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ACCESSION NBR:8807150070 DOC.DATE: 88/07/01 NOTARIZED: NO DOCKET #
 FACIL:50-361 San Onofre Nuclear Station, Unit 2, Southern Californ 05000361
 AUTH.NAME AUTHOR AFFILIATION
 MORGAN,H.E. Southern California Edison Co.
 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-012-00:on 880602,fuel handling isolation sys Train B
 spurious actuation due to failure of two transistors.

W/8 ltr.

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 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

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INTERNAL:	ACRS MICHELSON		1	1		ACRS MOELLER		2	2	
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	RES/DE/EIB		1	1		RES/DRPS DEPY		1	1	
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EXTERNAL:	EG&G WILLIAMS,S		4	4		FORD BLDG HOY,A		1	1	
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LICENSEE EVENT REPORT (LER)

Facility Name (1) SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 2										Docket Number (2) 0 5 0 0 0 3 6 1					Page (3) 1 of 0 4							
Title (4) FUEL HANDLING ISOLATION SYSTEM (FHIS) TRAIN 'B' SPURIOUS ACTUATION DUE TO FAILURE OF TWO DETECTOR PREAMPLIFIER TRANSISTORS																						
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)							
0 6	0 2	8 8	8 8	---	0 1 2	---	0 0	0 7	0 1	8 8	NONE				0 5 0 0 0							
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)																			
POWER LEVEL (10) 1 0 0 //////////////////////////////////// //////////////////////////////////// //////////////////////////////////// //////////////////////////////////// //////////////////////////////////// //////////////////////////////////// //////////////////////////////////// ////////////////////////////////////			<input type="checkbox"/> 20.402(b)					<input type="checkbox"/> 20.405(c)					<input checked="" type="checkbox"/> 50.73(a)(2)(iv)					<input type="checkbox"/> 73.71(b)				
			<input type="checkbox"/> 20.405(a)(1)(i)					<input type="checkbox"/> 50.36(c)(1)					<input type="checkbox"/> 50.73(a)(2)(v)					<input type="checkbox"/> 73.71(c)				
			<input type="checkbox"/> 20.405(a)(1)(ii)					<input type="checkbox"/> 50.36(c)(2)					<input type="checkbox"/> 50.73(a)(2)(vii)					<input type="checkbox"/> Other (Specify in				
			<input type="checkbox"/> 20.405(a)(1)(iii)					<input type="checkbox"/> 50.73(a)(2)(i)					<input type="checkbox"/> 50.73(a)(2)(viii)(A)					<input type="checkbox"/> Abstract below and				
			<input type="checkbox"/> 20.405(a)(1)(iv)					<input type="checkbox"/> 50.73(a)(2)(ii)					<input type="checkbox"/> 50.73(a)(2)(viii)(B)					<input type="checkbox"/> in text)				
			<input type="checkbox"/> 20.405(a)(1)(v)					<input type="checkbox"/> 50.73(a)(2)(iii)					<input type="checkbox"/> 50.73(a)(2)(x)									
LICENSEE CONTACT FOR THIS LER (12)																						
Name H. E. Morgan, Station Manager										TELEPHONE NUMBER AREA CODE 7 1 4 3 6 8 - 6 2 4 1												
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																						
CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	////////	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	////////											
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- SUPPLEMENTAL REPORT EXPECTED (14)											Expected Submission Date (15)		Month	Day	Year							
<input type="checkbox"/> Yes (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO																						
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)																						

On June 2, 1988, at 1320, with Unit 2 at 100% reactor power, FHIS Train 'B' was spuriously actuated when the particulate/iodine channel of Airborne Monitor 2RI-7823A2 failed. There was no indication of increased radiation levels in the Fuel Handling Building (FHB). After the airborne activity levels in the FHB were confirmed to be normal, FHIS Train 'B' was secured. The monitor was declared inoperable and the FHB ventilation system was returned to normal. All FHIS Train 'B' components functioned as designed.

Investigation into the failure of the radiation monitor revealed that two transistors in the detector preamplifier circuit had failed causing the monitor to actuate on an instrument failure signal as designed.

