

Southern California Edison Company

SAN ONOFRE NUCLEAR GENERATING STATION

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April 4, 1991

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

Subject: Docket No. 50-362
Special Report
Inservice Inspection of Steam Generator Tubes
San Onofre Nuclear Generating Station, Unit 3

- References: A. PWR Steam Generator Examination Guidelines, Revision 2,
Electric Power Research Institute (EPRI) Report Number NP-
6201, dated December 1988.
- B. Letter from M. O. Medford (SCE) to Mr. G. W. Knighton
(USNRC) dated April 5, 1985.
- C. Licensee Event Report Number 3-90-005.

Pursuant to Surveillance Requirement 4.4.4.5(b) of Appendix A, Technical Specification to Facility Operating License NPF-15, this report is being submitted to the Commission following the completion of inservice inspection of steam generator tubes at San Onofre Unit 3.

Eddy current inspection of the steam generator tubing was completed on May 7, 1990. A total of 4191 tubes (23% of the tubes in service) in two steam generators were inspected full length and 34 tubes were removed from service by mechanical plugging. This inspection significantly exceeded the amount of tubing required to be inspected per Surveillance Requirements 4.4.4.0 through 4.4.4.2 including all prospective C-2 expansions [i.e., a 3% sample plus a 6% (2S) and a 12% (4S) expansion in each steam generator].

The planned inspection programs for both steam generators were fully consistent with recent industry recommendations in the "PWR Steam Generator Examination Guidelines" (Reference A). The programs included inspection of the full length of 100% of the tubing in the area of the tube bundle where the batwing wear mechanism previously described in Reference B is active. The programs included tubes adjacent to tie rods where denting was anticipated based on experience with the San Onofre Unit 2 steam generators in October 1989. The programs also included general surveillance of the full length of 20% of the remainder of the tubing. The programs were expanded to include tubes adjacent to, or associated with tubes exhibiting new eddy current indications.

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In steam generator E-088, 2106 tubes were inspected. No tubes were found to be defective. Eight tubes were preventively plugged due to wear mechanism previously described in Reference B. In addition, three tubes at the tube bundle periphery were preventively plugged due to degradation at diagonal strap supports.

In steam generator E-089, 2085 tubes were inspected. One tube was found to be defective at its intersection with a vertical strap support and was plugged. Two tubes were preventively plugged due to the wear mechanism described in Reference B, three tubes were preventively plugged due to degradation at vertical strap supports, and one tube was preventively plugged due to tie-rod denting. Fifteen tubes were preventively plugged and staked and one tube was preventively plugged in response to the failure of the feedwater sparger reported in Reference C.

As required by Surveillance Requirement 4.4.4.5(b), complete results of the recently completed inservice inspection of steam generator tubing are provided in the enclosures. Enclosure 1 provides the steam generator internal location reference guide. Enclosures 2 and 4 provide a list of eddy current testing indications, including tube identification, indication depth and the axial location of the indication in the tube. Enclosures 3 and 5 provide a list of tubes plugged after completion of the inservice inspection.

If you require any additional information, please so advise.

