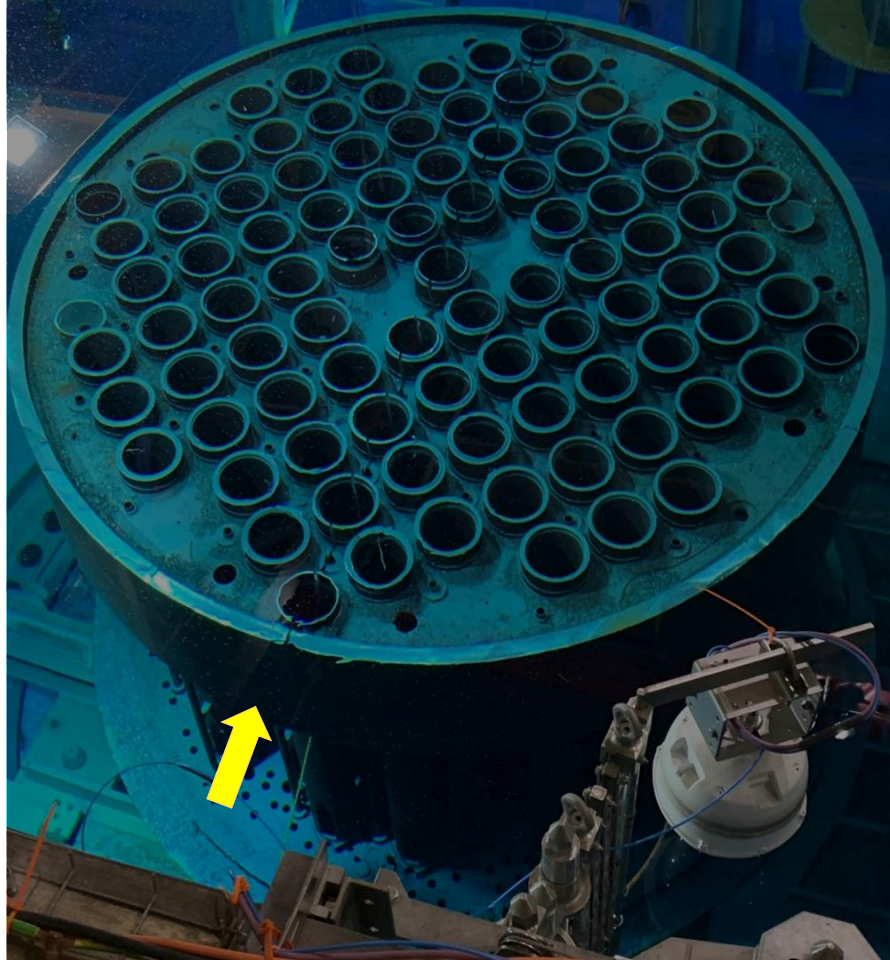


Core barrel support (CBS) lift

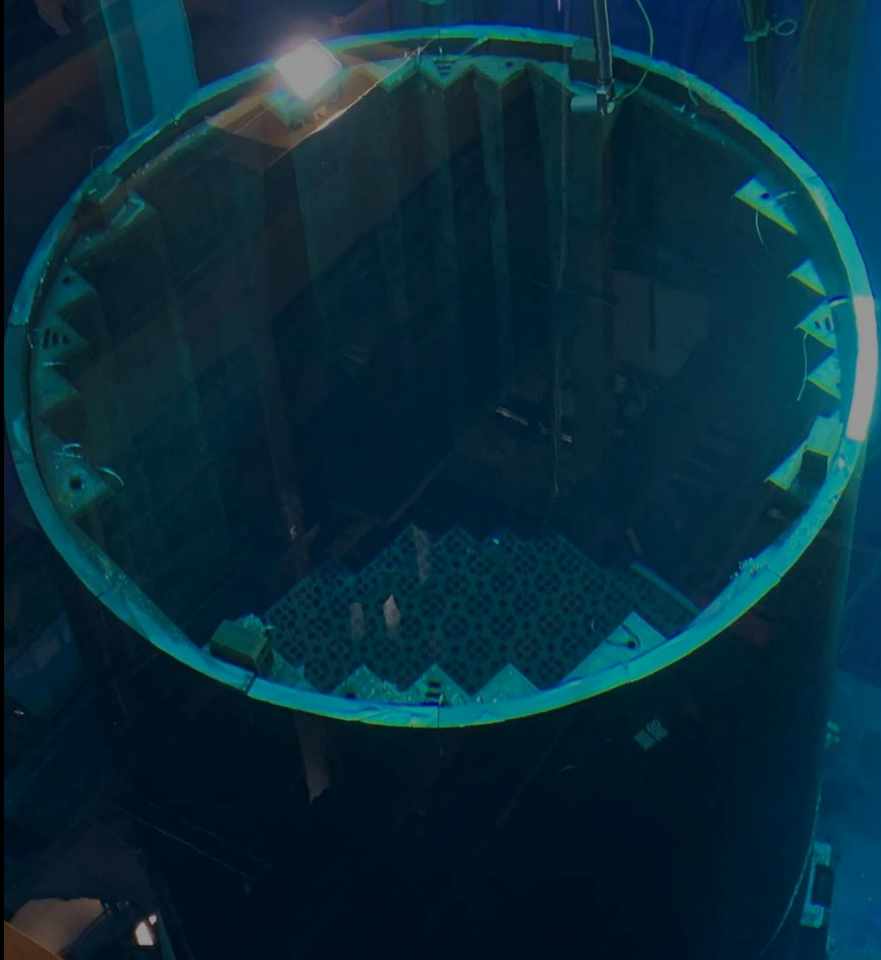


Unit 3 core barrel support C-ring 5 pieces remain

Nuclear Island