Circuits and components which interface with the detector preamplifier were tested and determined to be operating satisfactorily. The two failed transistors were replaced and the monitor was satisfactorily tested.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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Plant: San Onofre Nuclear Generating Station
Unit: Two
Reactor Vendor: Combustion Engineering
Event Date: 06-02-88
Time: 1320

A. CONDITIONS AT TIME OF THE EVENT:

Mode: 1, Power Operations at 100%

B. BACKGROUND INFORMATION:

The Fuel Handling Isolation System (FHIS) (EIIS System Code VG) consists of two independent "Trains" of radiation monitors (2RT-7822 for Train 'A' and 2RT-7823 for Train 'B') (EIIS Component Code RIT), associated dampers and recirculation air filtration units. Each train consists of a particulate/iodine channel (2RI-7822A1 and 2RI-7823A2, Train 'A' and 'B', respectively) and a gas channel (2RI-7822B1 and 2RI-7823B2, Train 'A' and 'B', respectively). Only one channel is required to initiate an actuation. Each train is actuated by either a remote manual push button or by one of the radiation monitors sensing high radiation, instrument failure, or loss of power. A FHIS actuation isolates normal ventilation to the Fuel Handling Building (FHB) and initiates recirculation.

C. DESCRIPTION OF THE EVENT:

1. Event:

On June 2, 1988, at 1320, with Unit 2 at 100% reactor power, FHIS Train 'B' was spuriously actuated when the particulate/iodine channel of Airborne Monitor 2RI-7823A2 failed. There was no indication of increased radiation levels in the Fuel Handling Building (FHB). After the airborne activity levels in the FHB were confirmed to be normal, FHIS Train 'B' was secured. The monitor was declared inoperable and the FHB ventilation system was returned to normal. All FHIS Train 'B' components functioned as designed.

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

None.

3. Sequence of Events:

<u>DATE</u>	<u>TIME</u>	<u>ACTION</u>
06/02/88	1320	FHIS Train 'B' actuated.
06/02/88	1400	FHIS Train 'B' reset/secured.
		FHB ventilation returned to normal.
		FHIS Train 'B' declared inoperable.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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UNIT 2

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4. Method of Discovery:

Control Room indications and alarms alerted the operators to the FHIS actuation.

5. Personnel Actions and Analysis of Actions:

Operators responded properly to the FHIS actuation by verifying proper system operation and ensuring FHB airborne activity levels were below the actuation setpoint prior to resetting FHIS.

6. Safety System Responses:

All FHIS Train 'B' components functioned as designed.

D. CAUSE OF THE EVENT:

1. Immediate Cause:

Failure of the radiation monitor detector preamplifier caused the monitor to actuate on instrument failure as designed.

2. Root Cause:

Two transistors in the detector preamplifier circuit were found to have failed. Circuits and components which interface with the detector preamplifier were tested and determined to be operating satisfactorily.

E. CORRECTIVE ACTIONS:

1. Corrective Actions Taken:

The two failed transistors were replaced and the monitor was satisfactorily tested.

2. Planned Corrective Actions:

The failed transistors will be sent to an offsite laboratory to undergo testing in an attempt to determine their failure mechanisms.

F. SAFETY SIGNIFICANCE OF THE EVENT:

There is no safety significance to this event since all FHIS components operated in accordance with design.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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G. ADDITIONAL INFORMATION:

1. Component Failure Information:

The failed transistors were MOTOROLA 3N203 and 2N4124.

2. Previous LERs on Similar Events:

There are no previous LERs which identify an actuation of the FHIS due to transistors failing.

3. Results of NPRDS Search:

Failures of FHIS components are not reportable to NPRDS. Therefore, a search of NPRDS data is not applicable.



Southern California Edison Company

SAN ONOFRE NUCLEAR GENERATING STATION

P. O. BOX 128

SAN CLEMENTE, CALIFORNIA 92672

H. E. MORGAN
STATION MANAGER

TELEPHONE
(714) 368-6241

July 1, 1988

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

Subject: Docket No. 50-361
30-Day Report
Licensee Event Report No. 88-012
San Onofre Nuclear Generating Station, Unit 2

Pursuant to 10 CFR 50.73(a)(2)(iv), this submittal provides the required 30-day written Licensee Event Report (LER) for an occurrence involving a spurious actuation of the Fuel Handling Building Isolation System. Neither the health and safety of plant personnel or the public was affected by this occurrence.

If you require any additional information, please so advise.

Sincerely,

H E Morgan

Enclosure: LER No. 88-012

cc: F. R. Huey (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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