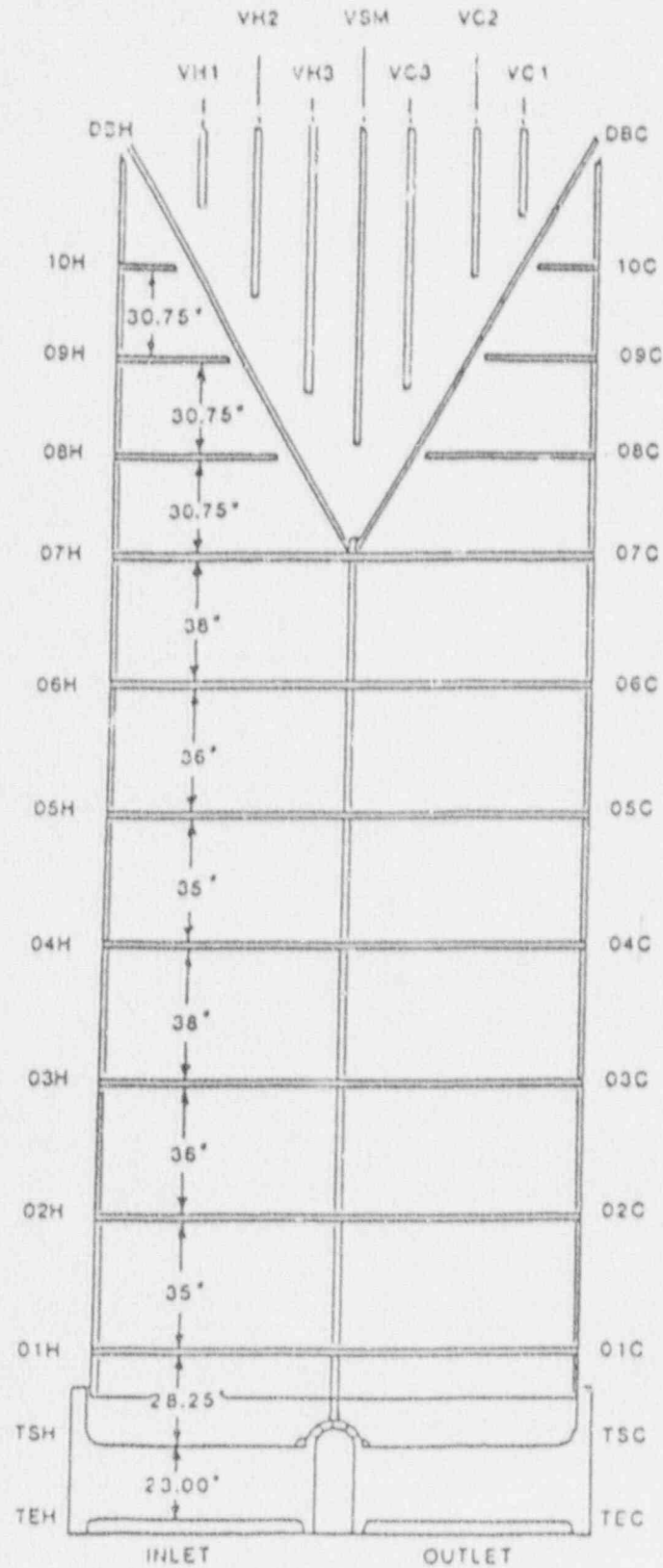
Sincerely,



Enclosures

cc: J. B. Martin (Regional Administrator, USNRC Region V)
C. W. Caldwell (USNRC Senior Resident Inspector, Units 1, 2 & 3)
L. Kokajko (Project Manager, SONGS 2/3, USNRC, MRR)
Institute of Nuclear Power Generation (INPO)

Enclosure 1

CE MODEL 3410 TUBE SUPPORT DRAWING

Enclosure 1

CLARIFICATION OF TUBING/SUPPORT INTERFACES

ABOVE THE 7TH FULL EGGRATE SUPPORT

<u>ROW(S)</u>	<u>TUBING/SUPPORT INTERFACES</u>					
120-147	08H,09H,10H,DBH,VH1,VH2,VH3,VSM,VC3,VC2,VC1,DBC,10C,09C,08C					
115-119	08H,09H	DBH,VH1,VH2,VH3,VSM,VC3,VC2,VC1,DBC	09C,08C			
84-114	08H,09H	DBH	VH2,VH3,VSM,VC3,VC2	DBC	09C,08C	
83	08H	DBH	VH2,VH3,VSM,VC3,VC2	DBC	08C	
51-82	08H	DBH	VH3,VSM,VC3	DBC	08C	
49-50	08H	DBH	VSM	DBC	08C	
19-48		DBH	VSM	DBC		
1-18		DBH		DBC		

