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Document Title:	California Coastal Commission SCE Waiver of Coastal Development Permit Requirements
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NOTICE OF COASTAL DEVELOPMENT PERMIT DE MINIMIS WAIVER

DATE: April 27, 2015 **PERMIT NO. 9-15-0162-W**

TO: Coastal Commissioners and Interested Parties

SUBJECT: Waiver of Coastal Development Permit Requirements

Based on the plans and information submitted by the applicant for the development described below, the Executive Director of the Coastal Commission hereby waives the requirements for a coastal development permit (CDP), pursuant to Section 30624.7 of the California Coastal Act.

Applicant(s): Southern California Edison Company
1218 South 5th Ave.
Monrovia, CA 91016

Project Background: Southern California Edison Company (SCE) proposes to install an independent cooling system to serve the existing spent fuel pools at Units 2 and 3 of the San Onofre Nuclear Generating Station (SONGS), near Camp Pendleton, in San Diego County. The proposed "spent fuel pool island" (SFPI) system is a stand-alone cooling system that would dissipate the heat generated by spent nuclear fuel submerged in large pools inside the SONGS spent fuel handling buildings. The SFPI system would allow the spent fuel pools to be isolated from the existing once-through-cooling system, which depends on the intake of seawater from the Pacific Ocean. The proposed project represents a preliminary step in the decommissioning of SONGS Units 2 and 3, and would provide an alternate system for spent fuel cooling while eliminating the plant's use of ocean cooling water, consistent with the State of California's Once-Through Cooling Water Policy.[1]

SCE permanently ceased operation of SONGS Units 2 and 3 in June 2013 and has begun the process of plant decommissioning. Prior to initiating formal decommissioning activities, which include the decontamination and dismantling of major structures (e.g., generating units and containment buildings, spent fuel pools and buildings, cooling water intake and discharge conduits, etc.), SCE must undertake several preliminary projects to enable decommissioning to proceed.

[1] Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling, effective Oct. 1, 2010. http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/policy.shtml

SCE has stated that the proposed SFPI system would facilitate plant decommissioning because it is smaller, simpler and more localized (to the spent fuel areas) than the existing once-through cooling system, and would enable the eventual decommissioning of the Units 2 and 3 seawater intake structures. SFPI systems have been installed at other U.S. plants in various stages of decommissioning. In the present "defueled" state of Units 2 and 3, the heat load in the spent fuel pools is significantly lower than if freshly offloaded fuel was still being added to the pools. The SFPI system would have a cooling capacity roughly twice that required to handle the current heat load, and thus can provide an interim system for spent fuel cooling until the fuel can be transferred to dry cask storage. An independent spent fuel storage installation (ISFSI), approved by the Coastal Commission in 2001 (CDP# E-00-014), exists on the SONGS site. SCE is separately applying for a CDP for a new ISFSI to accommodate all the nuclear fuel currently stored in the spent fuel pools.

Federal pre-emption: The construction and operation of new facilities at SONGS are subject to the approval and oversight of the federal Nuclear Regulatory Commission (NRC) pursuant to NRC regulations. The NRC has exclusive jurisdiction over radiological aspects of the proposed project. The state is preempted from imposing upon operators of nuclear facilities any regulatory requirements concerning radiation hazards and nuclear safety. The state may, however, impose requirements related to other issues. The U.S. Supreme Court, in *Pacific Gas and Electric Company v. State Energy Commission, 461 U.S. 190, 103 S.Ct. 1713 (1983),* held that the federal government has preempted the entire field of "radiological safety aspects involved in the construction and operation of a nuclear plant, but that the states retain their traditional responsibility in the field of regulating electrical utilities for determining questions of need, reliability, costs, and other related state concerns." The Coastal Commission findings herein address only those state concerns related to conformity to applicable policies of the Coastal Act, and do not evaluate or condition the proposed project with respect to nuclear safety or radiological issues.

Project Description: The SFPI cooling systems (one for each of the two spent fuel pools) would be composed of two separate water loops designed to transfer heat from the spent fuel pool to the atmosphere. The primary loop, which includes the spent fuel pools themselves, would continue to operate as it does at present. Water would be circulated from the spent fuel pools to the primary side of a heat exchanger and then back to the pool. The only proposed changes affecting the primary loop are the installation of a new heat exchanger and the addition of new piping and water circulation pumps; no alterations would be made to the existing spent fuel pools.

