Status of Spent Fuel Storage at Diablo Canyon

Al Bates, Director, Nuclear Fuel and Decommissioning

Decommissioning Engagement Panel

- Spent Fuel in Wet Storage and Dry Storage
- Storage scenarios for shutdown in 2025, 2030, and beyond

Diablo Canyon Power Plant

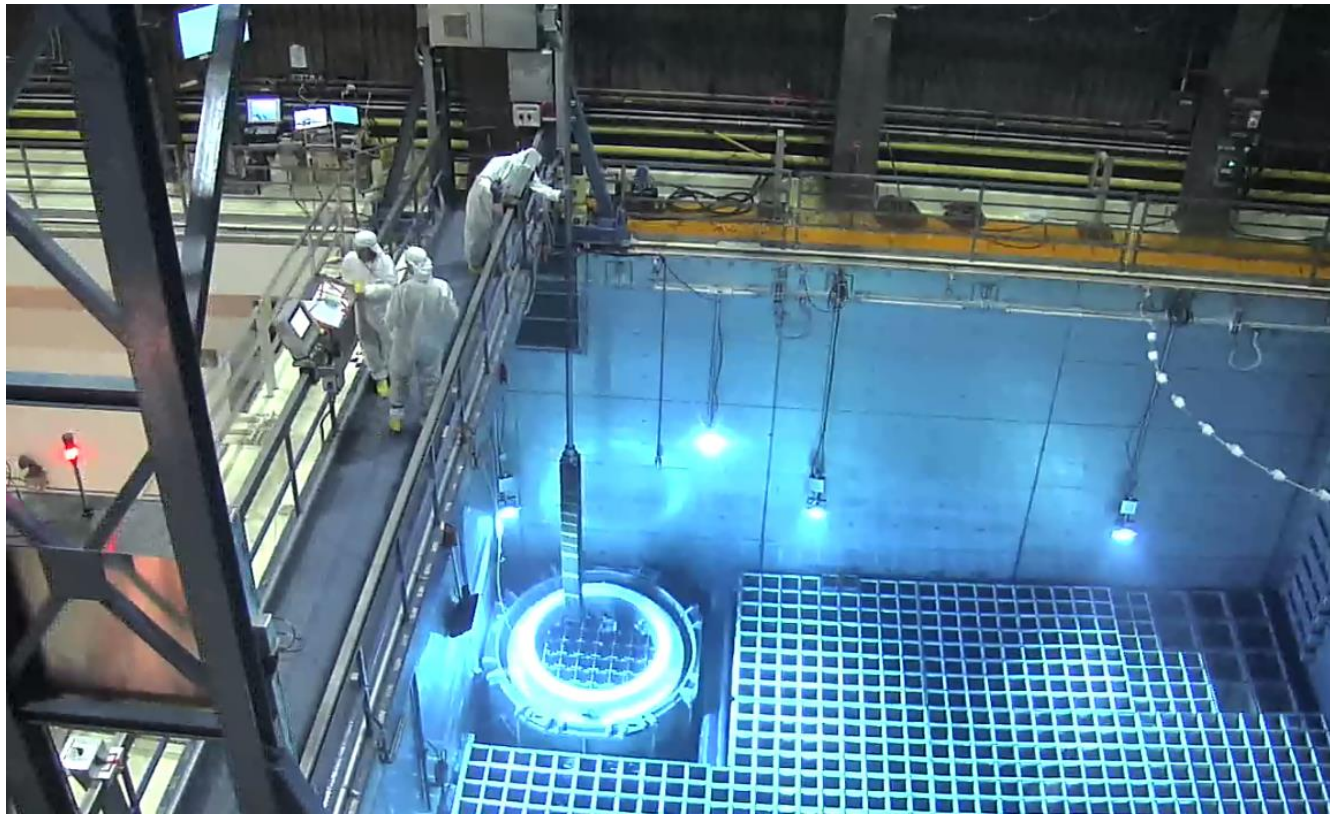
Generating Excellence

September 18, 2024