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



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

Nuclear Island



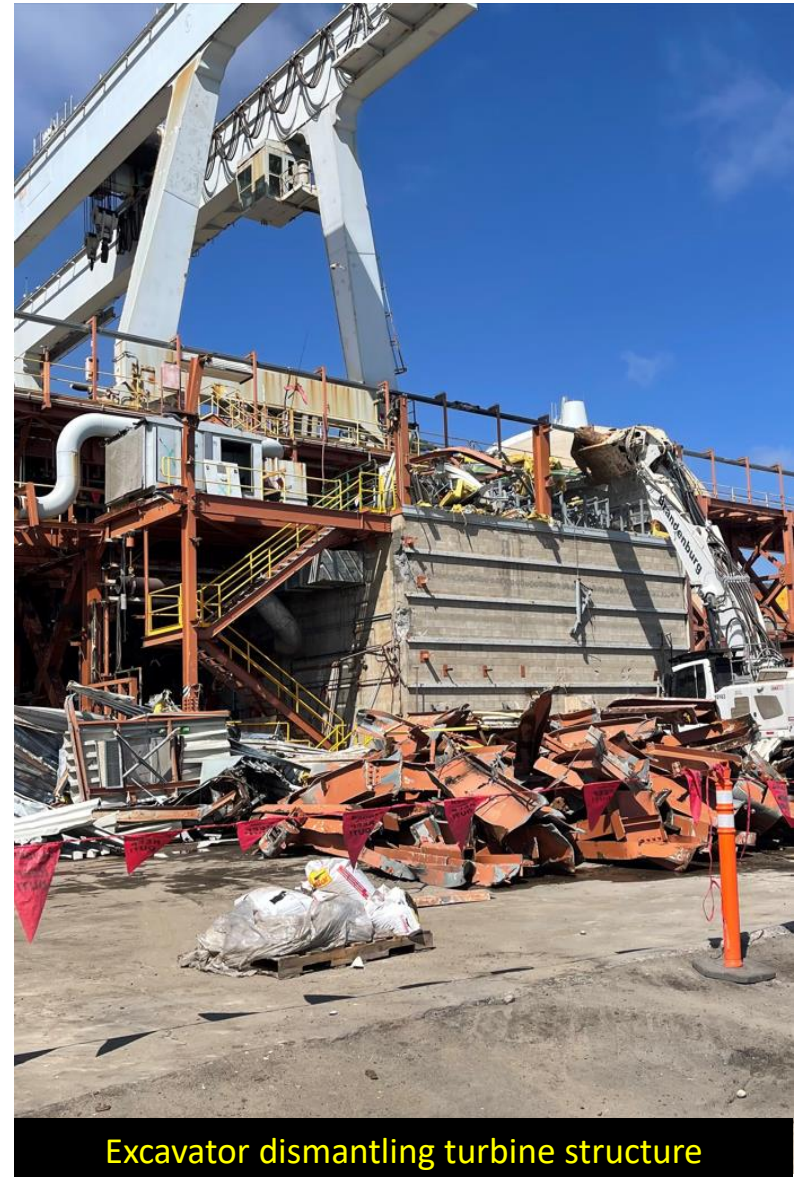
Reactor coolant pump motor interference removal