The secondary loop of the proposed system would replace the existing seawater cooling system. Water would be circulated in a closed loop from the heat exchanger to a set of 200-ton electric chillers which would dissipate the transferred heat to the atmosphere. Schematic diagrams of the existing and proposed spent fuel pool cooling systems are shown in **Exhibit 1**.

The proposed SFPI system includes the following major components:

- Four 200-ton industrial electric chillers (19 ft L x 8 ft W x 8.5 ft H) (Trane, 2.4 million BTU/hour capacity per unit);
- Two plate frame heat exchangers (Alfa Laval, 3.0 million BTU/hr capacity per unit);
- Two shipping containers (20 ft L x 8 ft W x 8.5 ft H) housing four new water pumps and piping necessary to circulate water through the system;
- Approximately 100 feet of pre-fabricated stainless steel piping to connect the spent fuel pools to the chillers (50% to be installed within the existing spent fuel buildings);
- Water purification filters, added as a side-branch to the primary loop;
- New instrumentation to monitor temperature, pressure, and flow within the SFPI systems and allow for the detection of leaks.

The new equipment would be installed in and around the existing spent fuel pool buildings within the SONGS protected area. The chillers and shipping containers would be placed immediately behind the spent fuel buildings, as shown in **Exhibit 2**.

Under normal operations, two chillers would serve each spent fuel pool. However, the current heat load of the spent fuel pools requires that only three chillers be operational at a given time, decreasing to two chillers in about a year as the spent fuel continues to cool. The four installed chillers would be cross-tied to take advantage of this extra capacity, allowing for operational flexibility and back-up capability in the event that one chiller (and later, two chillers) needs to be taken offline for repairs. The chillers would be secured on reinforced concrete pads, the installation of which may require a minor amount of excavation in order to create a stable foundation. Excavated material would be repurposed onsite or disposed of at an offsite location.

Water used in the spent fuel pools and primary cooling loops would continue to be supplied from the plant's existing demineralized water system. Evaporation from the spent fuel pools currently requires the addition of approximately 900 gallons per week to the primary loop. The new secondary cooling loops would recirculate fresh water (treated with a corrosion inhibitor) provided by the local municipal water system. The secondary loops would require an initial system fill of approximately 1000 gallons, and would be replenished only if needed during maintenance.

The SFPI system is proposed to be installed beginning in late April, 2015.

Waiver Rationale: For the following reasons, the proposed project will not have a significant adverse effect, either individually or cumulatively, on coastal resources, nor will it conflict with Chapter 3 policies of the Coastal Act:

• Marine Resources: Installation of the SFPI system would replace the existing once-through cooling system, eliminating adverse impacts to marine organisms from entrainment and the discharge of used cooling water to the ocean.

• Water Quality: In order to minimize the potential for leaks of liquid containing contaminants (i.e., radioactive, borated water from the primary cooling loop), SCE would continuously

monitor SFPI system parameters (temperature, pressure, flow rate) and conduct daily inspections of critical system components, including pumps, chillers, heat exchangers and piping. If a leak were detected, the affected systems or components would be removed from service and repaired or replaced.

At present, any leakage from the primary loop is captured by the existing radioactive liquid floor drains inside the spent fuel buildings, and then collected or discharged in accordance with the existing National Pollutant Discharge Elimination System (NPDES) permit for the SONGS site. In the event of a leak from the secondary loop (containing fresh water treated with anti-corrosion agents) in an area outside the spent fuel buildings, SCE would implement existing spill response measures and BMPs, including damming and diverting strategies, designed to contain the leak and prevent fluids from entering the yard drain system. Any liquid entering the drains would be collected and/or discharged in accordance with NPDES permit provisions. Thus, the proposed project would not change existing practices or result in an increase in pollutant discharges to the ocean above currently-permitted levels.

During construction and possible excavation, site-specific best management practices would be used to control dust and loose soil, and to contain any potential runoff within the working area. All storm drains will be covered during construction to prevent runoff and sediment from entering the system.

- Sensitive Habitats and Species: The proposed project would occur entirely within developed areas of the SONGS site, distant from any sensitive habitats or species.

