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CONTROL NO: 5872

FILE

FROM: Southern Calif. Ed. Co. Rosemead, Calif. 91770 O.J. Ortega	DATE OF DOC: 10-20-72	DATE REC'D 10-27-72	LTR X	MEMO	RPT	OTHER
TO: DRL	ORIG 1 signed	CC	OTHER	SENT AEC PDR ✓ SENT LOCAL PDR ✓		
CLASS: <u>U</u> PROP INFO	INPUT	NO CYS REC'D 1	DOCKET NO: 50-361 <u>50-362</u>			

DESCRIPTION: Ltr re our 9-26-72 ltr....Ltr submitted as a report on proposed design of criteria for possibility of flooding affecting the performance of safety-related equipment.... furnishing addl info to PSAR .....

ENCLOSURES:

**ACKNOWLEDGED**

**DO NOT REMOVE**

PLANT NAMES: San Onofre Units 2 & 3

FOR ACTION/INFORMATION

DL 10-30-72

BUTLER(L) W/ Copies	SCHWENGER(L) W/ Copies	SCHEMEL(L) W/ Copies	KNIGHTON(E) W/ Copies
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MUNTZING/STAFF	✓MACCARY	✓GAMMILL	SMILEY	G. WILLIAMS	E
✓CASE	✓LANGE (2)	KASTNER	NUSSBAUMER	E. GOULBOURNE	L
✓GIAMBUSSO	✓PAWLICKI	BALLARD		A/T IND	
BOYD-L(BWR)	✓SHAO	FINE	LIC ASST.	BRATTMAN	
✓DEYOUNG-L(PWR)	✓KNUTH		SERVICE	SALTZMAN	
SKOVHOLT-L	✓STELLO	ENVIRO	MASON		
P. COLLINS	✓MOORE	MULLER	✓WILSON	PLANS	
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✓FILE & REGION (2)	✓TEDESCO	KNIGHTON	SMITH	✓DUBE	
MORRIS	LONG	✓YOUNGBLOOD	GEARIN		
STELLE	LAINAS	✓PROJ LEADER	DIGGS	INFO	
	BENAROYA	<i>Frøelich</i>	TEETS	C. MILES	
		REGAN	LEE		

EXTERNAL DISTRIBUTION

- ✓1-LOCAL PDR San Clemente, Calif.
- ✓1-DTIE (ABERNATHY)
- ✓1-NSIC (BUCHANAN)
- ✓1-ASLB-YORE/ [redacted]
- ✓16-CYS ACRS [redacted] SENT TO LIC. ASST. V. WILSON ON 10-30-72
- (1)(5)(9)-NATIONAL LAB'S
- 1-R. CARROLL-OC, GT-B227
- 1-R. CATLIN, A-170-GT
- 1-CONSULTANT'S NEWMARK/ [redacted]
- ✓1-PDR-SAN/LA/ [redacted]
- ✓2-GERALD LELLOUCHE BROOKHAVEN NAT. LAB
- 1-AGMED (WALTER KOESTER, Rm C-427, GT)
- 1-RD...MULLER...F-309GT

## Southern California Edison Company

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October 20, 1972

TELEPHONE  
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O. J. ORTEGA  
MANAGER OF  
GENERATION ENGINEERING  
& CONSTRUCTION

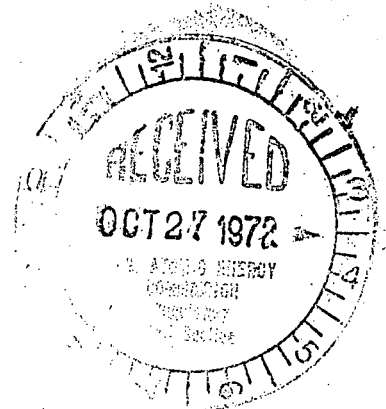
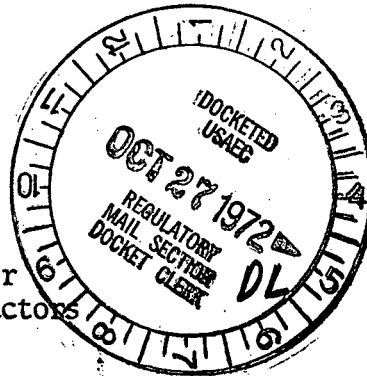
SCE File Nos. S023-A.3.01.19  
S023-A.5.09.1  
S023-A.5.09.3

Directorate of Licensing  
U. S. Atomic Energy Commission  
Washington, D. C. 20545

Attention: Mr. R. C. DeYoung  
Assistant Director for  
Pressurized Water Reactors

Gentlemen:

Subject: Docket Nos. 50-361 and 50-362  
San Onofre Nuclear Generating Station  
Units 2 and 3



Your letter of September 26, 1972 to Mr. Jack B. Moore requested that the proposed design of San Onofre Nuclear Generating Station, Units 2 and 3 be reviewed to determine whether the failure of any non-Class I (Seismic) equipment, particularly in the circulating water system and fire protection system, could result in a condition, such as flooding or the release of chemicals, that might potentially adversely affect the performance of safety-related equipment required for safe shutdown of the facility or to limit the consequences of an accident.