Used Fuel Storage at Diablo Canyon Power Plant

Wet storage in spent fuel pool

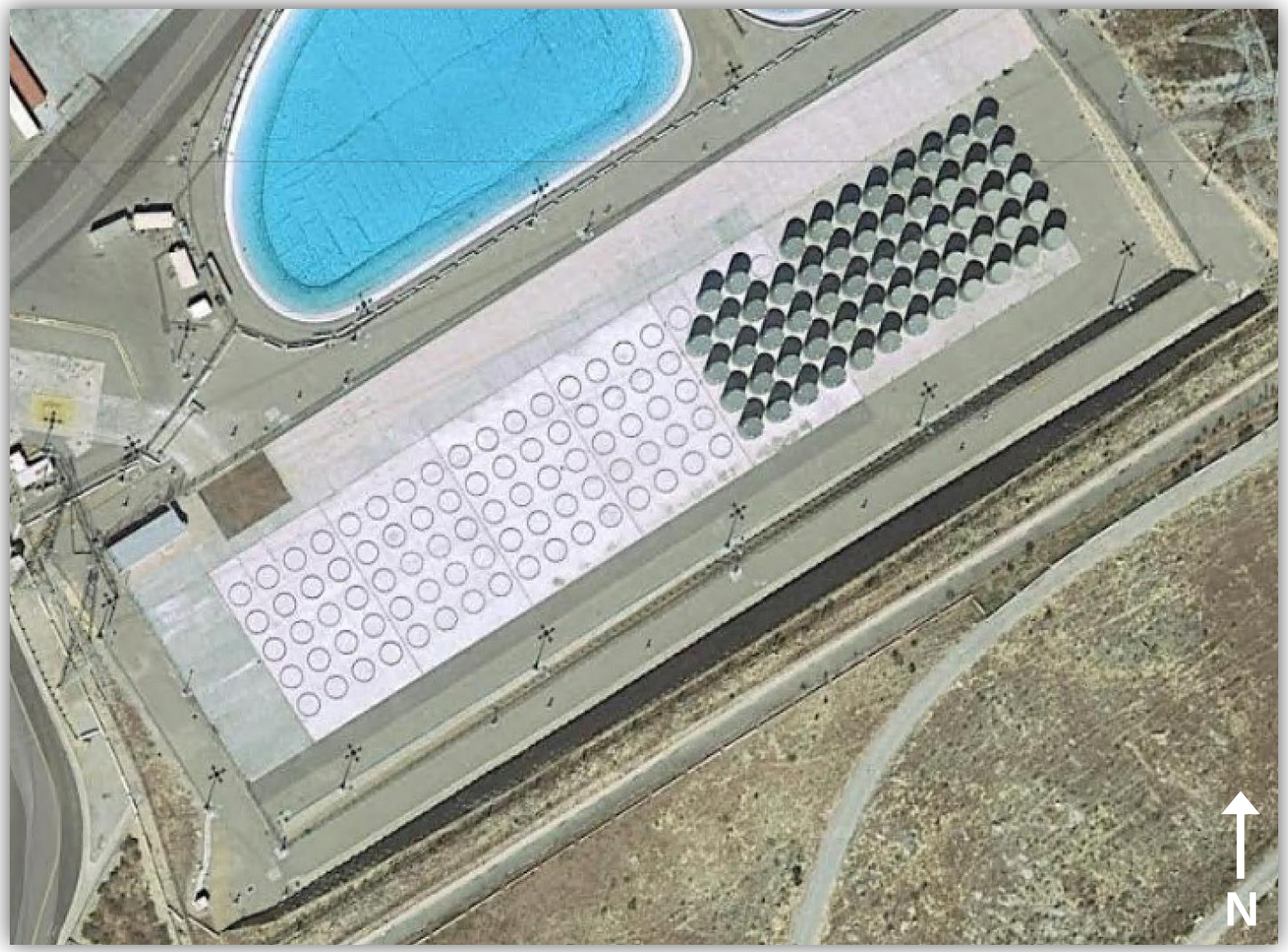
- Each unit has a spent fuel pool
- Enough space for 20 years' worth of used fuel
- Periodically, some of the used fuel is transferred to dry storage at the ISFSI.
- This frees up space to allow a full-core offload, a requirement of DCPP's license to operate