- Geologic Hazards & Structural Integrity: All equipment and piping systems installed as part of the proposed project would be supported in accordance with the California Building Code. However, SCE has indicated that the SFPI systems could require repair or restoration following a major earthquake. In order to facilitate such repairs, SCE proposes to maintain a supply of replacement parts on site. Any liquid leaks resulting from a seismic event would be contained and handled as described above.

  In the event of a total cooling system failure, SCE has indicated that under the current heat load it would take approximately five days for the spent fuel pools to reach a temperature of 200 ºF, affording time to make repairs. Additionally, in a more sustained emergency SCE would implement one of several existing contingency plans for supplying fresh cooling water to the spent fuel pools (e.g., via fixed or portable pump systems drawing on several emergency water sources).

  The new equipment proposed as part of the SFPI system would be located approximately 475 feet inland of the existing SONGS seawall at 31 feet above sea level (mean lower low water), above the projected inundation elevation for a suite of extreme tsunami events recently evaluated by the California Emergency Management Agency.

- Visual Resources: The project site is situated at an elevation below that of the public roads inland of SONGS. The proposed structures and equipment would be installed inside or adjacent to larger existing buildings in a heavily industrialized area. Thus, the project

would not block views to or along the coast or alter the visual character of the SONGS site.

• Public Access: The SFPI system would be located within the SONGS perimeter. No loss of coastal access would occur, and no adverse impacts to traffic on coastal access roads would occur during project construction.

Important: This waiver is not effective unless the project site has been posted and until the waiver has been reported to the Coastal Commission. This waiver is proposed to be reported to the Commission at the meeting of May 13-15, 2015, in Santa Barbara. If four or more Commissioners object to this waiver, a coastal development permit will be required.

Sincerely,

CHARLES LESTER
Executive Director

By:

JOSEPH STREET
Environmental Scientist
Energy, Ocean Resources & Federal Consistency Division

Attachments:

Exhibit 1 – Schematic diagram of existing and proposed spent fuel pool cooling systems

Exhibit 2 – Aerial photograph showing proposed location of chillers and shipping containers behind the existing spent fuel buildings

