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 2	0 5 0 0 0 3 6 1	1 OF 0 2

TITLE (4)
FIRE WATER MAIN 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(S)
									SONGS UNIT 1	0 5 0 0 0 2 0 6
0 6	1 6	8 4	8 4	0 3 3	0 1	0 9	1 7	8 4	SONGS Unit 3	0 5 0 0 0 3 6 2

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
1		20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
1 0 0		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
	AREA CODE
J. G. HAYNES, STATION MANAGER	7 1 4 — 4 9 2 - 7 7 0 0

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	
X	K P	P S P	T 2 7 8	N							
X	K P	I S V	C 4 1 8	N							

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 6/16/84, at 1142, with Unit 2 in Mode 1 at 100% power and Units 1 and 3 in Mode 5, hydrostatic testing was being performed on a new section of the Unit 2/3 fire main piping. Leakage occurred through the hydrostatic test boundary valves, pressurizing the entire fire main above the operating pressure. A break occurred in the fire main piping outside of the hydrostatic test boundary.

Flooding occurred in the area of the break and water flowed through newly installed telecommunication ducts into the Unit 1 4kV Switchgear Room. The three Unit 2/3 fire pumps, which had started on low pressure, were shut off. The entire Unit 2/3 fire main was isolated. In accordance with LCOs 3.7.8.2 and 3.7.8.3, fire watches were established with portable extinguishers, however, the requirements for backup fire suppression equipment could not be satisfied. At 1515, the leak was isolated and the fire main repressurized.

The failure was attributed to cracking in the pipe caused by recent heavy construction traffic concentrated immediately above the fire main break. The piping was replaced and the system returned to the normal lineup.

IE22
1/1

NRC Form 36.
(9-83)

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQ. NUMBER	REV. NUMBER	
SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 2	0 5 0 0 0 3 6 1	8 4	0 3 3	0 1	0 2 OF 0 2

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

On June 16, 1984, at 1142, with Unit 2 in Mode 1 at 100% power and Units 1 and 3 in Mode 5, hydrostatic testing was being performed on a new section of the Unit 2/3 fire main piping (EIIS Component Code PSP). Leakage occurred through the hydrostatic test boundary valves (EIIS Component Code ISV), pressurizing the entire fire main above the operating pressure. A break occurred in the fire main piping outside of the hydrostatic test boundary.

Flooding occurred in construction excavations in the northeast corner of the Unit 2/3 protected area, and water flowed through newly installed telecommunication ducts into the Unit 1 4kV Switchgear Room. The entire Unit 2/3 fire main system was isolated. The three Unit 2/3 fire pumps, which had started on low pressure, were shut off and their discharge valves closed. In accordance with LCOs 3.7.8.2 and 3.7.8.3, continuous fire watches were established with portable extinguishers, however, the requirement for backup fire suppression equipment could not be satisfied. There was no significant loss of firefighting capability since the site fire engines and the seismic tanker trucks remained available throughout the event. At 1515, the leak was isolated and system operability was restored.

The failure of the fire main piping was attributed to cracking from cyclic stress fatigue precipitated by the leaky hydrostatic test boundary valves. The piping was subjected to a maximum of 220 psig internal pressure for a matter of seconds which is below the design pressure. The break occurred in an area where extremely large construction equipment had been passing over the fire main. Nearby excavation activities may have also decreased the compaction in the area of the break aggravating this condition. Therefore, this occurrence is considered an isolated case. The cause of the leaking isolation valves has not been determined as we are awaiting replacement parts prior to disassembling the valves. The necessary repairs will be made to prevent the leakage. The broken fire main piping was replaced, tested and returned to service. The appropriate procedures will be revised by December 31, 1984, to require a flood protection assessment to be completed in future construction Safety Evaluations and the capping of all conduit and piping under construction when not in work.

Our investigation into this incident determined that the Unit 2/3 fire protection program was satisfied during this event by the use of the compensatory measures. No other Unit 2/3 systems were affected by the event. No Unit 1 systems were rendered inoperable as a result of the water intrusion into the 4kV Switchgear Room, nor was there any effect on Unit 1 fire protection systems. We have also examined the event to determine the consequences on Unit 1 if the fire main flooding had continued for a prolonged period. We have determined that additional flooding would not have significantly increased the water level in the Unit 1 4kV Switchgear Room taking into consideration the elevation head to drive the water, flow resistance, and the fact that the 4kV room is surrounded on two sides by a large level area at the same elevation with numerous floor drains.

Southern California Edison Company

SAN ONOFRE NUCLEAR GENERATING STATION
P.O. BOX 128
SAN CLEMENTE, CALIFORNIA 92672

J. G. HAYNES
STATION MANAGER

TELEPHONE
(714) 492-7700

September 17, 1984

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

Subject: Docket No. 50-361
Licensee Event Report No. 84-033, Revision 1
San Onofre Nuclear Generating Station, Units 2 and 3

Reference: Letter, J. G. Haynes (SCE) to USNRC Document Control Desk, dated July 16, 1984, "Licensee Event Report No. 84-033"

The referenced letter provided the required 30-day written Licensee Event Report (LER) for an occurrence involving the Fire Suppression System. Since this event involved components common to Units 2 and 3, a single report was submitted in accordance with NUREG-1022. In addition, we reported that a follow-up LER would be issued to identify the cause and corrective action taken. Enclosed is LER 84-033, Revision 1. Neither the health and safety of plant personnel nor the public were affected by this event.

If you require any additional information, please so advise.

Sincerely,

JG Haynes

Enclosure: LER No. 84-033, Revision 1

cc: A. E. Chaffee (USNRC Senior Resident Inspector, Units 1, 2 and 3)
A. J. D'Angelo (USNRC Resident Inspector Unit 1)
J. P. Stewart (USNRC Resident Inspector, Units 2 and 3)

J. B. Martin (Regional Administrator, USNRC Region V)

Institute of Nuclear Power Operations (INPO)

IE22
1/1