Overview of ISFSI

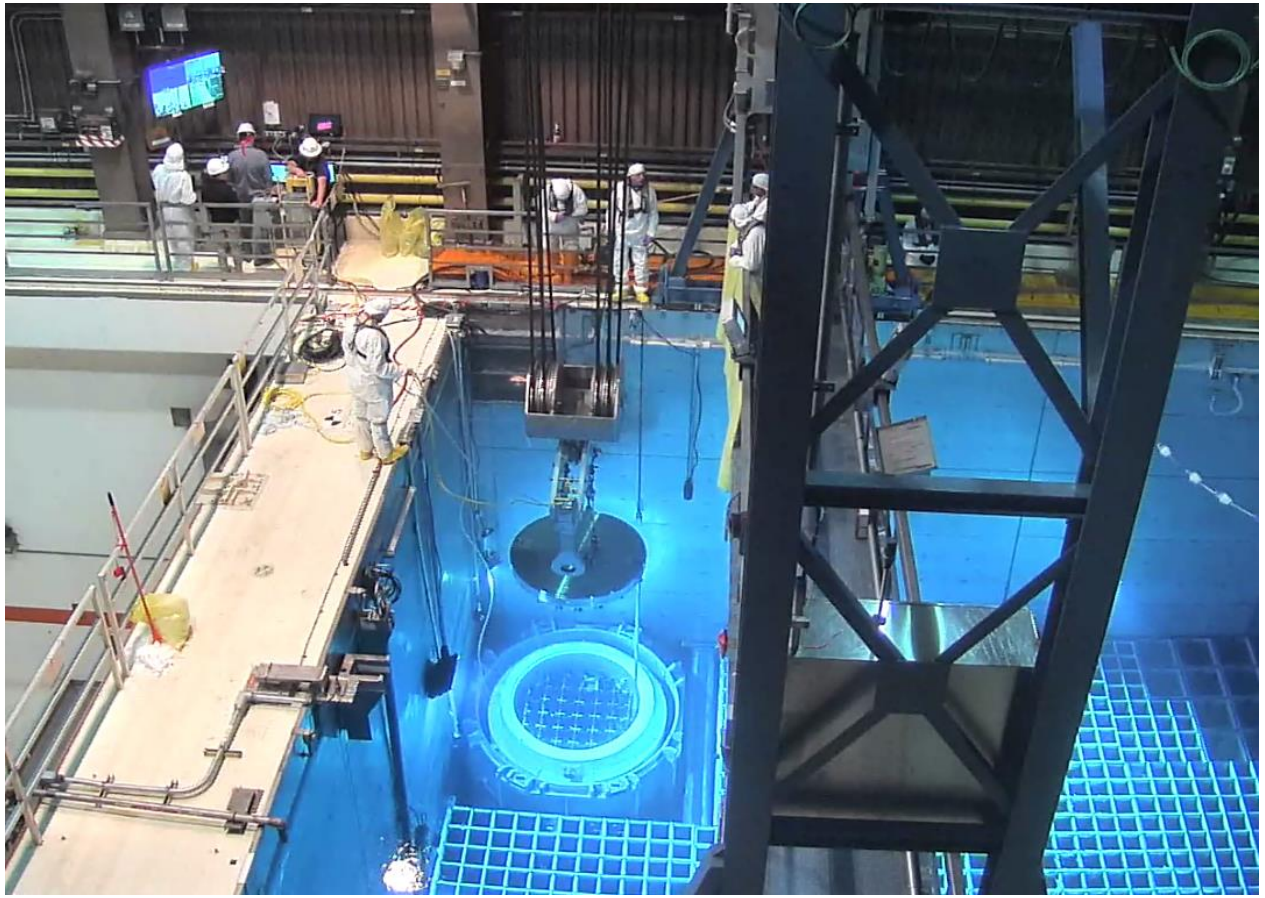
Independent Spent Fuel Storage Installation

- Sized to store all fuel through the end of the DCPP current operating licenses (2024/2025), with an additional 20 years storage in the pools.
- DCPP has safely completed seven loading campaigns since 2009
- As of today: 65 storage casks- which includes 7 casks from current on-going campaign (2,080 used fuel assemblies).
- 2024 (8th) campaign (underway) adds 12 casks (384 used fuel assemblies). 5 more casks to go. At the end of the campaign, ISFSI will contain a total of 70 casks (2240 used fuel assemblies).

