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MORGAN,H.E. Southern California Edison Co.
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SUBJECT: LER 89-002-00:on 890113,fuel handling isolation sys Train A spurious actuation due to inadequate loop diagram.
W/8 ltr.

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LICENSEE EVENT REPORT (LER)

Facility Name (1)	Docket Number (2)	Page (3)
SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 3	0 5 0 0 0 3 6 2	1 of 0 4

Title (4)

FUEL HANDLING ISOLATION SYSTEM TRAIN "A" SPURIOUS ACTUATION DUE TO INADEQUATE DETAIL OF INSTRUMENT LOOP DIAGRAM

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 1	1 3	8 9	8 9	--- 0 0 2		--- 0 0	0 2	1 3	8 9	NONE	0 5 0 0 0
											0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)			
POWER LEVEL (10)	0 9 9	___ 20.402(b)	___ 20.405(c)	X 50.73(a)(2)(iv)	___ 73.71(b)
		___ 20.405(a)(1)(i)	___ 50.36(c)(1)	___ 50.73(a)(2)(v)	___ 73.71(c)
		___ 20.405(a)(1)(ii)	___ 50.36(c)(2)	___ 50.73(a)(2)(vii)	___ Other (Specify in Abstract below and in text)
		___ 20.405(a)(1)(iii)	___ 50.73(a)(2)(i)	___ 50.73(a)(2)(viii)(A)	
		___ 20.405(a)(1)(iv)	___ 50.73(a)(2)(ii)	___ 50.73(a)(2)(viii)(B)	
		___ 20.405(a)(1)(v)	___ 50.73(a)(2)(iii)	___ 50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

Name	TELEPHONE NUMBER
H. E. Morgan, Station Manager	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	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

	Expected Submission Date (15)	Month	Day	Year
___ Yes (If yes, complete EXPECTED SUBMISSION DATE)				
XX NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

At 0801 on 1/13/89, with Unit 3 operating at 99% power, while performing modification work on Containment Purge Isolation System (CPIS) radiation monitor RT-7804, a spurious Fuel Handling Isolation System (FHIS) Train A actuation occurred. Radiation levels in the Fuel Handling Building remained normal, and all FHIS Train A components functioned as required; thus, there is no safety significance to this event. At 0835, FHIS Train A was reset and the ventilation lineup returned to normal.

Power is provided to FHIS Train A monitor RT-7822 via a terminal board which also routes power to RT-7804. When the power lead to RT-7804 was de-terminated to perform the work, power was also removed from the FHIS Train A actuation relay, resulting in the actuation. The technician performing the work was not aware of the power interconnection since the RT-7804 instrument loop diagram, which was utilized to perform the CPIS modification, does not depict the power lead connection to RT-7822. Each radiation monitoring instrument loop diagram was developed from the cabinet wiring diagrams to depict the wiring for a specific monitor, thereby facilitating work on that monitor. As a result, these loop diagrams do not depict power interconnections between monitors, and thus do not have the level of detail necessary to properly plan or perform some types of work activities.

The Engineered Safety Feature Actuation System (ESFAS) radiation monitoring instrument loop diagrams will be amended to depict, where appropriate, power interconnections between monitors. As interim corrective action, appropriate work planners and technicians have been directed to utilize the cabinet wiring diagrams in conjunction with the loop diagrams when planning or performing work on ESFAS radiation monitors.

IE22

Plant: San Onofre Nuclear Generating Station
Unit: Three
Reactor Vendor: Combustion Engineering
Event Date: 01-13-89
Time: 0801

A. CONDITIONS AT TIME OF THE EVENT:

Mode: 1, Power Operation at 99% power

B. BACKGROUND INFORMATION:

The Fuel Handling Isolation System (FHIS) (EIIS System Code VG) consists of two independent trains of radiation monitors (EIIS Component Code RIT), associated dampers (EIIS Component Code DMP), and recirculation air filtration units (EIIS Component Code AHU). A FHIS actuation is initiated by either a remote manual push-button or in response to high radiation, instrument failure, or loss of power. A FHIS actuation isolates normal ventilation to the Fuel Handling Building (FHB) (EIIS System Code ND) and initiates recirculation.

