

# REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

MAY

ACCESSION NBR: 8403290217 DOC. DATE: 84/03/27 NOTARIZED: NO DOCKET #  
 FACIL: 50-361 San Onofre Nuclear Station, Unit 2, Southern California 05000361  
 50-362 San Onofre Nuclear Station, Unit 3, Southern California 05000362  
 AUTH. NAME AUTHUR AFFILIATION  
 MEDFORD, M.O. Southern California Edison Co.  
 RECIP. NAME RECIPIENT AFFILIATION  
 KNIGHTON, G.W. Licensing Branch 3

SUBJECT: Requests exemption from 10CFR70.24 requiring maint of  
 accidental criticality radiation monitoring sys. Evaluations  
 determined potential for criticality for new & spent fuel  
 nonexistent, based on geometric spacing.

DISTRIBUTION CODE: B001S COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4  
 TITLE: Licensing Submittal: PSAR/FSAR Amdts & Related Correspondence

NOTES: J Hanchett 1cy PDR Documents, ELD Chandler 1cy. 05000361  
 J Hanchett 1cy PDR Documents, ELD Chandler 1cy. 05000362

RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
NRR/DL/ADL	1 0	NRR LB3 BC	1 0
NRR LB3 LA	1 0	ROOD, H. 01	1 1
INTERNAL: ELD/HDS2	1 0	IE FILE	1 1
IE/DEPER/EPB 36	3 3	IE/DEPER/IRB 35	1 1
IE/DQASIP/QAB21	1 1	NRR/DE/AEAB	1 0
NRR/DE/CEB 11	1 1	NRR/DE/EHEB	1 1
NRR/DE/EQB 13	2 2	NRR/DE/GB 28	2 2
NRR/DE/MEB 18	1 1	NRR/DE/MTEB 17	1 1
NRR/DE/SAB 24	1 1	NRR/DE/SGEB 25	1 1
NRR/DHFS/HFEB40	1 1	NRR/DHFS/LQB 32	1 1
NRR/DHFS/PSRB	1 1	NRR/DL/SSPB	1 0
NRR/DSI/AEB 26	1 1	NRR/DSI/ASB	1 1
NRR/DSI/CPB 10	1 1	NRR/DSI/CSB 09	1 1
NRR/DSI/ICSB 16	1 1	NRR/DSI/METB 12	1 1
NRR/DSI/PSB 19	1 1	NRR/DSI/RAB 22	1 1
NRR/DSI/RSB 23	1 1	REG FILE 04	1 1
RGNS	3 3	RM/DDAMI/MIB	1 0

EXTERNAL:	ACRS	41	6	6	BNL (AMDTs ONLY)	1	1
	DMB/DSS (AMDTs)	1	1	1	FEMA-REP DIV 39	1	1
	LPDR	03	1	1	NRC PDR 02	1	1
	NSIC	05	1	1	NTIS	1	1

NOTES: 2 2

*Check received \$1600.00*

*Southern California Edison Company*



P. O. BOX 800  
2244 WALNUT GROVE AVENUE  
ROSEMEAD, CALIFORNIA 91770

M.O. MEDFORD  
MANAGER, NUCLEAR LICENSING

TELEPHONE  
(213) 572-1749

March 27, 1984

Director, Office of Nuclear Reactor Regulation  
Attention: Mr. George W. Knighton, Branch Chief  
Licensing Branch No. 3  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Gentlemen:

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

- References:
- A. SCE to NRC letter dated October 27, 1980; Subject: Amendment to the Special Nuclear Material License Application for San Onofre Units 2 and 3.
  - B. ANSI N18.2, "Nuclear Safety Criteria for Design of Stationary Pressurized Water Reactor Plants"
  - C. Regulatory Guide 8.12, Revision 1 (January 1981) "Criticality Accident Alarm Systems"

This letter is a request for an exemption to 10 CFR 70.24, Criticality Accident Requirements, for the San Onofre Nuclear Generating Station Units 2 and 3 under Operating Licenses NPF-10 and NPF-15, respectively. [In accordance with the provision of 10 CFR 70.24(d) an exemption is requested from 10 CFR 70.24 which requires maintenance of an accidental criticality radiation monitoring system.]

San Onofre Units 2 and 3 were previously exempted from the requirements of 10 CFR 70.24 by Condition 13 of Special Nuclear Material Licenses SNM-1852 and SNM-1879. These Special Nuclear Material Licenses were superseded by the current Operating Licenses NPF-10 and NPF-15 which did not incorporate the previous exemption to 10 CFR 70.24 even though the design and safety analysis of the new and spent fuel storage areas are described in FSAR Section 9.1 and are the same as described in Reference A. The fuel storage facilities for both Units 2 and 3 were designed in compliance with Reference B.

