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

SUBJECT: LER 90-007-00:on 900626,Tech Spec 3.0.3 entry during safety injection tank filling.

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July 25, 1990

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

Subject: Docket No. 50-361
30-Day Report
Licensee Event Report No. 90-007
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 a Technical Specification 3.0.3 entry during the filling of a Safety Injection Tank. Neither the health and safety of plant personnel nor the public was affected by this occurrence.

If you require any additional information, please so advise.

Sincerely,

HEMorg

Enclosure: LER No. 90-007

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

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 of 0 5

Title (4)

TECHNICAL SPECIFICATION 3.0.3 ENTRY DURING SAFETY INJECTION TANK (SIT) FILLING

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	2 6	9 0	9 0	0 0 7	0 0	0 6	2 5	9 0	NONE	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 10CFR (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)	___ 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
H. E. Morgan, Vice President and Site Manager	AREA CODE 7 1 4 3 6 8 - 9 4 7 0

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)

___ Yes (If yes, complete EXPECTED SUBMISSION DATE) | X NO

Expected Submission Date (15): Month | Day | Year

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

At 2349 on 6/26/90, with Unit 2 at full power, during the addition of water into Safety Injection Tank (SIT) T-009, the nitrogen cover pressure in T-008 increased to 669 psia. At this time, since TS 3.5.1 specified a nitrogen cover pressure range of 615 to 655 psia, SIT T-008 became inoperable. SIT T-009 was also inoperable since its vent valve fuses had been installed in preparation for venting. Since TS 3.5.1 allows only one inoperable SIT, TS 3.0.3 was entered. At 2352, T-009 vent valve fuses were removed and TS 3.0.3 was exited. At 0020 on 6/27/90, the nitrogen cover pressure for T-008 was restored to within limits.

The increase in nitrogen pressure in SIT T-008 was caused by in-leakage of borated water through the fill and drain valve during the filling of SIT T-009 with the common fill header pressurized. The valve leaked by its seat and allowed level to increase causing pressure in the tank to rise above its TS limit. The valve will be repaired during the next outage of sufficient duration when plant conditions permit. Additional precautions will be added to the SIT fill procedure and operators will review this event to further sensitize them to the potential of in-leakage through this valve when filling other SITs.

Plant: San Onofre Nuclear Generating Station
Unit: Two
Reactor Vendor: Combustion Engineering
Event Date: 06-26-90
Time: 2349

A. CONDITIONS AT TIME OF THE EVENT:

Mode: 1, Power Operations

B. BACKGROUND INFORMATION:

Four Safety Injection Tanks (SITs) [TK] (T-007, T-008, T-009 and T-010), are aligned to the four Reactor Coolant System (RCS) loop injection lines, and provide borated water to the RCS during large break loss of coolant accidents (LOCAs) using a nitrogen cover pressure as the motive force for flow. Each SIT discharge line contains a fill and drain line connection, a discharge check valve, and a discharge isolation valve (normally open). Each SIT fill and drain line is connected to the common fill and drain header (normally depressurized) and contains a fill and drain valve which is normally closed.

Due to minor leakages, either from the SIT/injection loop to the fill and drain header or from the RCS to the SIT/injection loop, it is necessary to increase or decrease SIT water level and/or pressure as these parameters approach Technical Specification (TS) limits. For this reason, filling of T-009 was being performed.

The process of filling a SIT involves pressurizing the SIT fill and drain header to approximately 100 - 200 psig above the SIT nitrogen cover pressure using High Pressure Safety Injection (HPSI) [BQ] pump [P], and then opening the fill/drain valve [ISV] until the desired SIT water level is achieved. For the SIT being filled, as pressure increases, nitrogen is vented using the associated SIT Vent Valve to maintain pressure between the required levels. Power to the SIT vent valve is aligned by installing the fuses and then closing the disconnect switch. Installation of these vent valve fuses renders the SIT inoperable.