Radiation monitor cabinet wiring diagrams, which depict the wiring for the cabinets, have historically been utilized by technicians to perform work on the radiation monitors. Since work is typically performed on a per-monitor basis, use of the cabinet wiring diagrams has required the technicians to discriminate the wiring connections applicable to their assigned work from the wiring associated with the other monitors in the cabinet. To facilitate work on the radiation monitors, instrument loop diagrams were developed from the wiring diagrams to depict the wiring schemes for specific monitors.

C. DESCRIPTION OF THE EVENT:

1. Event:

At 0801 on 1/13/89, while performing modification work on Containment Purge Isolation System (CPIS) (EIIS System Code VA) radiation monitor RT-7804, a spurious FHIS Train A actuation occurred. Specifically, the actuation occurred when the technician performing the work de-terminated the power lead to RT-7804. Radiation levels in the FHB remained normal, and all FHIS Train A components functioned as required. At 0835, following replacement of the power lead, FHIS Train A was reset and the ventilation lineup returned to normal.

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

None

3. Sequence of Events:

TIME	ACTION
0801	FHIS Train A spurious actuation occurred. All Train A components were verified to actuate as required.
0835	FHIS Train A reset and ventilation lineup returned to normal.

4. Method of Discovery:

Control room alarms and indications alerted the operators of the FHIS actuation.

5. Personnel Actions and Analysis of Actions:

The operators responded properly to the FHIS actuation by 1) verifying each FHIS Train A component actuated as required, and 2) verifying radiation levels were normal prior to resetting FHIS and returning the ventilation lineup to normal.

6. Safety System Responses:

All FHIS Train A components operated in accordance with design.

D. CAUSE OF THE EVENT:

1. Immediate Cause:

Power is provided to FHIS Train A monitor RT-7822 via a terminal board which also routes power to RT-7804. When the power lead to RT-7804 was determinated to perform the work, power was also removed from the FHIS Train A actuation relay, resulting in the actuation.

2. Intermediate Cause:

The technician performing the work was not aware of the power interconnection between the monitors since the RT-7804 instrument loop diagram, which was utilized to perform the CPIS modification, does not depict the power lead connection to RT-7822.

3. Root Cause:

Each radiation monitoring instrument loop diagram was developed to include only the circuitry associated with that particular instrument. Consequently, inclusion of power interconnections between instruments was not part of the development criteria for the loop diagrams. As a result, these loop diagrams do not have the level of detail necessary to properly plan or perform some types of work activities, such as the modification work being performed in this instance.

E. CORRECTIVE ACTIONS:

1. Corrective Actions Taken:

Until the planned corrective action below is completed, radiation monitoring work planners and technicians have been directed to utilize the cabinet wiring diagrams in conjunction with the loop diagrams when planning or performing work on the Engineered Safety Feature Actuation System (ESFAS) radiation monitors.

2. Planned Corrective Actions:

The ESFAS radiation monitoring instrument loop diagrams will be amended to depict, where appropriate, power interconnections between monitors.

F. SAFETY SIGNIFICANCE OF THE EVENT:

There is no safety significance to this event since radiation levels remained normal and all FHIS Train A components operated in accordance with design.

G. ADDITIONAL INFORMATION:

1. Component Failure Information:

Not applicable

2. Previous LERs on Similar Events:

None

3. Results of NPRDS Search:

Not applicable

Southern California Edison Company

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February 13, 1989

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

Subject: Docket No. 50-362
30-Day Report
Licensee Event Report No. 89-002
San Onofre Nuclear Generating Station, Unit 3

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 Isolation System. This event had no effect on the health and safety of either plant personnel or the public.

If you require any additional information, please so advise.

Sincerely,

HEMorg

Enclosure: LER No. 89-002

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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