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

D&D Progress

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

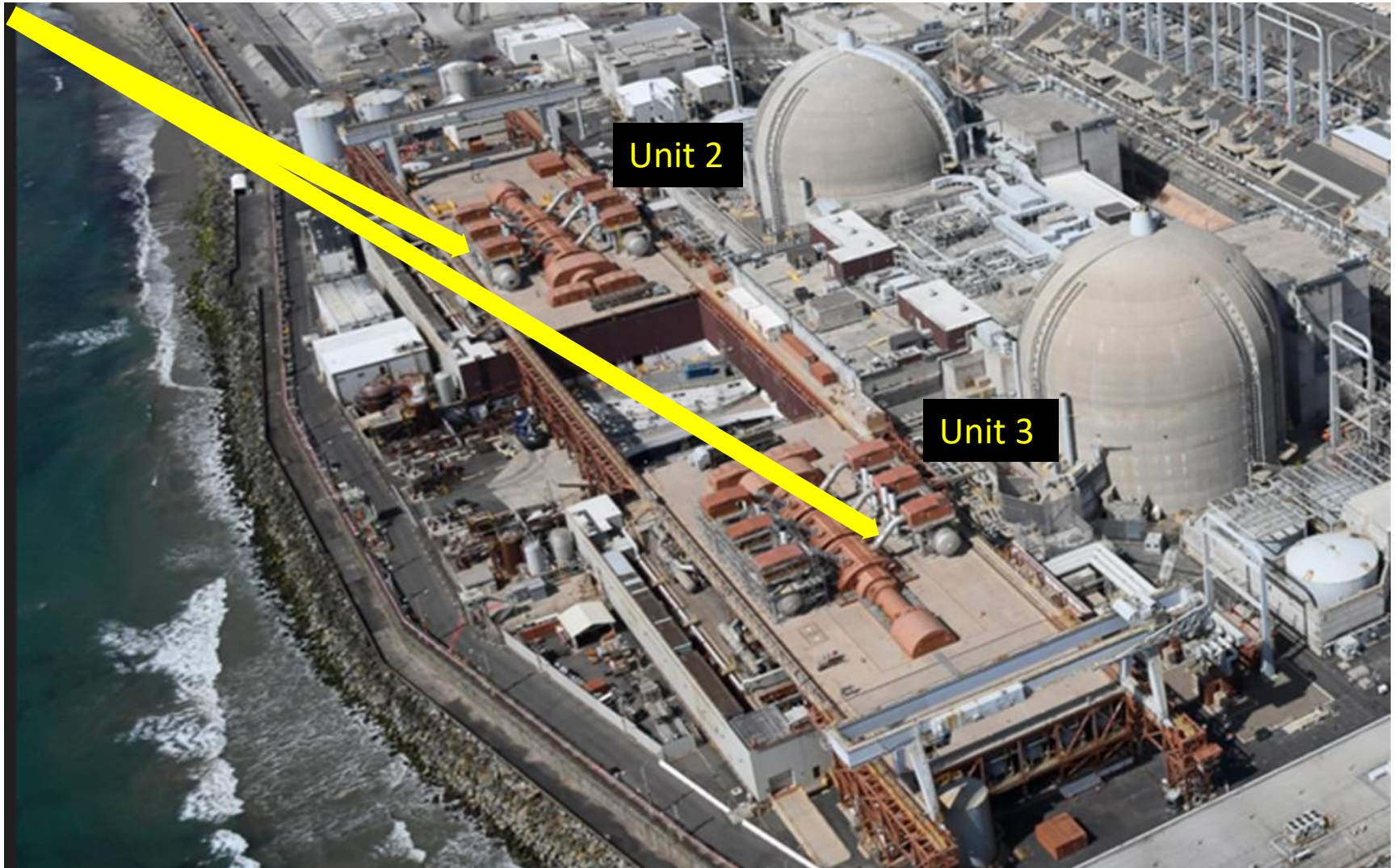
- Unit 2 tube pulling/point heater removal/condenser shroud demo - **completed**
- Unit 3 turbine centerline demolition - **completed**; **continuing condenser demolition**
- Unit 3 Tube pulling - **in progress**