In the FSAR Section 9.1 and Reference A safety analyses, it was determined that a potential for criticality for both new and spent fuel does not exist based on the geometric spacing. Since Regulatory Position 1 of Reference C provides that if an evaluation determines that geometric spacing is used to preclude criticality that it is appropriate to request an exemption from 10 CFR 70.24, an exemption from 10 CFR 70.24 is hereby requested.

8403290217 840327  
PDR ADOCK 05000361  
P PDR

Rec'd w/ check \$1,600.

Boo!

March 27, 1984

A description of the existing radiation monitoring instrumentation for the San Onofre Units 2 and 3 fuel handling areas is provided in Enclosure A which provides reinforcement for an exemption from 10 CFR 70.24. The radiation monitoring system in each fuel handling area includes a single gamma-sensitive radiation detector, as compared to the two detectors specified in 10 CFR 70.24, plus an airborne monitoring system.

In accordance with 10 CFR 170.22, as this change has been determined to be a Class II exemption for Unit 2 and a Class I exemption for Unit 3, a check for \$1,600.00 corresponding to this determination is enclosed. This exemption is administrative in nature because the design and safety analysis of the new and spent fuel storage areas have been previously evaluated by the NRC both for issuance of the new fuel licenses and in the FSAR. [In these evaluations it was determined that a potential for criticality for both new and spent fuel does not exist based on geometric spacing.]

Considering that the necessary evaluations have been previously made by the NRC and that new fuel is currently scheduled for shipment to San Onofre on May 7, 1984, Southern California Edison Company (SCE) requests that this exemption to 10 CFR 70.24 for San Onofre Units 2 and 3 be granted by May 1, 1984. Your prompt response to this request will be greatly appreciated.

If you have any questions concerning this exemption request, please call me.

Very truly yours,



Enclosure

cc: Harry Rood, NRC (To be opened by addressee only)  
Joseph O. Ward, California Department of Health Services  
A. E. Chaffee, NRC Resident Inspector

FUEL HANDLING AREA RADIATION MONITORS  
SAN ONOFRE NUCLEAR GENERATING STATION  
UNITS 2 AND 3

The fuel storage and handling facilities at San Onofre Units 2 and 3 are equipped with a monitoring system for detection of increases in direct gamma, gaseous and particulate radiation levels.

Area Radiation Monitor

The single area radiation monitor for direct gamma radiation in each of the Units 2 and 3 fuel handling buildings functions to: immediately alert personnel entering or working in the area of increasing or abnormally high radiation levels which, if unnoticed, could result in advertent overexposures; inform the control room operator of the occurrence and approximate location of an abnormal radiation increase in the area; and, comply with the requirements of 10 CFR 50, Appendix A, General Design Criterion 63, for monitoring fuel and waste storage and handling areas.

This single area radiation monitor in each fuel handling area is of a nonsaturating design so it can register full scale if exposed to radiation levels up to 100 times full-scale indication. The monitor consists of a gamma-sensitive radiation detector transmitting to an alarm-readout unit in the main control room. Indicating alarm units (both audible and visual) are also mounted near the detector location to alert personnel in the area. This monitor views the cask lay down area, the cask hatch area, and a portion of the spent fuel pool. It is located approximately 30 feet from the nearest corner and approximately 90 feet from the farthest corner of the spent fuel pool. The alarm setpoint is fully adjustable throughout the entire range of the ratemeter. The setpoint is set high enough to avoid spurious alarms yet set low enough to provide an early warning detection of any significant increase in radiation such as from a fuel handling accident. The current setpoint is 2.5 mr/hr, however, this may be increased to avoid spurious alarms if the background increases such as when spent fuel is moved. In addition to a high-level alarm, the detector is provided with a circuit failure alarm to alert the loss of monitoring capability. The radiation level is recorded on a 24-channel multipoint recorder (four spare channels) located in the main control room.

Airborne Monitors

The airborne monitor for gaseous and particulate radiation functions to alarm and initiate isolation of the fuel handling area from the normal ventilation system and actuate the fuel handling area accident clean-up unit if pre-established levels are exceeded.

This monitor includes two channels and the two separate detectors described below:

1. A gaseous detector which monitors activity due to noble gases only.
2. A combined iodine-particulate detector with a collection assembly consisting of a fixed particulate filter and a charcoal iodine cartridge. The particulate filter precedes the iodine cartridge in the sample flow path, and the two are in close proximity to each other and are monitored by one detector. The collection assembly is easily isolable and removable.

The particulate and iodine sample flow rate is maintained constant by an automatic control system over the expected range of filter paper and/or charcoal cartridge differential pressure. Local flow indication and high- and low-flow alarm signals are provided. These signals actuate local alarms and the channel failure alarm. Procedures are followed to test instrument performance on a preset frequency based on instrument use, reliability and past experience.

TDM:1192F