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FACIL: 50-362 San Onofre Nuclear Station, Unit 3, Southern Californ 05000362
AUTH. NAME AUTHOR AFFILIATION
MORGAN, H. E. Southern California Edison Co.
RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-016-00: on 870917, control element assembly (CEA) position verification missed when core protection calculator Channel A CEA calculator removed from svc. Caused by personnel error. Procedure will be revised. W/871016 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 6
TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: ELD Chandler 1cy. 05000362

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NRC Form 366 (9/83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

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 5

TITLE (4)
MISSED CONTROL ELEMENT ASSEMBLY POSITION VERIFICATION DUE TO PERSONNEL ERROR

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQ. NUMBER	REV. NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
0 9	1 7	8 7	8 7	— 0 1 6	— 0 0	1 0	1 6	8 7		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	1
POWER LEVEL (10)	1 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

	20.402(b)		20.405(c)		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)	X	50.36(c)(2)		50.73(a)(2)(vii)		OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	20.405(a)(1)(iii)	X	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)				
X	NO				

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

On 9/17/87 at 1036, with Unit 3 at 100% power, Core Protection Calculator (CPC) Channel 'A' was removed from service for the investigation and repair of an intermittent sensor failure. In accordance with procedure, Control Element Assembly Calculator (CEAC) #1, associated with CPC Channel 'A', was also removed from service. With one CEAC inoperable, the position of each Control Element Assembly (CEA) is required by Technical Specification Table 3.3-1 Action 6, to be verified within 7 inches of all others in its group at least every 4 hours. When a procedural step was misinterpreted by the Control Operator, this Action requirement was not initiated.

The CEAC was returned to service at 1530. At that time operators recognized that the CEAC had been out of service for more than 4 hours without performing the required CEA position verifications.

This event was caused by procedural inadequacy and personnel error. The CPC/CEAC operating procedure did not adequately alert the Control Operator to perform the required CEA verifications. The CPC/CEAC procedure will be revised to clarify required actions when removing a CPC and/or CEAC from service. Personnel associated with this event have been counseled and this event will be discussed in shift briefings with operations personnel.

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Plant: San Onofre Nuclear Generating Station (SONGS)
Unit: 3
Reactor Vendor: Combustion Engineering
Event Date: 09-17-87
Event Time: 1500

A. PLANT CONDITIONS AT TIME OF THE EVENT:

Mode: (1) 100% power

B. BACKGROUND INFORMATION:

1. System Information

Two Control Element Assembly Calculators (CEACs)(EIIS System Code JC) provide input in the form of penalty factors to four Core Protection Calculators (CPCs)(EIIS System Code JC) based on Control Element Assembly (CEA) positions. The CPCs provide Departure from Nucleate Boiling Ratio (DNBR) and Local Power Density (LPD) reactor protection trips.

2. Technical Specifications Information

Technical Specification 3.3.1, Table 3.3-1, Action 6 requires that with one CEAC inoperable, operation may continue provided that at least every 4 hours each Control Element Assembly (CEA) is verified to be within 7 inches (indicated position) of all other CEAs in its group.

3. Maintenance Information

Prior to performing any work on a CPC, the CPC/CEAC operating procedure requires that the outputs from its associated CEAC be prevented from providing input to the CPCs as a precautionary measure for preventing inadvertent reactor trips. CEAC inputs to the CPC channels are removed by a software command in the CPCs. This is called "setting the CEAC INOP flag". In this state, the CEAC is still capable of providing Control Room indications and alarms of CEA positions; however, spurious signals resulting from work being performed on one CPC are prevented from affecting the other (operable) CPCs.

4. Procedural Information

Section 6.1.5 of the CPC/CEAC Operating Procedure states the requirement to set the INOP flags on the associated CEAC when removing a CPC from service, referring to section 6.7.2.2. The instructions for performing the 4 hour verifications of CEA position as required by Technical Specifications are in section 6.7.2.1.

Section 6.1.5 of the CEAC/CPC Operating Procedure also states:

"CEAC INOP flag may be reset after CPC work is completed per section 6.9. The setting of the CEAC INOP Flag for this reason [to perform work on the CPC] does not imply that the CEAC itself is inoperable and in need of testing prior to resetting the INOP Flag."