Excavator dismantling turbine structure

D&D Progress

Unit 2/3 Turbine island work locations



D&D Progress

Intake Structure

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



Unit 2 intake forebay with the screens and rakes removed



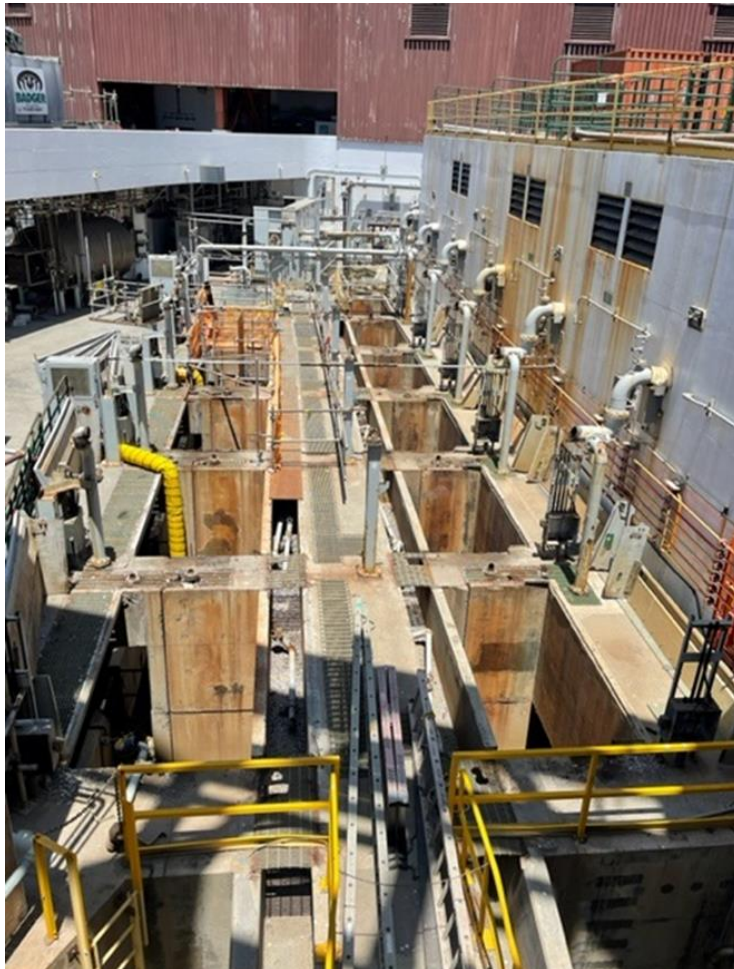
Unit 2 forebay still flooded to ocean level