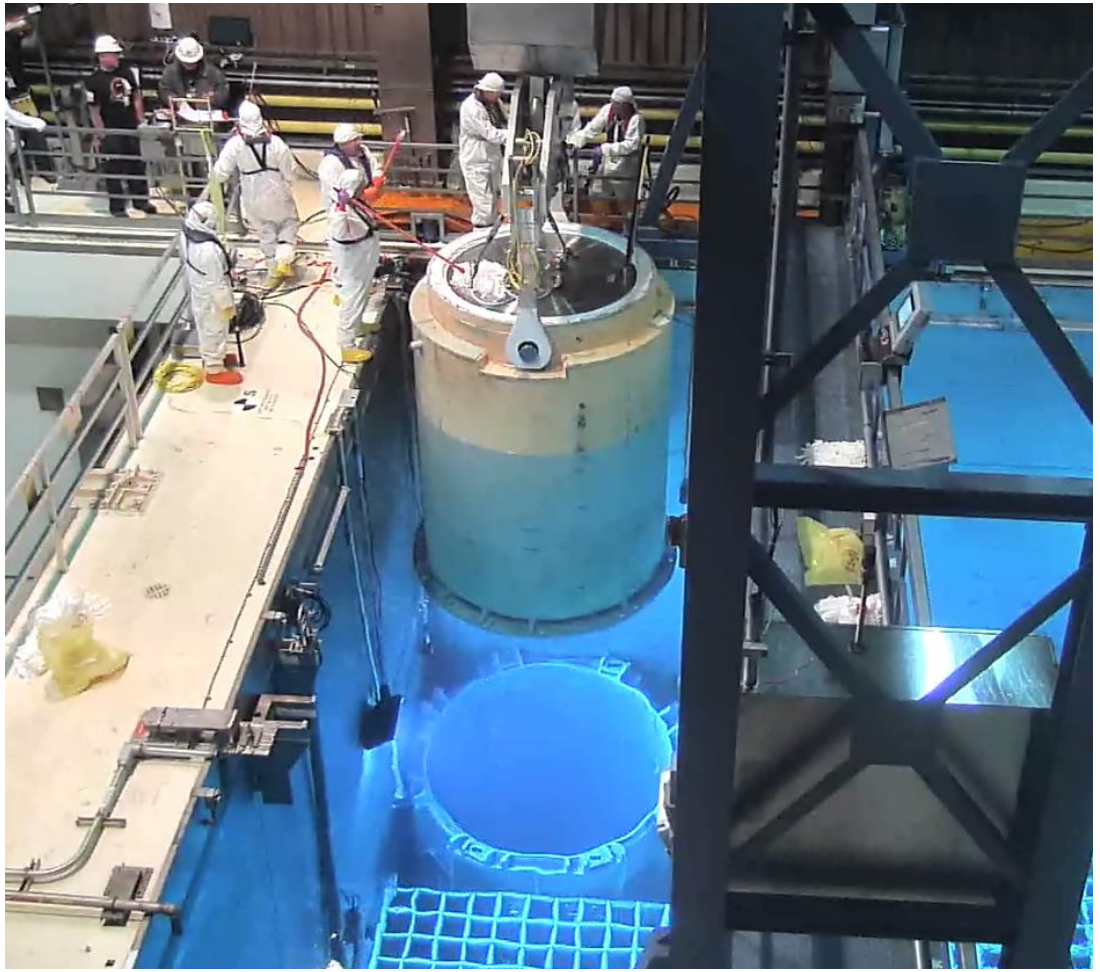


Overview of Loading Campaign

Installing the MPC Lid After Completion of Fuel