The San Onofre Units 2 and 3 PSAR presently documents\* the design criteria for provisions in the final design which will preclude the possibility of flooding adversely affecting the performance of safety-related equipment. For example, the fire protection system is required to be Seismic Class I where it is routed through areas containing Seismic Class I equipment. In some cases the plant design has not progressed to the point where details of the implementation of these criteria are reflected in the PSAR, however, these provisions will be incorporated in the Units 2 and 3 design in the normal course of design development.

## \*Specifically:

- (1) Appendix B, page B.2.1 (Definition of Seismic Class I),
- (2) Section 1.8, Tab 4, page 1.8-35au (Compliance with the AEC General Design Criteria of July 7, 1971), and
- (3) Section 1.8, Tab 9, page 1.8-141t (Portions of the fire protection piping designed to Seismic Class I requirements).

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In applying design criteria to prevent flooding and chemical releases from adversely affecting safety-related plant equipment, the general design features outlined below for various areas in the plant will be incorporated into the San Onofre Units 2 and 3 design:

A. Safety Injection Building

Redundant safety-related components located in the Safety Injection Building such as safety injection pumps, spray pumps and shutdown heat exchangers will be located in separate compartments with water tight doors and penetrations. The building will be water tight, and walls will be constructed to withstand flooding. Necessary water tight doors are to be closed at all times, during normal operation. Other design features to preclude progressive flooding such as appropriate arrangement of ventilation ducts and non-return isolation valves in floor drains will be provided. Seismic Class I level sensors will be provided to detect and annunciate high water level conditions before equipment is flooded.

B. Component Cooling Water Building

Safety-related equipment located in the Component Cooling Water Building such as component cooling water heat exchangers, salt water cooling water piping, etc., will be protected in a manner similar to that provided for the safety-related equipment located in the Safety Injection Building, as described in A., above.

C. Auxiliary Building

The safety-related equipment located in the Auxiliary Building (letdown heat exchangers, boric acid makeup system, charging pumps, and electrical and control systems), will be protected with water-tight barriers and other design features not subject to progressive flooding (as described in A. above) or located above grade. Fire protection piping that passes through areas containing safety-related equipment will be designed to Seismic Class I requirements. Further, tanks whose rupture could reasonably cause flooding of redundant safety-related equipment will be provided with retaining walls designed to contain the contents of the tank.

D. Salt Water Cooling Pump Area

Suitable flooding protection for the salt water cooling pumps will be provided by water-tight barriers in the intake structure and other water-tight barriers and drainage systems as necessary.

E. Containment Penetration Areas

These areas contain piping valves and electrical penetrations important to safety. Protection will be provided as required to prevent flooding from external or internal sources. Suitable floor drains, sump pumps and redundant level sensors will be provided as necessary. Penetrations entering adjacent areas will be designed to preclude progressive flooding of these areas.

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F. Auxiliary Feedwater Pump Area

The auxiliary feedwater pumps will be located away from areas of potential flooding. Adequate drainage will be provided to protect against flooding incidents.

G. Condenser Area

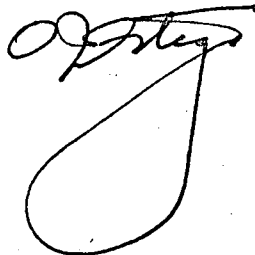
While no safety-related components are located in this area, this area contains the main condenser, condensate pumps and circulating water lines. In the event of a postulated failure in this area and subsequent flooding, provisions will be incorporated in the design to ensure the flooding is confined to acceptable areas. These provisions may include: (1) sloping grades to provide additional area drainage, or (2) water-tight retaining walls around the condenser area or adjacent areas containing safety-related equipment.

H. Release of Chemicals

The various tanks containing highly corrosive chemicals (sodium hydroxide and lithium hydroxide) which could possibly affect safety-related equipment will be provided with leak-tight compartments. Floor drains from these areas will be Seismic Class I, with a normally closed isolation valve. In addition, level sensors will be provided to determine tank leakage. Electrical and ventilation penetrations from these compartments will be leak-tight. Piping containing highly corrosive chemicals will be routed in a manner which precludes corrosive chemicals affecting safety-related equipment in the event of a piping failure.

As indicated above, the San Onofre Units 2 and 3 design will preclude flooding or the release of highly corrosive chemicals from adversely affecting safety-related equipment required for safe shutdown of the facilities or to limit the consequences of an accident. The specific design features provided will be discussed in detail in the FSAR. We will continue to evaluate necessary design features to insure that the final design is consistent with all applicable design criteria.

Very truly yours,



cc: Jack B. Moore