D&D Progress

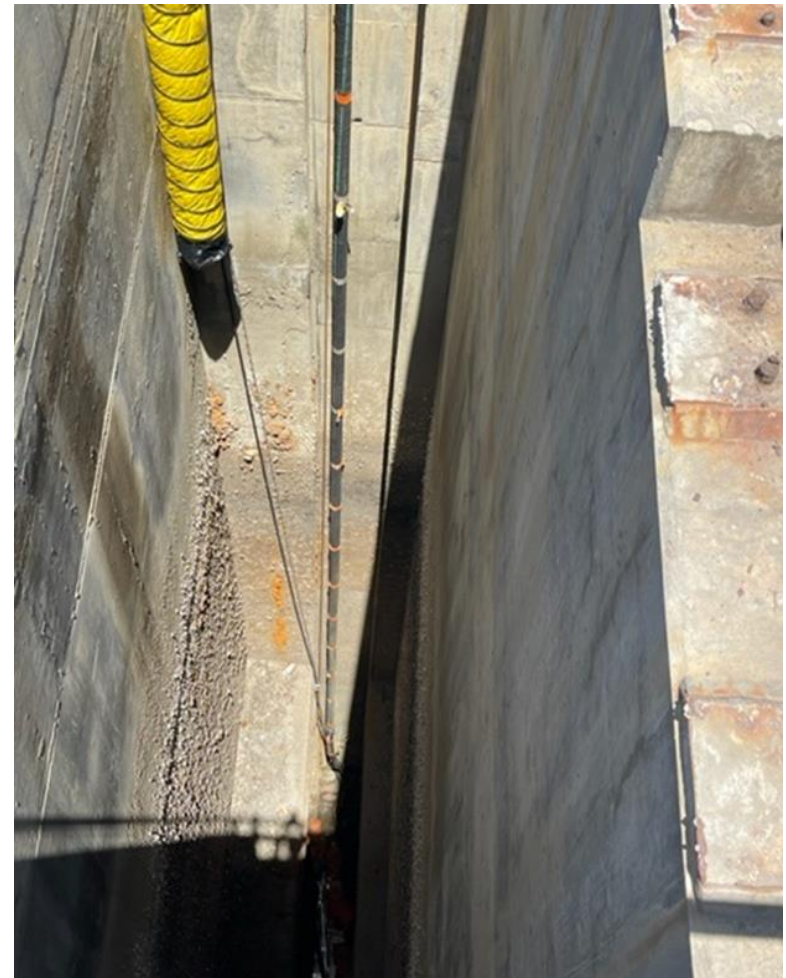
Intake structure work location



D&D Progress



Unit 3 intake forebay with screens and rakes removed



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

D&D Progress



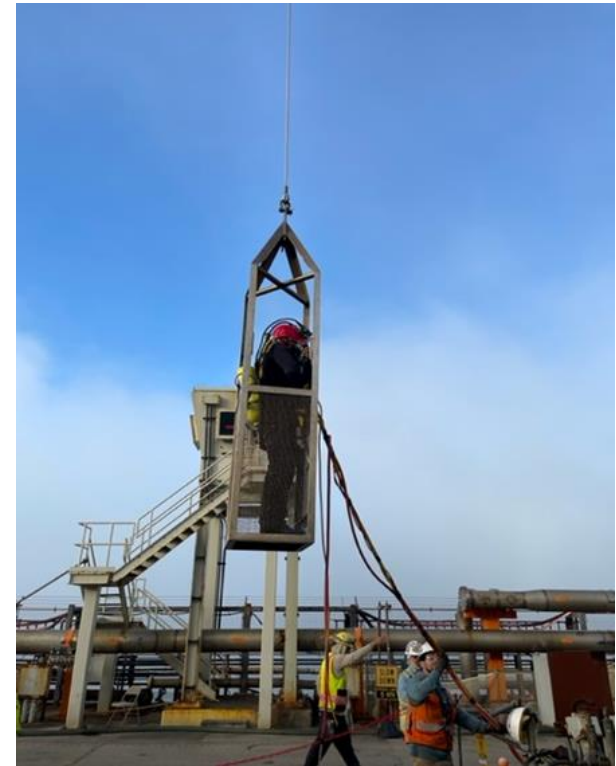
Unit 3 intake forebay dewatered



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

D&D Progress

- Divers prepping for gate slot dive to connect rigging for removal



D&D Progress

Divers work location



D&D Progress



Unit 3 gate #4 being removed



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

Unit 3 Turbine Building

Before



After



Before

D&D Progress - Unit 2 Turbine Building



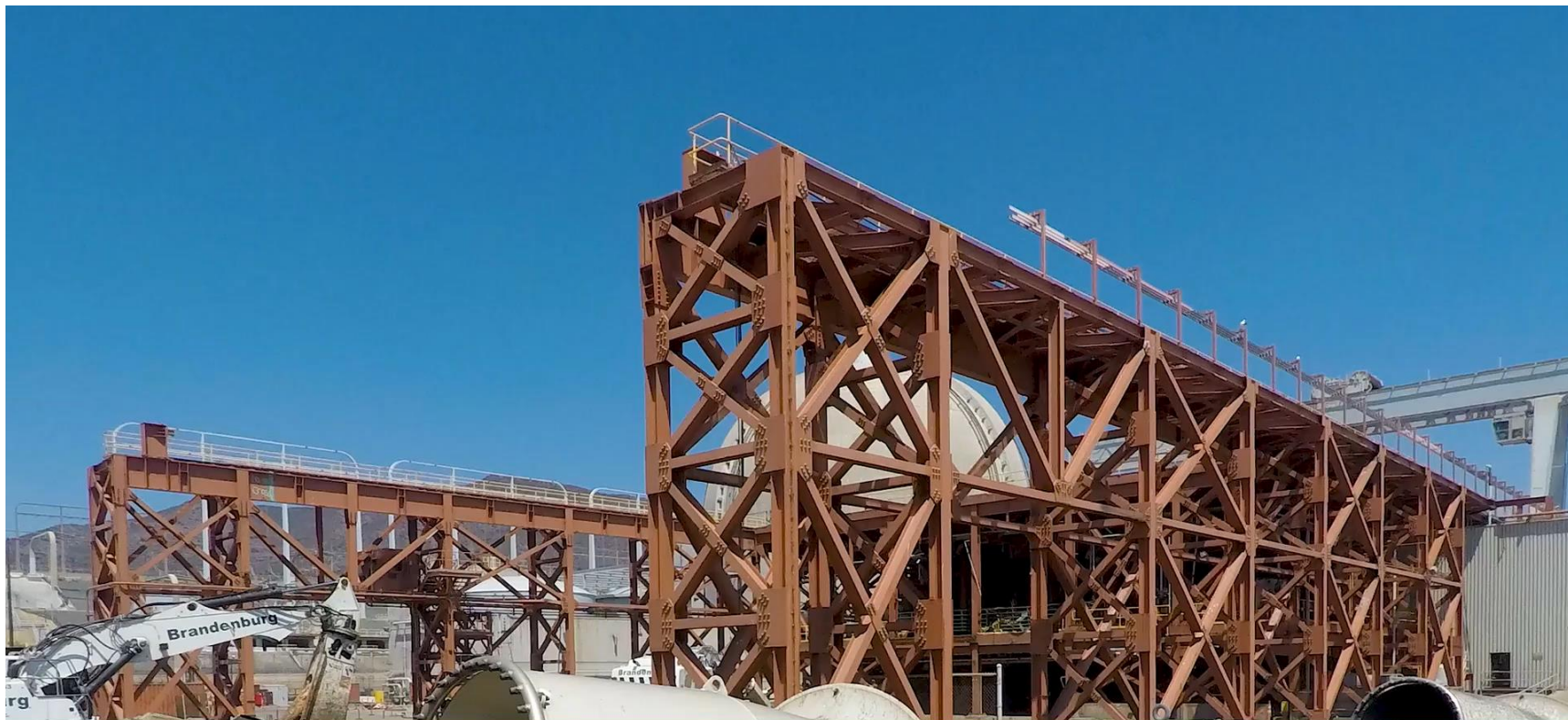
After



D&D Progress – Turbine Building



Liebherr 984 extended reach excavator is used for turbine deck dismantlement





Waste Management

Waste Management Overview

Estimated Waste Generation

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

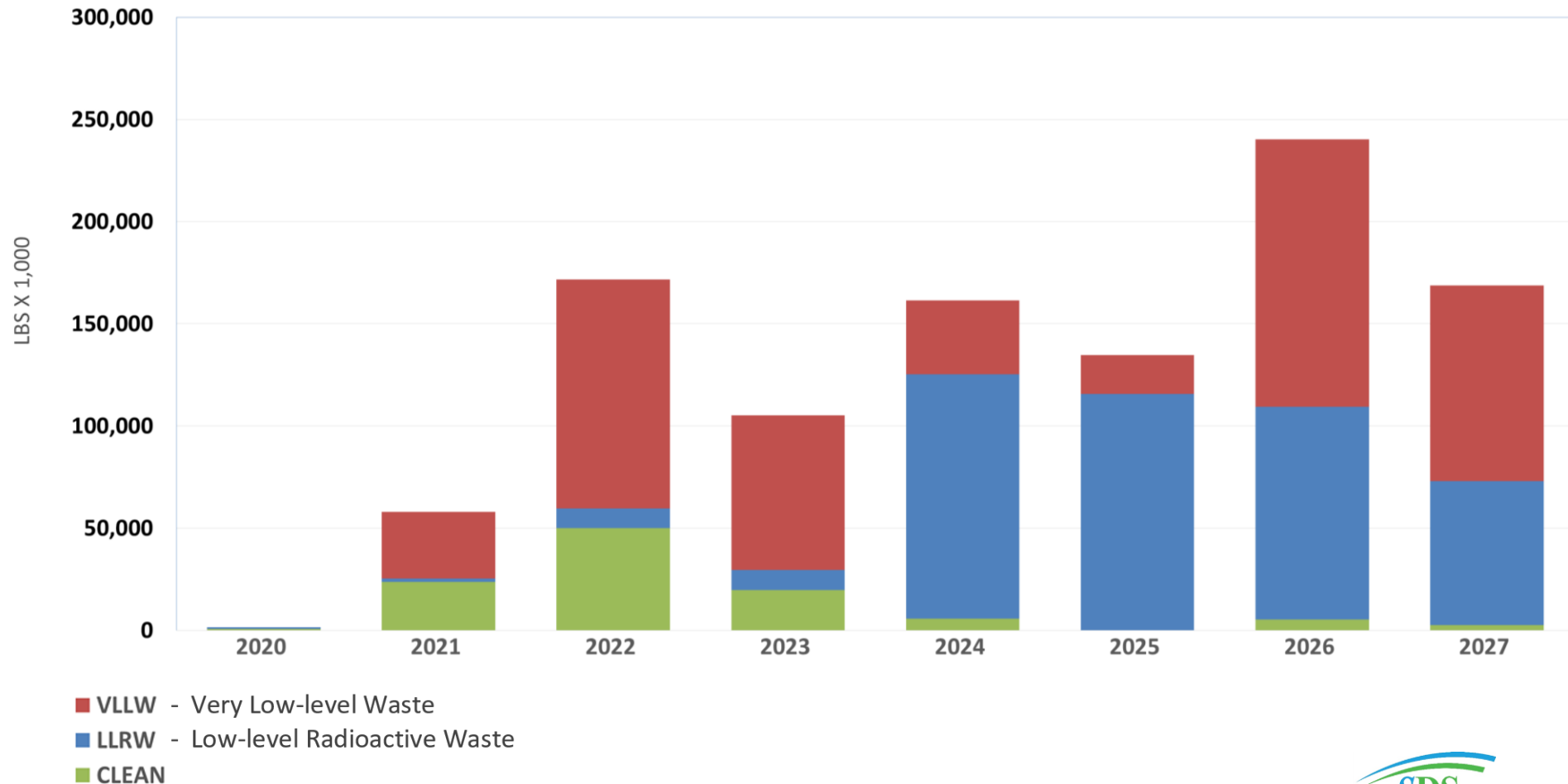