Exhibit 1a: SONGS Existing Seawater Once-Through Cooling System

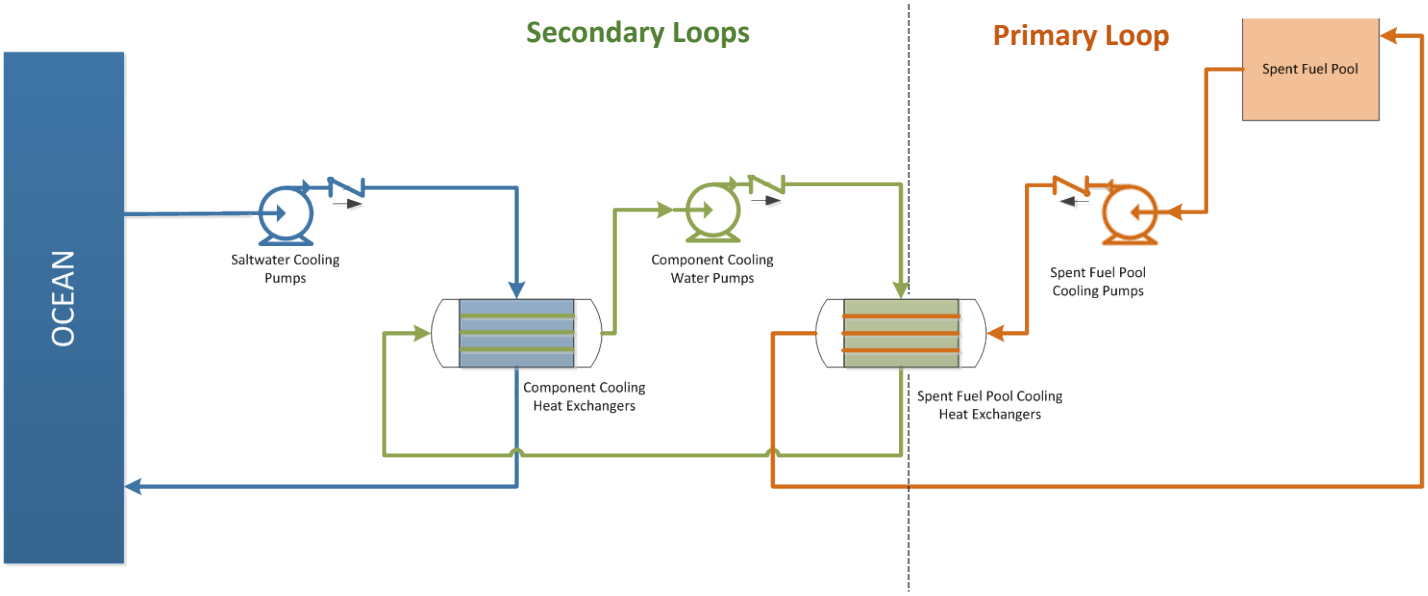

Exhibit 1b: SONGS Proposed Spent Fuel Pool Island Cooling System

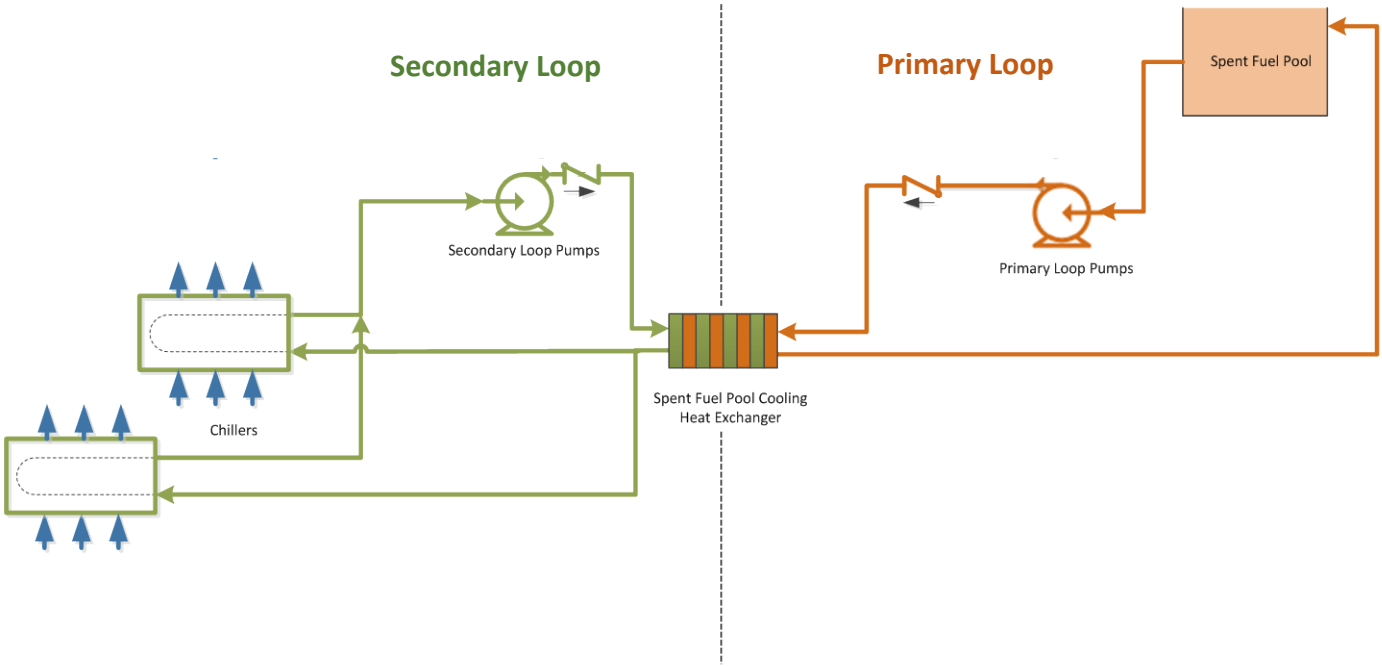

Exhibit 1
Application No. 9-15-0162-W
Southern California Edison
Cooling System Schematics

Exhibit 2: Proposed Project Location

Exhibit 2
Application No. 9-15-0162-W
Southern California Edison
Location of Project on SONGS Site