C. DESCRIPTION OF THE EVENT:

1. Event:

On 9/17/87 at 1036, with Unit 3 at 100% power, CPC Channel 'A' was removed from service for the investigation and repair of an intermittent sensor failure. CPC Channel 'A' was placed in bypass and administrative controls were initiated implementing the Action requirements of Technical Specification Table 3.3-1, Action 2. Control Element Assembly Calculator (CEAC) #1, associated with CPC Channel 'A', was removed from service. After reviewing the CPC/CEAC procedure, the Control Operator made the determination that the CEAC was not inoperable based on section 6.1.5; therefore, the 4 hour CEA position verification required by Technical Specifications was not implemented.

After operators on the relief shift recognized that the CEAC had been out of service for more than 4 hours without performing the required CEA position verifications, the CEAC and CPC were promptly returned to service.

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

None

3. Sequence of Events:

TIME	ACTION
1036	Removed CPC 'A' from service to perform investigation and repair of intermittent sensor failure.
1100	Completed inserting CEAC #1 INOP Flags in all CPCs.
1425 (approx)	Completed investigation and repair of CPC 'A'.
1530	Completed removal of CEAC #1 INOP Flags from all CPCs.

4. Method of Discovery:

The oncoming shift, while reviewing Limiting Condition for Operation Action Requirements (LCOAR) forms, determined that greater than 4 hours had elapsed without returning the CEAC to service or performing the required CEA position verifications.

5. Personnel Actions and Analysis of Actions:

The CEAC and CPC were returned to service promptly upon realizing the CEA position verification time requirement of 4 hours had been exceeded.

6. Safety System Responses:

Not applicable

D. CAUSE OF THE EVENT:

1. Immediate Cause:

The required CEA position verification was not performed due to personnel error.

2. Intermediate Cause:

The Control Room Supervisor failed to recognize the requirement for performing the CEA position verifications while the CEAC was removed from service.

The Control Operator followed the literal direction of the procedure and failed to recognize that setting the CEAC #1 INOP Flags in all CPCs renders the CEAC inoperable, thus requiring the 4 hour CEA position verifications.

3. Root Causes:

a. The instructions for blocking the associated CEAC output to all CPCs referred the Control Operator to a procedure step immediately following the step directing him to perform the 4 hour CEA position verification, thus failing to alert the Control Operator of the required verifications.

b. The Control Operator was misled by procedural instructions to believe that blocking the input from the associated CEAC (to the CPCs) did not render the CEAC itself inoperable.

E. CORRECTIVE ACTIONS:

1. Corrective Actions Taken:

The personnel involved with this event have been counseled.

2. Planned Corrective Actions:

a. This event will be discussed in shift briefings with Units 2 and 3 Operations personnel.

b. The procedure for removing a CPC from service will be revised to 1) direct the operator to the step requiring the 4-hour CEA position verifications, and 2) clarify the wording regarding CEAC operability.

F. SAFETY SIGNIFICANCE OF THE EVENT:

There was no safety significance to this event, as the remaining CEAC continued in operation and no CEA position varied from any other in its group by more than 7 inches.

G. ADDITIONAL INFORMATION:

1. Component Failure Information:

Not Applicable

2. Previous LERs on Similar Events:

85-045, Docket No. 50-361 Missed CEA Position Verification

In this event, the CEAC was removed from service to perform the CEAC monthly surveillance. It was clear to the operators that the CEAC was inoperable; however, one of the required 4 hour CEA position verifications was not performed due to operator error. The event was discussed in shift briefings to emphasize the need to perform the verification when a CEAC is removed from service. Corrective action was also taken to include in the shiftly surveillance log a notation to perform the position verification on a four hour basis when a CEAC is inoperable. This corrective action was not helpful in precluding recurrence in this instance since the Control Operator failed to recognize that the CEAC was inoperable.

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

October 16, 1987

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

1987 OCT 20 A 9:40
USNRC-DS

Subject: Docket No. 50-362
30-Day Report
Licensee Event Report No. 87-016
San Onofre Nuclear Generating Station, Unit 3

Pursuant to 10 CFR 50.73(a)(2)(i)(B) and 50.36(c)(2), this submittal provides the required 30-day written Licensee Event Report (LER) for an occurrence involving a missed Control Element Assembly position verification. Neither the health and safety of plant personnel nor the health and safety of the public was affected by this occurrence.

If you require any additional information, please so advise.

Sincerely,

HEMorg

Enclosure: LER No. 87-016

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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