Estimated Waste Shipment*

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

**Shipments may change with schedule*

Waste Management Overview

SONGS: CUMULATIVE WASTE SHIPPING BY YEAR
(LBS)



Waste Characterization, Generation, Packaging and Shipping Process

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



All waste is processed in compliance with Department of Transportation and Nuclear Regulatory Commission regulations

Waste Management Overview

(Millions)

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

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

Waste Management Overview

Site Improvements

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



Railcars awaiting shipment to *EnergySolutions* in Clive, Utah, for disposal



Signs of Progress





Environmental Stewardship

Environmental Stewardship

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



Environmental Stewardship

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



Environmental Stewardship

- Field monitoring
 - Perimeter dust monitoring
 - Field air monitoring during excavation



Volatile organic monitoring during soil excavation



Regulatory visit observing installation of monitoring well



Perimeter air monitor

Environmental Stewardship

- Demolition dust control
 - Water applied during demolition
 - Street sweeping



Environmental Stewardship

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



D&D Progress – Environmental



Project Environmental Coordinator, confirming no mammal entrainment in Unit 2 forebay

SAN ONOFRE
COMMUNITY
ENGAGEMENT
PANEL

BREAK

Public Comment

David Victor

Directions for the public comment period:

1. To submit comments in writing or sign-up to speak:
 - Use the [CEP Public Comment Form](#)
 - Dan Stetson and Martha McNicholas facilitate public dialogue

Public Comment

Sign up to speak using the [CEP Public Comment Form](#)



3:00

CLOSING COMMENTS

DOUG BAUDER



KEY TAKEAWAYS

DAVID VICTOR



2022 CEP Meeting Schedule

(subject to change)