Enclosure 2
CUMULATIVE REPORT
04/90, SOUTHERN CALIFORNIA EDISON, SAN ONOFRE, UNIT 3

STEAM GENERATOR: 88
LOCATION: ALL
CRITERIA: 0% TO 100%

PAGE: 1 OF 3
DATE: 05/22/90
TIME: 13:48:07

ROW	COL	HEAT#	LEG	EXAM PROGRAM	EXTENT ACTUAL	REM	REEL	PROBE	LOCATION	VOLTS	CURRENT MIL	DEG	%	CH
37	11		C	TEC-TEH	TEC-TEH		009	580UL VSM-	0.82	0.4		0	<20	18
76	14		C	TEC-TEH	TEC-TEH		025	580UL OBH+	22.72	0.6		153	<20	1
82	16		C	TEC-TEH	TEC-TEH		008	580UL VH3-	0.79	0.8		0	<20	18
			C	TEC-TEH	TEC-TEH		008	580UL VH3+	0.84	0.7		0	<20	18
			C	TEC-TEH	TEC-TEH		008	580UL DBC-	1.80	2.2		0	32	18
63	17		C	TEC-TEH	TEC-TEH		025	580UL DBC-	2.98	1.5		0	24	18
21	19		C	TEC-TEH	TEC-TEH		008	580UL 02C+	7.27	0.6		151	<20	1
78	26		C	TEC-TEH	TEC-TEH		011	580UL VC3+	0.50	0.9		0	<20	18
77	31		C	TEC-TEH	TEC-TEH		011	580UL VSM+	0.81	0.8		0	<20	18
82	36		C	TEC-TEH	TEC-TEH		012	580UL VH3+	0.06	0.9		0	20	18
84	36		C	TEC-TEH	TEC-TEH		012	580UL VH2-	1.26	0.5		0	<20	18
123	41		C	TEC-TEH	TEC-TEH		012	580UL 06H-	0.96	0.4		0	<20	18
27	45		C	TEC-TEH	TEC-TEH		006	580UL 02H+	24.70	0.6		142	20	1
86	46		C	TEC-TEH	TEC-TEH		013	580UL 08H+	2.63	0.6		138	33	1
131	51		C	TEC-TEH	TEC-TEH		022	580UL DBC+	2.02	0.3		0	<20	1
139	61		C	TEC-TEH	TEC-TEH		022	580UL 10H+	20.87	2.9		149	<20	1
36	66		C	TEC-TEH	TEC-TEH		014	580UL VSM-	0.97	0.4		0	<20	18
118	66		C	TEC-TEH	TEC-TEH		021	580UL 06H+	3.54	0.5		139	29	1
142	66		C	TEC-TEH	TEC-TEH		021	580UL DBH+	2.38	0.8		0	<20	18
			C	TEC-TEH	TEC-TEH		021	580UL DBC+	1.23	0.6		0	<20	18
43	69		C	TEC-TEH	TEC-TEH		004	580UL VSM-	0.99	0.7		0	<20	18
77	71		C	TEC-TEH	TEC-TEH		031	580UL VH3+	0.82	1.3		0	21	18
40	72		C	TEC-TEH	TEC-TEH		004	580UL DBH-	1.81	0.7		0	<20	18
			C	TEC-TEH	TEC-TEH		004	580UL VSM-	0.87	1.0		0	20	18
44	72		C	TEC-TEH	TEC-TEH		004	580UL VSM-	0.54	0.7		0	<20	18
33	73		C	TEC-TEH	TEC-TEH		005	580UL DBC+	1.33	0.5		0	<20	18
37	73		C	TEC-TEH	TEC-TEH		005	580UL VSM+	0.99	1.4		0	25	18
39	73		C	TEC-TEH	TEC-TEH		005	580UL VSM+	0.92	1.0		0	20	18
34	74		C	TEC-TEH	TEC-TEH		005	580UL DBH-	1.67	1.2		0	22	18
38	74		C	TEC-TEH	TEC-TEH		005	580UL DBH-	1.61	0.6		0	<20	18
39	75		C	TEC-TEH	TEC-TEH		005	580UL DBH-	1.63	0.4		0	<20	18
41	75		C	TEC-TEH	TEC-TEH		005	580UL DBH-	1.84	0.6		0	<20	18
			C	TEC-TEH	TEC-TEH		005	580UL VSM+	0.84	0.6		0	<20	18
			C	TEC-TEH	TEC-TEH		005	580UL DBC+	1.73	0.7		0	<20	18
124	76		C	TEC-TEH	TEC-TEH		021	580UL VH2-	1.16	0.5		0	<20	18
50	78		C	TEC-TEH	TEC-TEH		004	580UL DBC-	1.38	0.6		0	<20	18
146	78		C	TEC-TEH	TEC-TEH		049	580UL DBC+	1.6	1.0		0	20	M2
145	79		C	TEC-TEH	TEC-TEH		049	580UL DBC+	1.3	0.9		0	<20	M2
48	80		C	TEC-TEH	TEC-TEH		004	580UL DBC-	0.75	0.5		0	<20	18
146	80		C	TEC-TEH	TEC-TEH		049	580UL DBC+	1.8	0.8		0	<20	M2
75	81		C	TEC-TEH	TEC-TEH		031	580UL VH3-	0.79	0.6		0	<20	18
			C	TEC-TEH	TEC-TEH		031	580UL VH3+	0.87	1.0		0	<20	18
81	81		C	TEC-TEH	TEC-TEH		031	580UL VH3-	0.67	0.7		0	<20	18
			C	TEC-TEH	TEC-TEH		031	580UL VH3+	0.92	0.6		0	<20	18
			C	TEC-TEH	TEC-TEH		031	580UL VSM+	0.95	0.6		0	<20	18