TS 3.5.1 requires, in part, that in Modes 1 - 3 with pressurizer pressure $\geq$ 715 psia, each SIT shall be operable with: (1) the isolation valve open and power to the valve removed, (2) a borated water volume of between 1680 and 1807 cubic feet, and (3) a nitrogen cover-pressure of between 615 and 655 psia. With one SIT inoperable, except as a result of a closed isolation valve, the tank must be restored to operable status within one hour or the plant must be placed in hot standby within the next six hours. Inoperability of a SIT resulting from a closed isolation valve requires placing the plant in hot standby within one hour until operability of the SIT is restored.

C. DESCRIPTION OF THE EVENT:

1. Event:

At 2349 on 6/26/90, with Unit 2 at full power, during the addition of water into Safety Injection Tank (SIT) T-009, the nitrogen cover pressure in T-008 increased to 669 psia. At this time, since TS 3.5.1 specified a nitrogen cover pressure range of 615 to 655 psia, SIT T-008 became inoperable. SIT T-009 was also inoperable since its vent valve fuses had been installed in preparation for venting. Since TS 3.5.1 allows only one inoperable SIT, TS 3.0.3 was entered. At 2352, T-009 vent valve fuses were removed, thus restoring the tank to operable status, and TS 3.0.3 was exited. At 0020 on 6/27/90, the nitrogen cover pressure for T-008 was restored to within limits and all 4 SITs were again operable.

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

None

3. Sequence of Events:

DATE	TIME	ACTION
6/26/90	2340	Commenced filling SIT T-009 following recirculation of header. SIT T-009 declared inoperable for this evolution.
	2349	SIT-008 inoperable on high nitrogen cover pressure. TS 3.0.3 entered.
	2350	Stopped fill of SIT-009.
	2352	SIT-009 vent valve fuses removed. Exited 3.0.3.
6/27/90	0020	Nitrogen cover pressure for T-008 was restored to within limits.

4. Method of Discovery:

The operators who were performing the fill of SIT T-009 noted that the pressure in SIT T-008 had increased. Also, control room alarms were received when SIT T-008 pressure increased above the alarm setpoint.

5. Personnel Actions and Analysis of Actions:

Operators were aware of the potential for in-leakage through the fill and drain valve of SIT T-008 and responded properly by removing the vent valve fuses and returning SIT T-009 to operable within 4 minutes.

6. Safety System Responses:

Not applicable

D. CAUSE OF THE EVENT:

The increase in nitrogen pressure of T-008 was caused by in-leakage of borated water through the fill and drain valve during the filling of SIT T-009 with the common fill header pressurized.

E. CORRECTIVE ACTIONS:

1. Corrective Actions Taken:

A maintenance order has been generated to repair the fill and drain valve. This work will be performed during the next outage of sufficient duration when plant conditions permit.

2. Planned Corrective Actions:

a. Although operator actions were appropriate, the Operating Instruction which governs the SITs is being modified. The tailboard checklist will state that while filling the SITs, if any unexplained or unexpected pressure or level change is noted, or upon receipt of a SIT level or pressure alarm from any tank other than the one being filled, prompt action should be taken to stop the HPSI pump and then close any previously opened valves. In addition, the fill sequence of the operating instruction will include additional steps stating that any unexplained or unexpected change in any SIT pressure or level requires prompt action, including stopping the HPSI pump and then closing any previously opened valves.

b. This event will be reviewed with licensed Operators to further sensitize them to the potential in-leakage of borated water through the fill and drain valves during SIT fillings.

F. SAFETY SIGNIFICANCE OF THE EVENT:

There was no safety significance to this event since vent valve fuses were removed within 4 minutes and SIT T-009 remained capable of performing its intended safety function throughout the event. SIT T-008 was returned to service within the 1-hour action statement. The health and safety of plant personnel or the public was not affected by this event.

G. ADDITIONAL INFORMATION:

1. Component Failure Information:

Not applicable

2. Previous LERs for Similar Events:

LER 87-012 (Docket No. 50-362) reported an instance wherein TS 3.0.3 was entered during a SIT fill. The cause of this event was the failure of the control operator to properly implement the SIT fill procedure.

LER 86-005 (Docket No. 50-361) reported a TS 3.0.3 entry following the pressure limit of two SITs being exceeded. This was caused by the in-leakage of borated water through the fill/drain valves, and all SIT fill/drain valve actuators were replaced. Corrective actions identified in this LER would not have prevented the event being reported.