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MORGAN,H.E. Southern California Edison Co.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-009-00:on 890907,voluntary entry info TS 3.0.3 to transfer power supply to emergency chiller E-336.
W/8 ltr.

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Southern California Edison Company

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October 6, 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. 89-009
San Onofre Nuclear Generating Station, Unit 3

Pursuant to 10 CFR 50.73(d), this submittal provides the required 30-day written Licensee Event Report (LER) for an occurrence involving the Emergency Chilled Water 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. 89-009

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)

IE22
1/1

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 6

Title (4)

VOLUNTARY ENTRY INTO TECHNICAL SPECIFICATION 3.0.3 TO TRANSFER POWER SUPPLY TO EMERGENCY CHILLER E-336

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 9	0 7	8 9	8 9	0 0 9	0 0	1 0	0 6	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)	1 0 0	___ 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)	___ 50.36(c)(2)	___ 50.73(a)(2)(vii)	___ Other (Specify in Abstract below and in text)
		___ 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 AREA CODE
H. E. Morgan, Station Manager	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

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 0852 on September 7, 1989, with Unit 2 in Mode 5 for a refueling outage and Unit 3 at 100% power, and with the train B emergency chiller E-335 removed from service for maintenance, a voluntary entry of Unit 3 into Technical Specification (TS) 3.0.3 was made to transfer the train A emergency chiller E-336 power supply from the Unit 2 to the Unit 3 Class 1E electrical bus. The transfer of the E-336 power supply was necessary to maintain an emergency backup power source available to the chiller prior to removing from service the Unit 2 train A emergency diesel generator (EDG) 2G002 for scheduled maintenance. Operations Manager approval to voluntarily enter TS 3.0.3 was obtained at 0745. Upon completion of the transfer operation at 0908, TS 3.0.3 was exited. There is no safety significance to this event, since the second train of emergency chillers was inoperable for only 16 minutes, and normal cooling was maintained as necessary to all associated rooms.

An early start of the Unit 2 refueling outage created a conflict between the two maintenance plans for E-335 and 2G002. Personnel responsible for reviewing maintenance schedules and providing direction for controlling plant equipment status failed to recognize this conflict, and as a result, E-335 was removed from service for maintenance even though the 2G002 work was scheduled to commence prior to the expected completion date of the E-335 work. The change in the outage schedule (i.e., beginning the outage one week early) required additional evaluation that was not performed; therefore, actions to avoid the TS 3.0.3 entry were not identified.

This event has been discussed with appropriate personnel, emphasizing the need to identify the impact of schedule changes on plant operation. Guidance will be developed to provide assurance that the impact of an early start of an outage is evaluated and appropriate actions initiated.

Plant: San Onofre Nuclear Generating Station
Unit: Three
Reactor Vendor: Combustion Engineering
Event Date: September 7, 1989
Time: 0852

A. CONDITIONS AT TIME OF THE EVENT:

Mode: 1, Power Operation

B. BACKGROUND INFORMATION:

1. Emergency Chilled Water System (ECWS)

The ECWS [KM] serves to provide chilled water to remove heat from air conditioning cooling coils [CCL] that are in service during emergency conditions. These include air conditioning [ACU] for the control room, Engineered Safety Feature (ESF) switchgear [EB] rooms, charging pump [CB, P] rooms, boric acid makeup pump [CB] rooms, fuel handling pump [DA] room, High-Pressure Safety Injection (HPSI) [BQ]/Low-Pressure Safety Injection (LPSI) [BP]/Containment Spray pump [BE] rooms, and Component Cooling Water (CCW) pump [CC] rooms.

There are two independent ECWS trains that are common to Units 2 and 3. Each of the ECWS trains is provided with a 100% capacity emergency chiller [CHU]. The chiller sizing was selected to ensure sufficient margin above the design basis maximum heat load removal requirements.

Power is provided to each emergency chiller by its associated class 1E electrical bus from either Unit 2 or Unit 3. During the evolution to transfer the power supply from one unit to the other, it is necessary to remove power from the chiller for a brief period of time (several minutes), rendering the chiller inoperable.

2. Technical Specification (TS) Requirements

TS 3.7.10 requires that both ECWS trains be operable in modes 1-4. The TS provides action requirements for one ECWS train being inoperable, but does not provide action requirements for both trains being inoperable; therefore, TS 3.0.3 is entered when both ECWS trains are inoperable.

3. Maintenance Scheduling

During power operation, work is planned and scheduled by the Maintenance Planning Group (MPG). During outages, work is planned and scheduled by the Outage Management Division (OMD). Personnel in Operations Division Equipment Control (EC) are responsible for reviewing all proposed maintenance and providing direction to perform plant evolutions such that the impact of planned maintenance on plant operations is minimized.