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

Thank you
Stay safe and healthy

Acronyms

ACM	Asbestos Containing Material
AHSM	Advanced Horizontal Storage Module
ALARA	As Low As Reasonably Achievable
AMP	Aging Management Program
ASME	American Society of Mechanical Engineering
C&D	Cold & Dark
CAP	Corrective Action Program
CCC	California Coastal Commission
CDP	Coastal Development Permit
CDPH	California Department of Public Health
CEC	California Energy Commission; Cavity Enclosure Container
CEP	Community Engagement Panel
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH&S	Corporate Health & Safety
CIS	Consolidated Interim Storage
CNO	Chief Nuclear Officer
CPEN	Camp Pendleton
CPUC	California Public Utilities Commission
CSLC	California State Lands Commission
D&D	Decontamination & Dismantlement
DA	Decommissioning Agreement; Decommissioning Agent
DCE	Decommissioning Cost Estimate
DGC	Decommissioning General Contractor
DGCL	Derived Concentration Guideline Levels
DID	Defense-in-Depth
DOE	Department of Energy
DoN	Department of Navy
DPH	Department of Public Health

DSAR	Defueled Safety Analysis Report (replaces FSAR)
DSC	Dry Storage Canister
D-SEIS	Draft Supplemental Environmental Impact Statement
D-SER	Draft Safety Evaluation Report
DSFM	Division of Spent Fuel Management (NRC)
DTF	Decommissioning Trust Fund
DTSC	Department of Toxic Substances Control
EAL	Emergency Action Level
EH&S	Environmental, Health & Safety
EIR	Environmental Impact Report (under CEQA)
EIS	Environmental Impact Study (under NEPA)
EP	Emergency Plan
EPA	Environmental Protection Agency
EPRI	Electric Power Research Institute
ERO	Emergency Response Organization
ET	Experts Team
FA	Fuel Assembly
FEIR	Final Environmental Impact Report
FERC	Federal Energy Regulatory Commission
FSAR	Final Safety Analysis Report
FSS	Final Status Surveys
FSSR	Final Status Survey Report
FTO	Fuel Transfer Operations; Field Training Officer
GTCC	Greater Than Class C (Waste)
HAZ	Heat Affected Zone
HI-TRAC	Holtec International Transfer Cask
Hi-PORT	Holtec International Transporter
HI-STORM	Holtec International Storage Module
HSM	Horizontal Storage Module

Acronyms

IOEP	ISFSI-Only Emergency Plan
IPC	Interjurisdictional Planning Committee
IRMS	ISFSI Radiation Monitoring System
ISA	Industrial Security Area
ISFSI	Independent Spent Fuel Storage Installation
LAR	License Amendment Request
LOED	Large Organism Exclusion Device
LTP	License Termination Plan
MARSSIM	Multi-Agency Radiation Survey Site & Investigation Manual
MOU	Memorandum of Understanding
MPC	Multi-Purpose Canister
NDTF	Nuclear Decommissioning Trust Fund
NEI	Nuclear Energy Institute
NEPA	National Environmental Policy Act
NOP	Notice of Preparation
NOV/IO	Notice of Violation and Investigative Order
NPDES	National Pollutant Discharge Elimination System
NPP	Nuclear Power Plant
NRC	Nuclear Regulatory Commission
NTP	Notice to Proceed
NUREG	Nuclear Regulation
OC	Orange County
O&M	Operation & Maintenance
OE	Operating Experience
OSHA	Occupational Safety & Health Administration
PA	Protected Area
PDEP	Permanently Defueled Emergency Plan
PDTs	Permanently Defueled Technical Specifications
PPE	Personal Protective Equipment

PSDAR	Post-Shutdown Decommissioning Activities Report
Q&A	Questions and Answers
REIR	Request for Environmental Impact Review
REMP	Radiological Environmental Monitoring Program
RCP	Reactor Coolant Pump
RP	Radiological Protection
RPV	Reactor Pressure Vessel
RSI	Request for Supplemental Information
RV	Reactor Vessel
RVI	Reactor Vessel Internals
RWQCB	Regional Water Quality Control Board
SCE	Southern California Edison
SD	San Diego
SDDEH	San Diego Department of Environmental Health
SDS	SONGS Decommissioning Solutions
SFP	Spent Fuel Pool; Support Foundation Pad (ISFSI)
SFPI	Spent Fuel Pool Island
SLC	State Lands Commission (CA)
SLR	Sea Level Rise
STP	Sewage Treatment Plant
T&D	Transmission & Distribution
TBA	To Be Announced
TBD	To Be Determined
TEDE	Total Effective Dose Equivalent
UFSAR	Updated Final Safety Analysis Report
UT	Ultrasonic Testing
UU	Unrestricted Use
VCT	Vertical Canister Transporter
WHI	Wheeler North Reef (Marine Mitigation)