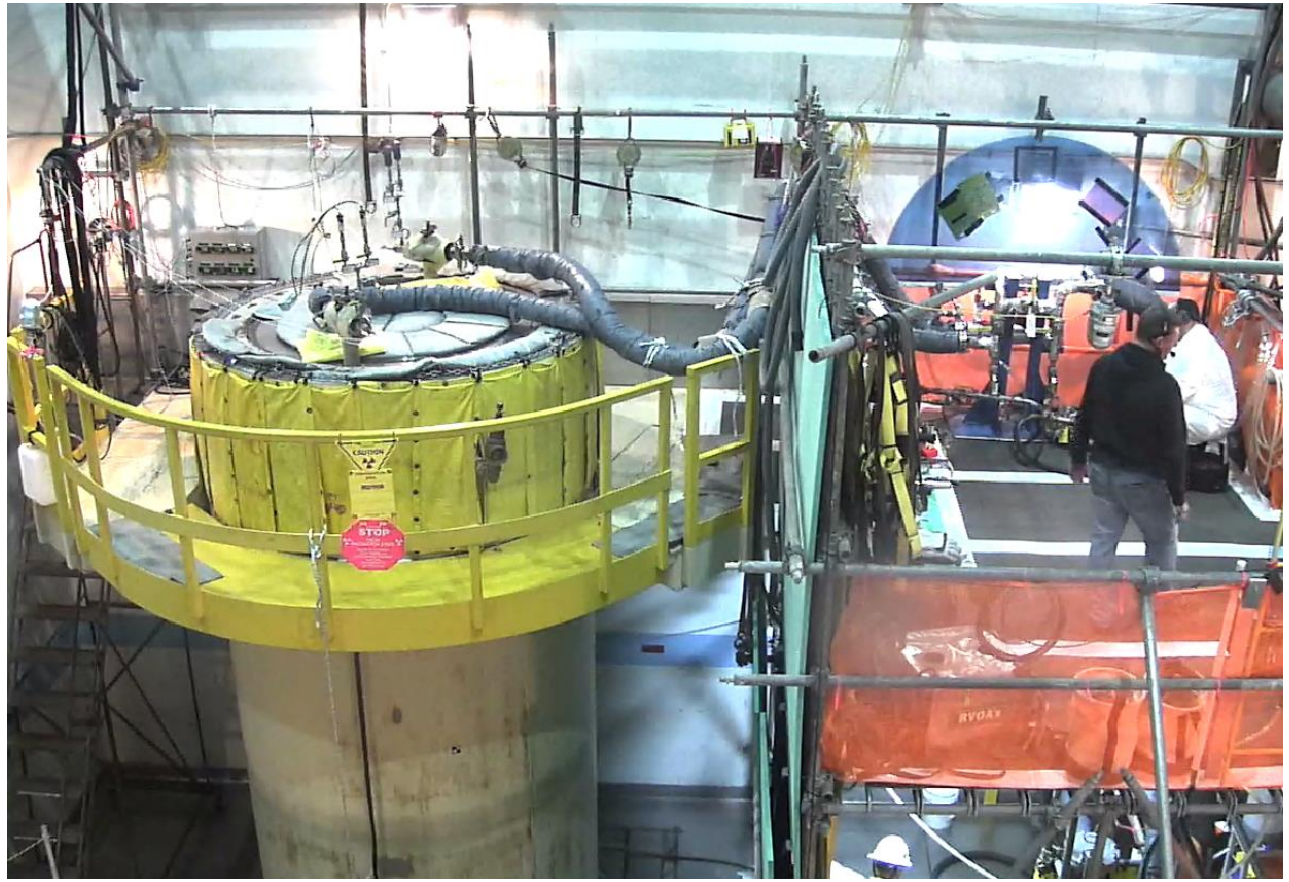


Removing the Transfer Cask from Spent Fuel Pool with Loaded MPC-

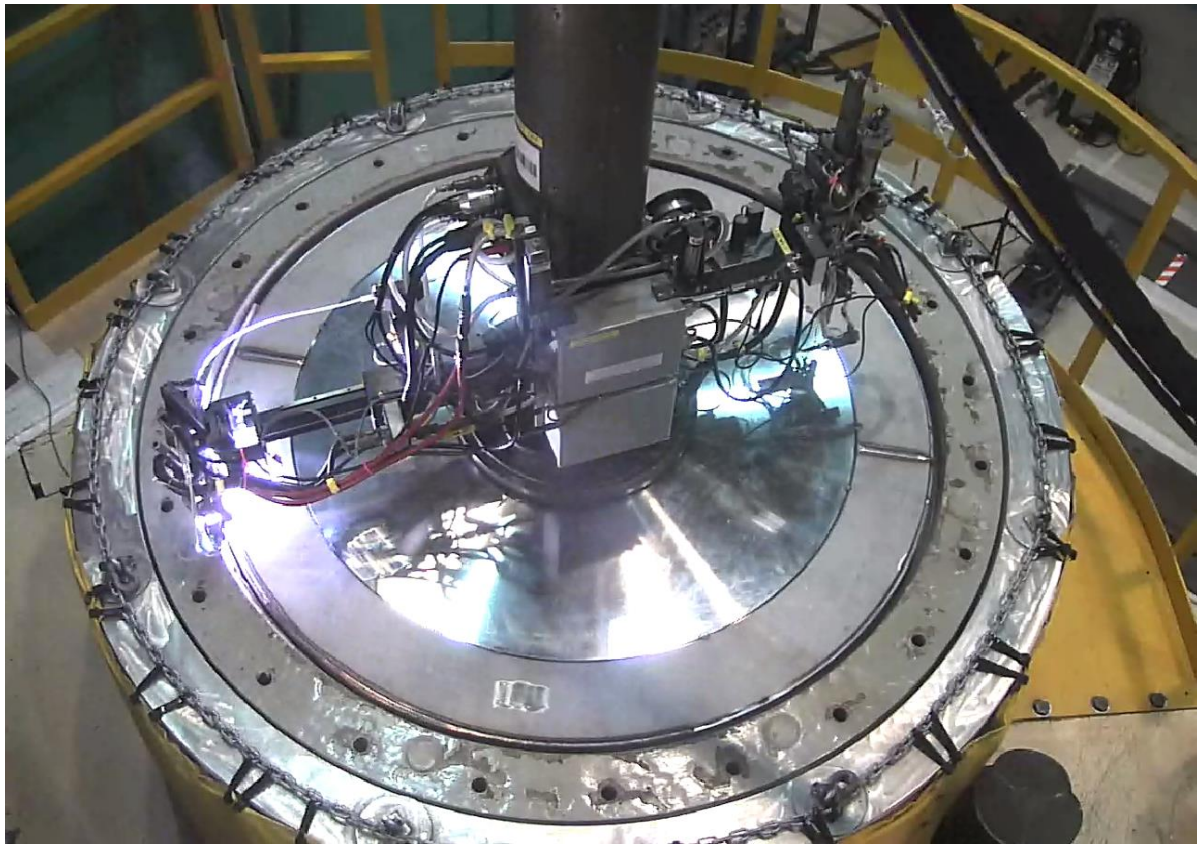


Overview of Loading Campaign

Loaded Transfer Cask in Seismic Restraint for Welding, Dehydration and Helium Backfill

