

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 3										DOCKET NUMBER (2) 0 5 0 0 0 3 6 2				PAGE (3) 1 OF 0 4		
TITLE (4) PRESSURIZER INSTRUMENT NOZZLE PRESSURE BOUNDARY LEAK																
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 (8)			
0 2	2 7	8 6	8 6	0 0 3	0 0	0 3	2 8	8 6					0 5 0 0 0 0 0 0			
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)														
3		20.402(b)				20.405(c)				50.73(a)(2)(iv)				73.71(b)		
POWER LEVEL (10)		0 0 0				20.405(a)(1)(i)				50.36(c)(1)				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, NRC Form 366A)		
		20.405(a)(1)(iii)				50.73(a)(2)(i)				50.73(a)(2)(viii)(A)						
		20.405(a)(1)(iv)				X 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 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	MANUFACTURER	REPORTABLE TO NRC		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC						
B	A/B	N/Z/L	C 4 9 0	Y												
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
X YES (If yes, complete EXPECTED SUBMISSION DATE)												NO		0 7	0 1	8 6

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

On February 27, 1986, with Unit 3 in Hot Standby, a small Reactor Coolant System (RCS) pressure boundary leak was observed in a 3/4 inch instrument nozzle on the head of the Pressurizer. An Unusual Event was declared and cooldown to Cold Shutdown was accomplished within the time limitations of the Technical Specification using normal operating procedures.

It was determined by penetrant testing that there was a through-the-wall crack which extended from the end of the nozzle inside the pressurizer, 5/8 of an inch outward. Pieces of the nozzle were sent to a metallurgist for analysis. The results of the analysis are not available at this time. When the actual cause of the crack is determined it will be reported as a revision to this LER.

As corrective action the nozzle was completely cut out, including the weld, and replaced with a new nozzle.

The leakage was identified by normally monitored RCS leak rate parameters and the subsequent investigation of Reactor Coolant leakage indications. All plant systems performed as designed to bring the Unit to Cold Shutdown. Therefore, neither the health and safety of plant personnel nor the health and safety of the public was affected by this event.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

On February 27, 1986, with Unit 3 in Hot Standby, a Reactor Coolant System (RCS) pressure boundary leak was observed (EIIS SYSTEM CODE AB) in a Pressurizer (EIIS Component Code PZR) instrument nozzle. The Unit was at an RCS temperature of 545°F and an RCS pressure of 2250 psi.

The discovery was made during an inspection by Station Technical, which was being performed to locate the source of a suspected vapor space leak from the Pressurizer. The inspection was the result of a higher than expected RCS leak rate and a concurrent increase in the noble gas activity in the containment atmosphere, which are normally monitored parameters. This combination alerted operations personnel to a potential vapor space leak from the Pressurizer.

A containment entry was made by Station Technical and the subsequent inspection identified a pressure boundary leak located on the Pressurizer head at a 3/4 inch level instrument nozzle. The leak appeared to be located between the nozzle and the Pressurizer, in the annulus area of the nozzle assembly and was estimated at approximately 0.15 gallons per minute. The engineers checked for possible vibration of the instrument piping, but none was noted.

When the engineers exited the containment they informed the Shift Superintendent of their findings. Based on these findings an action statement was entered pursuant to Technical Specification 3.4.5.2, which required the Unit to be in Cold Shutdown within the next thirty hours.

At 1250, an Unusual Event was declared and cooldown was initiated. At 1445, the Unusual Event was terminated per procedure. The Unit entered Cold Shutdown at 1655 on February 28, 1986.

On March 6, 1986, with Unit 3 in Cold Shutdown, penetrant tests (PT) were performed on the instrument nozzle. As a result, a crack was identified in the nozzle, which was through-the-wall and into the pressure boundary weld. The crack was axial to the nozzle and starting from the end of the nozzle inside the pressurizer and extended outward approximately 5/8 inches (see attached sketch). At the point of the crack the weld is approximately 1/2 inch in depth. The crack extended beyond the weld approximately 1/8 inch into the annulus area of the nozzle assembly.

