Proposed Expansion of Dry Storage of San Onofre Used Nuclear Fuel

Decommissioning San Onofre Nuclear Generating Station
Safety | Stewardship | Engagement

The Role of Canisters in Expediting Transfer of Used Fuel Off Site

Now that the San Onofre nuclear plant is permanently shut down, Southern California Edison (SCE) is working to ensure continued safe storage of the plant's used nuclear fuel.

SCE is unable to move the fuel to a permanent storage facility because the Department of Energy (DOE) has defaulted on its legal obligation to open such a repository. SCE agrees with community leaders who want to remove the fuel from San Onofre as soon as possible. Two key steps must be taken first:

- The fuel must be placed in dry storage canisters before it can be received by an off-site storage facility;
- DOE must provide a licensed location to accept the fuel, whether it's an interim storage facility or a permanent repository.

Today, SCE can address only one of those issues: placing San Onofre's radioactive waste in robust, steel canisters housed in a concrete structure, a technology called dry cask storage. Before that work can begin, SCE must obtain a coastal development permit from the California Coastal Commission (CCC).

The coastal commission staff recommended approval, with conditions, of the permit, finding that it would be consistent with the hazards, marine resources, water quality, and view protection policies of the Coastal Act. Following a public hearing on Oct. 6, 2015, the commission approved SCE's request for the dry storage permit. SCE's presentation to the commission included this animated overview of SCE's proposal to expand dry fuel storage.

Dry cask storage has been safely used in the U.S. for more than three decades, subject to review and licensing by the U.S. Nuclear Regulatory Commission.

Today, about one-third of San Onofre's used nuclear fuel is already in these steel and concrete containers. The other two-thirds is stored and cooled in what is called a spent fuel pool, a methodology known as wet storage. SCE plans to transfer all the used fuel in wet storage to dry cask storage by 2019.

Beyond the strong community support, SCE has identified environmental, safety, operational and financial reasons why dry storage is preferred for a decommissioning facility.

Unlike wet storage, dry storage does not require any active cooling systems. It does not produce any air emissions or discharges from operation. Dry storage enables SCE to eliminate active systems, including energized equipment and the associated maintenance, a change that enhances worker safety. Using less equipment means SCE can reduce the size of the San Onofre

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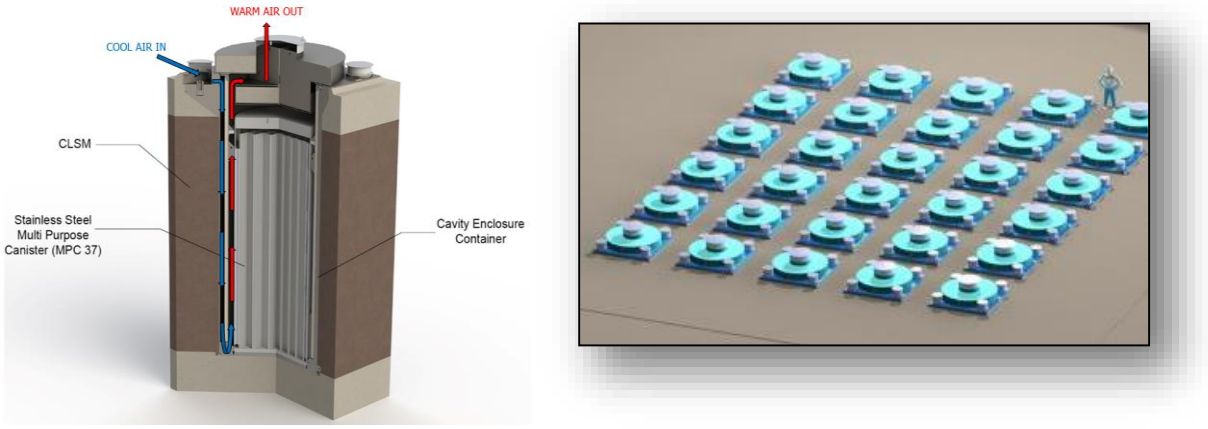
"footprint" that requires security surveillance. All of these changes set the stage for a more efficient decommissioning, and provide cost savings for customers.

SCE has chosen a partially below-ground storage system with casks made of the most corrosion resistant grade of stainless steel. The design exceeds California earthquake requirements and protects against hazards such as water, fire or tsunamis.

The casks are manufactured by a global supplier, Holtec International, which has two other nuclear fuel storage systems in California -- Humboldt Bay and Diablo Canyon. The Holtec canisters would be adjacent to the existing, horizontal dry cask storage vault supplied by Areva.



At left is a side view of the Holtec canister showing multiple layers of protection, and, at right, an aerial view of a completed Holtec dry cask storage facility.

The used nuclear fuel will remain in dry storage at San Onofre until an offsite storage location is available. SCE supports proposals to establish interim storage sites for used nuclear fuel in New Mexico and Texas until the federal government opens a permanent repository.

The San Onofre Community Engagement Panel (CEP), established by SCE to serve as a liaison to the community during decommissioning, has formally asked the California Energy Commission to advocate for interim storage options that expedite removing the used nuclear fuel from San Onofre.

Until licensed off-site storage is available, SCE will continue to do what we have done for the past 40 years -- safely manage and store San Onofre's used nuclear fuel.

Provided by Southern California Edison, Oct. 6, 2015