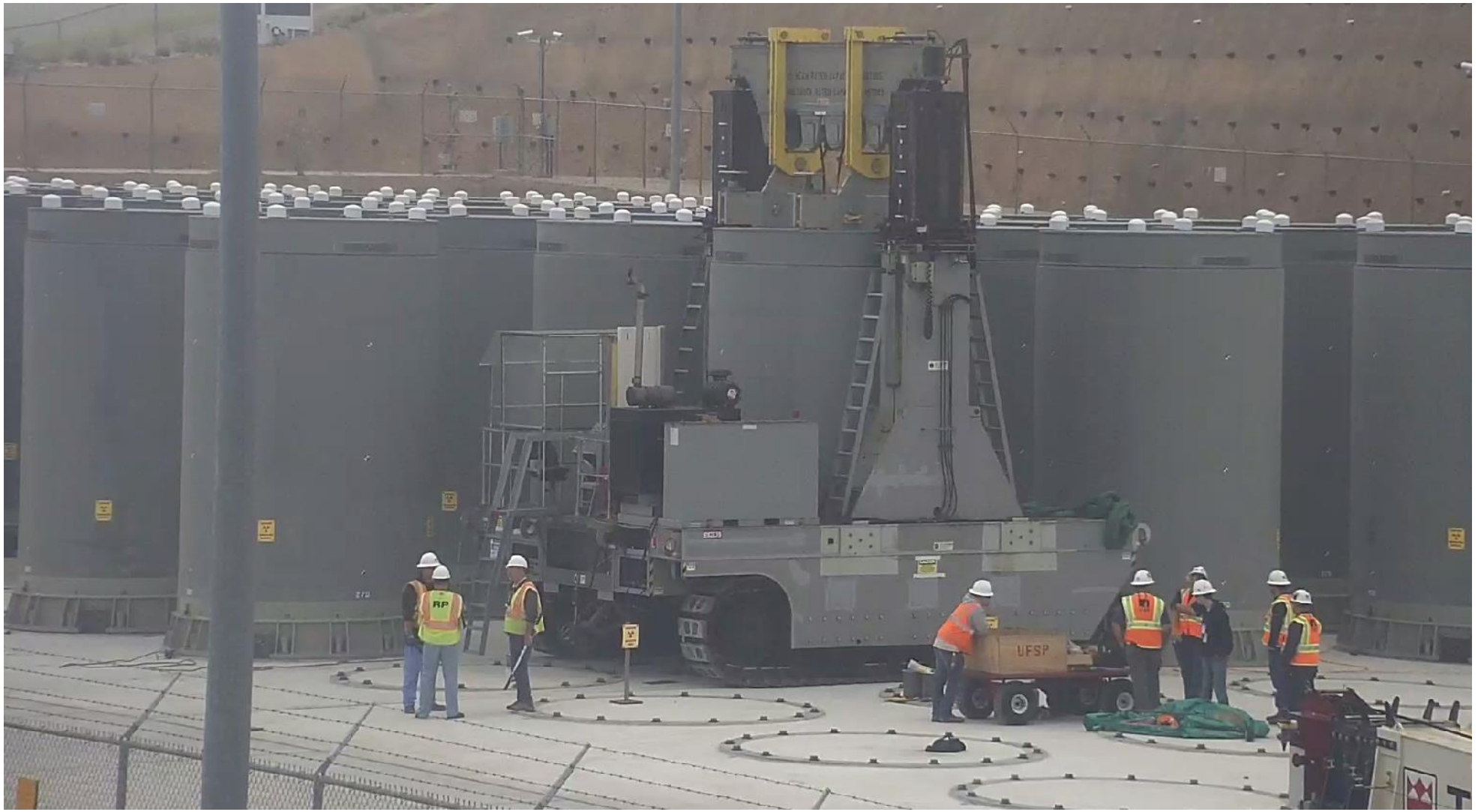


Automated MPC Closure Welding



Overview of Loading Campaign

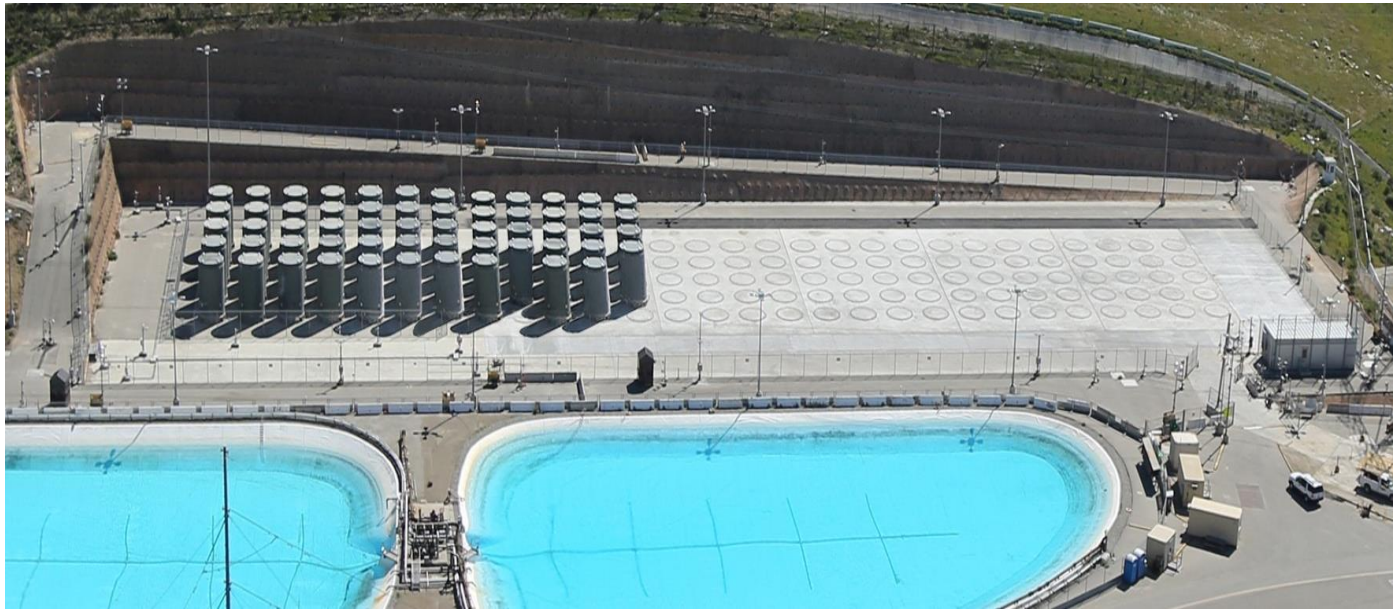
Installing and Anchoring the Loaded Storage Cask on ISFSI Pad



Used Fuel Storage

- **Wet storage** – in the spent fuel pools
- **Dry storage system**, the ISFSI

Future: Offload used fuel assemblies to Department of Energy (as required by contract)



Used Fuel Storage

DCPP has enough used fuel storage for 60-years worth of plant operation

Wet storage – in the spent fuel pools

- ✓ Each refueling we place used fuel in wet storage,
- ✓ Used fuel will start being removed 2-1/2 years after entering decommissioning
- ✓ Holds up to 20 years' worth of used fuel

Dry Storage at the ISFSI

- ✓ Every 3 years or so, we move 8-12 canister to dry storage
- ✓ Holds up to 40 years' worth of used fuel

Future Option: Offload used fuel assemblies to DOE

- ✓ There is bi-partisan support for a consent-based siting program for a Consolidated Interim Storage Facility (CISF). This DOE work is underway, laying the foundation for consent-based siting, which precedes work associated with site selection.
- ✓ Used fuel has been routinely transported across the country (both commercial & defense)
- ✓ Demonstration project by DOE to transport High Burnup Fuel

Used Fuel Storage – Scenarios

Scenario A – Enter decommissioning in 2025:

- ✓Continue to place used fuel into the pools after each refueling.
- ✓Continue to periodically unload some used fuel to dry storage at ISFSI.
- ✓Unload fuel pools to dry storage to support decommissioning starting at ~2-1/2 years.

Scenario B – Enter decommissioning in 2030:

- ✓{same as Scenario A}
- ✓Continue to review and assess storage options post- decommissioning. No action is needed until closer to decommissioning start date

Scenario C – Enter decommissioning past 2030 (hypothetical)*:

- ✓{same as Scenario B}
- ✓Potential to reduce spent fuel inventory by export of used fuel to DOE.

** Current law and CPUC decision set retirement dates at October 2029 and October 2030 for Unit 1 and 2, respectively*