

*Southern California Edison Company*

SAN ONOFRE NUCLEAR GENERATING STATION

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STATION MANAGER

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September 27, 1991

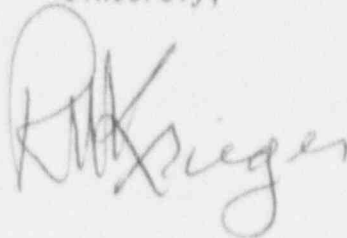
U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D.C. 20555

Subject: Docket No. 50-361  
30-Day Report  
Licensee Event Report No. 91-011  
San Onofre Nuclear Generating Station, Unit 2

Pursuant to 10 CFR 50.73(d), this submittal provides the required 30-day written Licensee Event Report (LER) for an occurrence involving the Control Room Isolation System in Units 2 and 3. Since this occurrence involves a system common to Units 2 and 3, a single report for Unit 2 is being submitted in accordance with NUREG-1022. Neither the health nor the safety of plant personnel or the public was affected by this occurrence.

If you require any additional information, please so advise.

Sincerely,



Enclosure: LER No. 91-011

cc: C. W. Caldwell (USNRC Senior Resident Inspector, Units 1, 2 and 3)

J. B. Martin (Regional Administrator, USNRC Region V)

Institute of Nuclear Power Operations (INPO)

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LICENSEE EVENT REPORT (LER)																	
Facility Name (1)										Docket Number (2)					Page (3)		
SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 2										0 5 0 0 0 3 6 1 1					1 of 0 4		
Title (4)																	
CONTROL ROOM ISOLATION SYSTEM TRAIN B SPURIOUS ACTUATION																	
EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)								
Month	Day	Year	Year	Sequential Number	Revision Number	Month	Day	Year	Facility Names			Docket Number(s)					
018	310	911	911	0 1 1 1	0 1 0	019	217	911	SONGS, UNIT 3			0 5 0 0 0 3 6 2					
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)														
POWER LEVEL (10)			<div> <div>20.402(b)</div> <div>20.405(a)(1)(i)</div> <div>20.405(a)(1)(ii)</div> <div>20.405(a)(1)(iii)</div> <div>20.405(a)(1)(iv)</div> <div>20.405(a)(1)(v)</div> </div> <div> <div>20.405(c)</div> <div>50.36(c)(1)</div> <div>50.36(c)(2)</div> <div>50.73(a)(2)(i)</div> <div>50.73(a)(2)(ii)</div> <div>50.73(a)(2)(iii)</div> </div> <div> <div>X</div> <div>50.73(a)(2)(iv)</div> <div>50.73(a)(2)(v)</div> <div>50.73(a)(2)(vii)</div> <div>50.73(a)(2)(viii)(A)</div> <div>50.73(a)(2)(viii)(B)</div> <div>50.73(a)(2)(x)</div> </div> <div> <div>73.71(b)</div> <div>73.71(c)</div> <div>Other (Specify in Abstract below and in text)</div> </div>														
0 0 0 0																	
LICENSEE CONTACT FOR THIS LER (12)																	
Name										TELEPHONE NUMBER							
R. W. Krieger, Station Manager										<div>AREA CODE</div> <div>7 1 1 4 3 6 8 1 6 2 5 5</div>							
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																	
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	REPORTABLE TO NRC
SUPPLEMENTAL REPORT EXPECTED (14)																	
<div> <div>Yes (If yes, complete EXPECTED SUBMISSION DATE)</div> <div>XX NO</div> </div> <div>Expected Submission Date (15)</div>																	
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)																	

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

SAN ONOFRE NUCLEAR GENERATION STATION UNIT 2	DOCKET NUMBER 05000361	LER NUMBER 91-011-00	PAGE 2 of 4
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Plant: San Onofre Nuclear Generating Station  
Unit: Two  
Reactor Vendor: Combustion Engineering  
Event Date: 08-30-91  
Time: 1253

A. CONDITIONS AT TIME OF THE EVENT:

Unit 2: Mode 6, Refueling  
Unit 3: Mode 1, Power Operation

B. BACKGROUND INFORMATION:

The Control Room Isolation System (CRIS) [IL] and associated Control Room Emergency Air Cleanup System (CREACUS) [VI] consist of two independent trains of radiation monitors [RIT], [RT-7824 and RT 7825 (Train A and Train B, respectively)], emergency ventilation supply (EVS) units [AHU], emergency air conditioning (EAC) units [ACU], cabinet area emergency air cooling units [ACU], and associated emergency isolation dampers [BDMP]. Each radiation monitor is comprised of a particulate/iodine channel and a noble gas channel. A CRIS actuation occurs upon loss of power to either radiation monitor channel or receipt of either a high radiation or instrument failure signal. An actuation causes the CREACUS dampers to reposition to direct outside air through the EVS and EAC units, both of which contain filtration units [FLT], thus providing purified and cooled air to the control room and minimizing exposure to personnel.

