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 2

TITLE (4)

HIGH STEAM GENERATOR WATER LEVEL REACTOR TRIP

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 5 0 0 0
0 8	0 8	8 4	8 4	—	0 3 2	— 0 0	0 9	0 7	8 4		0 5 0 0 0

OPERATING MODE (9)	1
POWER LEVEL (10)	0 1 5

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)	X 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, NRC Form 366A)
20.405(a)(1)(iii)	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	

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)

At 1540, on August 8, 1984, with Unit 3 in Mode 1 at 15 percent power, a reactor trip occurred on high steam generator water level. The trip occurred as a result of overfeeding the steam generators during manual operation of the Feedwater Control System (FWCS). No system or component malfunctioned during this event.

Manual steam generator level control is difficult at low power due to the "shrink" and "swell" responses of steam generator levels. Procedure S023-9-6, "Feedwater Regulating System Operation," has been revised to provide additional guidance in maintaining the FWCS during low power operations. As previously reported in LER 84-020 (Docket No. 50-361) and LER 84-017 (Docket No. 50-362), design changes to optimize steam generator water level control at all power levels are under consideration.

There are no reasonable or credible alternative circumstances under which this event would have been more severe.

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

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

On August 8, 1984, with Unit 3 in Mode 1 at 15 percent power, while preparing for turbine generator synchronization, it was noted that the main feedwater header pressure was nearly equal to the steam generator pressure and that the main feed regulating valves were approximately 65% open. Steam generator water levels were being maintained at approximately 70%, but the feedwater header to steam generator differential pressure (dp) was low and consequently, the main feed regulating valves were in a high open position. In order to raise the dp, the main feed pump turbine speed was increased. The increase in pump speed caused an overfeed and subsequent steam generator level swell. The levels continued to rise due to this swell effect and at approximately 1540, the reactor tripped after reaching the trip setpoint of 90%.

The Feedwater Control System (FWCS) (EIIS System Code JB) is designed to operate in the automatic mode at power levels above 15 percent. Operation of the FWCS in the manual mode is difficult since it is hard to anticipate the "shrink" and "swell" responses of the steam generators. Control is especially difficult when plant power is increasing during startup.

Similar incidents of operator difficulties in anticipating "shrink" and "swell" of steam generators with the Feedwater Control System (EIIS System Code JB) in the manual mode, have been reported in LER 84-020 (Docket No. 50-361) and LER 84-017 (Docket No. 50-362). Procedure S023-9-6, "Feedwater Regulating System Operation," has been revised to provide additional guidance in maintaining the FWCS during low power operations. As previously reported, design changes to optimize steam generator water level control at all power levels are under consideration.

There are no reasonable or credible alternative circumstances under which this event would have been more severe.

Southern California Edison Company

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J. G. HAYNES
STATION MANAGER

TELEPHONE
(714) 492-7700

September 7, 1984

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

Subject: Docket No. 50-362
30-Day Report
Licensee Event Report No. 84-032
San Onofre Nuclear Generating Station, Unit 3

Pursuant to 10 CFR 50.73(a)(2)(iv), this submittal provides the required 30-day written Licensee Event Report (LER) for the occurrence involving actuation of the Reactor Protection System. The health and safety of the public or plant personnel were not affected by this event.

If you require any additional information, please so advise.

Sincerely,

J G Haynes/HRM

Enclosure: LER No. 84-032

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

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

Institute of Nuclear Power Operations (INPO)

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