In order to determine the cause of the crack, a piece of the nozzle at the crack is being metallurgically analyzed. The results of the analysis are not available at this time. When the actual cause is determined it will be reported in a revision to this LER.

To ensure that there was not a generic problem with the other instrument nozzles on the Pressurizer, a PT was performed on the nozzle closest to the leaking nozzle. The results of the PT showed no defects in the other nozzle. In addition, this adjacent nozzle and the other two instrument nozzles on the head of the Pressurizer were visually inspected from outside of the Pressurizer. This inspection was performed with the RCS pressurized and again following depressurization, and no evidence of leakage was observed.

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As corrective action, the nozzle was completely cut out including the entire weld. The new nozzle was installed by the NSSS vendor (Combustion Engineering) in accordance with the vendor's fabrication specifications. The new nozzle was machined out of solid inconel bar stock to ensure no seam deficiencies could exist. The installation of the new nozzle was completed on March 10, 1986.

Although this event did involve a pressure boundary leak of the RCS, it did not seriously degrade a primary safety barrier or place the Unit in an unanalyzed condition. If there had been a complete failure of the nozzle, the resulting accident conditions would have remained bounded by the small break loss of coolant accident analysis in the Final Safety Analysis Report.

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SAN ONOFRE NUCLEAR GENERATING STATION,
UNIT 3

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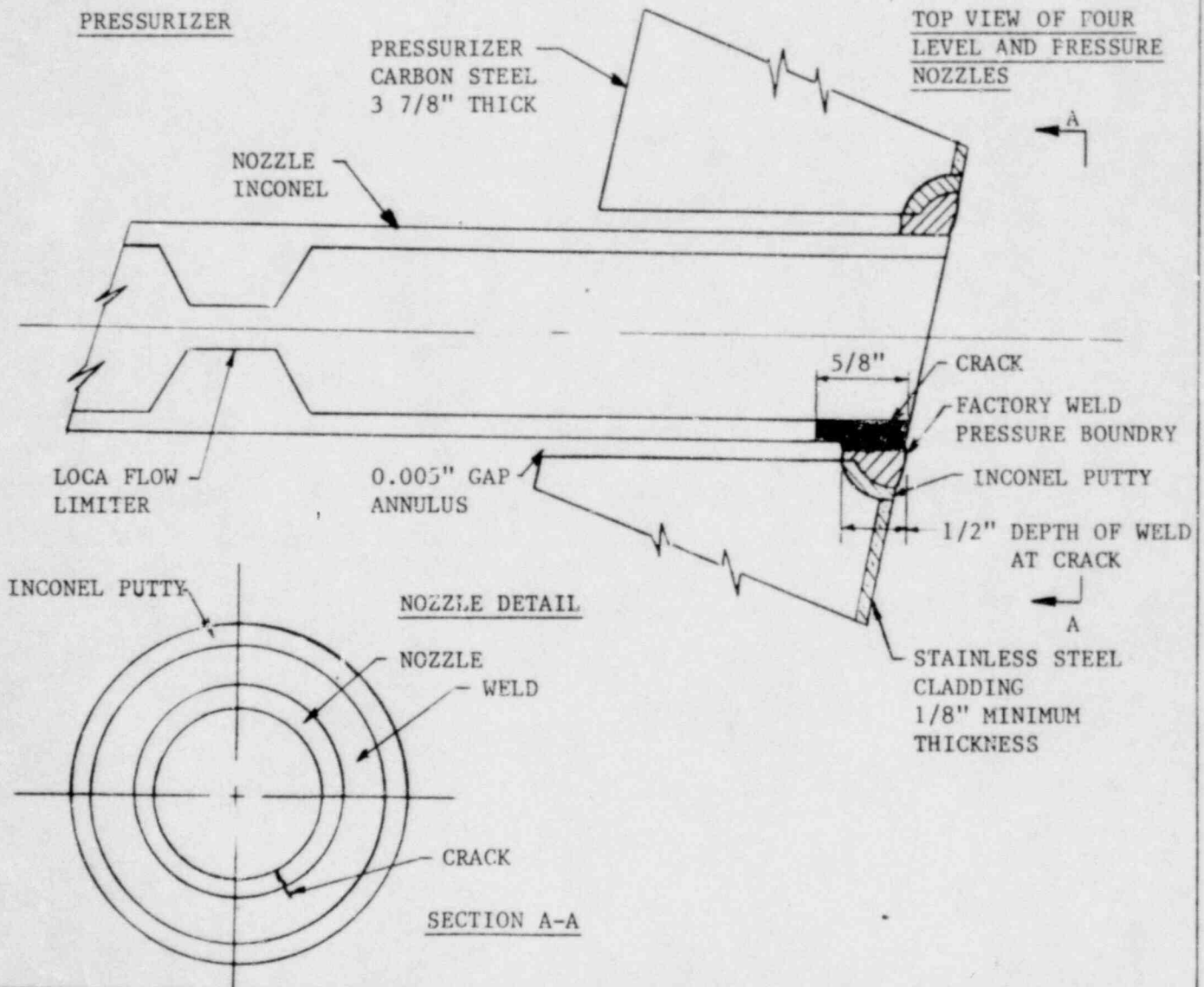
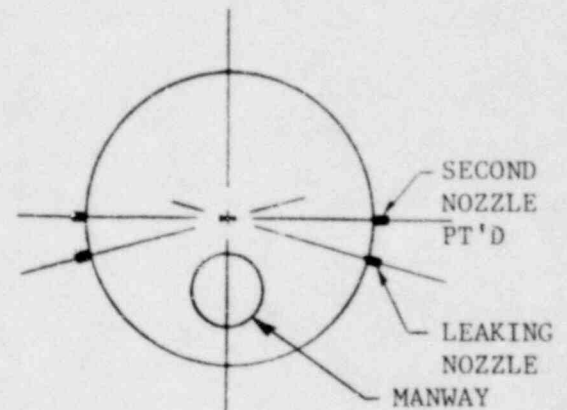
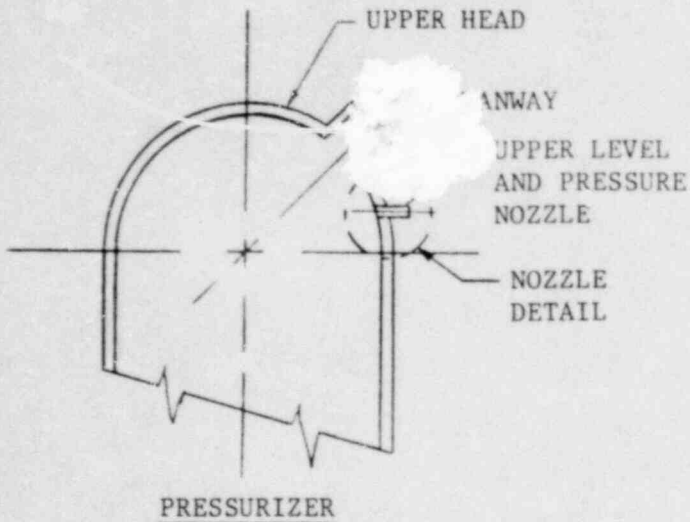
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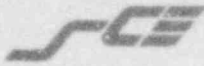
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TEXT (if more space is required, use additional NRC Form 366A's) (17)





Southern California Edison Company

SAN ONOFRE NUCLEAR GENERATING STATION

P. O. BOX 128

SAN CLEMENTE, CALIFORNIA 92672

H. E. MORGAN
STATION MANAGER

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March 28, 1986

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

Subject: Docket No. 50-362
30-Day Report
Licensee Event Report No. 86-003
San Onofre Nuclear Generating Station, Unit 3

Pursuant to 10 CFR 50.73(a)(2)(ii), this submittal provides the required 30-day written Licensee Event Report (LER) for an occurrence involving the Reactor Coolant System pressure boundary. Neither the health and safety of plant personnel nor the health and safety of the public was affected by this event.

If you require any additional information, please so advise.

Sincerely,

Enclosure: LER No. 86-003

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)