C. DESCRIPTION OF THE EVENT:

1. Event:

At 1253 on August 30, 1991, a CRIS Train B actuation occurred. The actuation was verified to be spurious, and all required components were verified to have actuated as designed. The system was initially maintained in the actuated state to facilitate the investigation into the cause of the actuation. At 2115, RT-7825 was placed in bypass, and at 2205, the control room ventilation lineup was returned to normal.

2. Inoperable Structures, Systems or Components that Contributed to the Event:

None.

3. Sequence of Events:

<u>TIME</u>	<u>ACTION</u>
1253	CRIS Train B actuation occurred.
2205	Control room ventilation lineup was returned to normal.

# LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

SAN ONOFRE NUCLEAR GENERATION STATION	DOCKET NUMBER	LER NUMBER	PAGE
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## 4. Method of Discovery:

Control room indications and alarms alerted the control room operators (utility, licensed) to the CRIS actuation.

## 5. Personnel Actions and Analysis of Actions:

Operators responded properly to the CRIS Train B actuation by verifying all required components actuated as designed. Operators also responded properly by verifying radiation levels were normal prior to returning the control room ventilation lineup to normal.

## 6. Safety System Responses:

All required components actuated as designed.

## D. CAUSE OF THE EVENT:

At the time of the actuation, no maintenance or testing was being performed on RT-7825, and only the alarm associated with the CRIS Train B actuation relay annunciated. None of the other CRIS alarms which indicate causes of the actuation, such as high radiation or instrument trouble, were received.

Inspections of the CRIS Train B actuation circuitry revealed no malfunctions of associated components. The actuation circuitry connections were verified to be tight. The actuation circuitry was monitored to identify the cause of the actuation. However, the radiation monitor and its associated actuation circuitry and power supply operated properly for the two weeks following the spurious actuation, and the monitoring activity did not identify the cause of the CRIS actuation. The monitoring equipment was then disconnected to allow further testing.

Testing was performed to identify whether a power perturbation of short duration could cause the CRIS actuation relay to change state with no corresponding alarm relays being affected. It was shown that a negative signal spike with a duration between 32 and 37 msec could cause a CRIS actuation without a corresponding instrument failure alarm due to the time response of the associated relays. Such spikes could be caused by electronic noise associated with either the CRIS radiation monitor power supply or the signal path from the monitor. This electronic noise is considered to be the most likely cause of the actuation. However, the testing performed did not identify the source of the noise nor did it confirm that this was the cause of the actuation.

Monitoring equipment will be installed on the suspect circuitry for the next 90 days to enable the cause of any further actuations to be more positively determined.

# LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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## E. CORRECTIVE ACTIONS:

### 1. Corrective Actions Taken:

SCE's initial investigation was unable to determine the cause of the spurious actuation.

A design change to reduce the CRIS radiation monitor susceptibility to noise is being prepared. Until the design change is implemented, SCE plans to operate with the CRIS Train B monitor in service. It is recognized that returning the CRIS monitor to service without clearly identifying and eliminating the cause of the actuation risks additional spurious actuations, but also provides additional protection to the control room envelope. SCE has determined that the benefits of placing the CRIS B monitor in service outweigh the risks of additional spurious actuations until such time that the design change can be implemented (currently planned for March 1992).

### 2. Planned Corrective Actions:

As described in Section D above, monitoring equipment will be installed on the suspect circuitry for the next 90 days to enable the cause of similar CRIS actuations to be more positively determined. If this monitoring identifies the cause for this actuation, appropriate corrective actions will be implemented.

## F. SAFETY SIGNIFICANCE OF THE EVENT:

There is no safety significance to this event since radiation levels remained normal and all CRIS and CREACUS Train B components actuated as required by the design.

## G. ADDITIONAL INFORMATION:

### i. Component Failure Information:

Not applicable.

### 2. Previous LERs for Similar Events:

None.