C. DESCRIPTION OF THE EVENT:

1. Event:

At 0852 on September 7, 1989, with Unit 2 in Mode 5 for a refueling outage and Unit 3 at 100% power, and with the train B emergency chiller E-335 removed from service for maintenance, a voluntary entry of Unit 3 into TS 3.0.3 was made to transfer the train A emergency chiller E-336 power supply from the Unit 2 to the Unit 3 Class 1E electrical bus. Since maintenance was planned to be performed on the Unit 2 train A EDG 2G002, the transfer of the E-336 power supply was necessary to maintain an emergency backup power source available to E-336. Operations Manager approval to voluntarily enter TS 3.0.3 to perform the transfer operation was obtained at 0745 on September 7. Upon completion of the transfer operation at 0908, TS 3.0.3 was exited.

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

Chiller E-335 had been removed from service for maintenance when the power supply to E-336 was transferred from Unit 2 to Unit 3; as a result, TS 3.0.3 was voluntarily entered.

3. Sequence of Events:

TIME	DATE	ACTION
2335	9/5	E-335 removed from service to perform planned maintenance.
0852	9/7	Voluntary entry into TS 3.0.3 to transfer power supply to E-336.
0908	9/7	Completed E-336 power supply transfer; exited TS 3.0.3.

4. Method of Discovery:

Operators (utility, licensed) reviewing the work plan for EDG 2G002 recognized that the prerequisite for the work, transferring the E-336 power supply from the Unit 2 to the Unit 3 train A Class 1E bus, would result in an entry into TS 3.0.3. In accordance with administrative procedures, appropriate management approval for voluntary entry into TS 3.0.3 was obtained prior to performing the transfer operation.

5. Personnel Actions and Analysis of Actions:

Not applicable

6. Safety System Responses:

Not applicable

D. CAUSE OF THE EVENT:

1. Immediate Cause:

Train B emergency chiller E-335 was out of service when the scheduled maintenance for EDG 2G002 was to be performed. As a result, the operation to transfer the E-336 power supply from Unit 2 to Unit 3 required the voluntary entry into TS 3.0.3. (The transfer operation was performed to meet the 2G002 work prerequisite that the train A emergency chiller E-336 be powered from the Unit 3 Train A Class 1E electrical bus to maintain an emergency backup power source available to the chiller.)

2. Intermediate Cause:

Several weeks prior to the expected start of the Unit 2 outage, MPG plans were in place to remove E-335 from service approximately one week prior to the expected start of the outage, and return it to service one week later. OMD plans were also in place to remove the EDG 2G002 from service approximately 3-4 days after the start of the outage. An early start of the Unit 2 refueling outage (approximately one week earlier than had been originally planned) created a conflict between the two maintenance plans such that the E-335 work could not be scheduled to be completed prior to the start of the 2G002 work. EC personnel responsible for reviewing maintenance schedules and providing direction for controlling plant equipment status failed to recognize this conflict, and as a result, E-335 was removed from service for maintenance even though the 2G002 work was scheduled to commence prior to the expected completion date of the E-335 work.

3. Root Cause:

The change in the outage schedule (i.e., beginning the outage one week early) required additional evaluation such that the conflict between the E-335 and the 2G002 work schedules could have been identified and that actions could have been taken to avoid the situation which resulted in the voluntary entry into TS 3.0.3 (i.e., providing direction that the E-336 power supply transfer be completed prior to removal of E-335 from service). This additional evaluation was not performed, and therefore, the required actions were not identified.

E. CORRECTIVE ACTIONS:

1. Corrective Actions Taken:

This event has been discussed with appropriate EC personnel, emphasizing the need to identify the impact of schedule changes (such as the early start of an outage) on plant operation such that appropriate plant evolutions can be directed to be performed to avoid circumstances requiring voluntary entries into TS 3.0.3.

2. Planned Corrective Actions:

a. Guidance will be developed to provide assurance that the impact of an early start of an outage is evaluated and appropriate actions initiated to minimize the impact of planned maintenance on plant operations.

b. The Plant Shutdown procedure will be modified to include an action to align, as appropriate, all safety-related "common" equipment (equipment which provides functions to both Units 2 and 3) to the unit not being shutdown. This will provide additional assurance that necessary transfer operations of common equipment are performed prior to the start of an outage, thereby avoiding evolutions requiring voluntary entry into TS 3.0.3.

F. SAFETY SIGNIFICANCE OF THE EVENT:

There is no safety significance to this event, since the second train of emergency chillers was inoperable for only 16 minutes, and normal cooling was maintained as necessary to all associated rooms. Under the highly unlikely situation of a design basis accident occurring at the time of the initiation of the transfer operation, a loss of normal and emergency cooling would occur, and local room temperatures would increase from their normal temperatures of approximately 75F as a function of the room's heat load. At 104F, the emergency electrical equipment and components are not environmentally qualified, but would probably continue to perform their function. The time required to exceed 104 degrees depends on ambient temperatures, magnitude of the accident, and components actuated. With normal initial room temperatures, it is estimated that all components supported by the chiller would still have been fully functional after 16 minutes.

G. ADDITIONAL INFORMATION:

1. Component Failure Information:

   Not applicable

2. Previous LERs for Similar Events:

   None

3. Results of NPRDS Search:

   Not applicable