CUMULATIVE REPORT
04/90, SOUTHERN CALIFORNIA EDISON, SAN ONOFRE, UNIT 3

STEAM GENERATOR: 88
LOCATION: ALL
CRITERIA: 0% TO 100%

PAGE: 2 OF 3
DATE: 05/22/90
TIME: 13:48:07

ROW	COL	HEAT#	LEG	EXAM PROGRAM	EXTENT ACTUAL	REM	REEL	PROBE	LOCATION	VOLTS	CURRENT MIL	DEC	%	CH
81	81		C	TEC-TEH	TEC-TEH		031	580UL	VC3- 0.81	0.9		0	<20	18
147	81		C	TEC-TEH	TEC-TEH		020	580UL	DBC+ 1.76	1.4		0	25	18
54	82		C	TEC-TEH	TEC-TEH		004	580UL	DBH- 1.48	0.9		0	<20	18
58	82		C	TEC-TEH	TEC-TEH		004	580UL	DBH- 1.83	0.6		0	<20	18
146	82		C	TEC-TEH	TEC-TEH		050	580UL	DBC+ 1.4	1.0		0	20	M2
51	85		C	TEC-TEH	TEC-TEH		003	580UL	03C+ 18.34	0.4	144		<20	1
46	86		C	TEC-TEH	TEC-TEH		003	580UL	DBH+ 1.90	3.1		0	38	18
48	86		C	TEC-TEH	TEC-TEH		003	580UL	DBH+ 2.39	2.2		0	32	18
			C	TEC-TEH	TEC-TEH		003	580UL	DBC+ 1.56	0.5		0	<20	18
50	86		C	TEC-TEH	TEC-TEH		003	580UL	DBH- 1.62	1.0		0	20	18
			C	TEC-TEH	TEC-TEH		003	580UL	DBC- 1.33	0.3		0	<20	18
47	87		C	TEC-TEH	TEC-TEH		003	580UL	DBH+ 2.16	0.5		0	<20	18
			C	TEC-TEH	TEC-TEH		003	580UL	VSM- 0.97	0.6		0	<20	18
			C	TEC-TEH	TEC-TEH		003	580UL	DBC+ 1.68	0.7		0	<20	18
49	87		C	TEC-TEH	TEC-TEH		003	580UL	DBH- 1.79	0.4		0	<20	18
51	87		C	TEC-TEH	TEC-TEH		003	580UL	DBH- 1.69	0.7		0	<20	18
50	88		C	TEC-TEH	TEC-TEH		003	580UL	DBC- 1.12	0.5		0	<20	18
53	89		C	TEC-TEH	TEC-TEH		003	580UL	DBH- 1.16	0.4		0	<20	18
147	89		C	TEC-TEH	TEC-TEH		050	580UL	DBC- 1.4	0.8		0	<20	M2
138	90		C	TEC-TEH	TEC-TEH		050	580UL	01C+ 12.6	2.0	143		23	1
			C	TEC-TEH	TEC-TEH		020	580UL	01C+ 12.44	1.9	138		31	1
145	91		C	TEC-TEH	TEC-TEH		020	580UL	VC1- 1.27	0.7		0	<20	18
54	92		C	TEC-TEH	TEC-TEH		003	580UL	DBC- 1.96	0.4		0	<20	18
146	92		C	TEC-TEH	TEC-TEH		050	580UL	10C+ 0.6	0.7		0	<20	M2
51	93		C	TEC-TEH	TEC-TEH		002	580UL	DBH- 1.71	0.5		0	<20	18
50	94		C	TEC-TEH	TEC-TEH		002	580UL	DBH- 1.84	0.7		0	<20	18
			C	TEC-TEH	TEC-TEH		002	580UL	DBC+ 1.13	0.7		0	<20	18
51	95		C	TEC-TEH	TEC-TEH		002	580UL	DBC- 2.03	0.8		0	<20	18
135	95		C	TEC-TEH	TEC-TEH		051	580UL	08C+ 25.7	0.6	152		<20	1
46	96		C	TEC-TEH	TEC-TEH		002	580UL	DBC+ 1.55	0.3		0	<20	18
48	96		C	TEC-TEH	TEC-TEH		002	580UL	DBC+ 1.20	0.4		0	<20	18
50	96		C	TEC-TEH	TEC-TEH		002	580UL	DBH- 2.11	0.5		0	<20	18
			C	TEC-TEH	TEC-TEH		002	580UL	DBC- 2.28	0.4		0	<20	18
128	96		C	TEC-TEH	TEC-TEH		020	580UL	01H+ 32.00	1.0	152		<20	1
49	97		C	TEC-TEH	TEC-TEH		002	580UL	DBH- 2.28	1.6		0	27	18
			C	TEC-TEH	TEC-TEH		002	580UL	DBC- 1.59	0.2		0	<20	18
51	97		C	TEC-TEH	TEC-TEH		002	580UL	DBC- 1.82	0.4		0	<20	18
49	99		C	TEC-TEH	TEC-TEH		002	580UL	DBH- 2.01	1.1		0	21	18
55	99		C	TEC-TEH	TEC-TEH		002	580UL	VH3- 0.69	0.3		0	<20	18
43	101		C	TEC-TEH	TEC-TEH		002	580UL	VSM- 0.60	1.2		0	22	18
79	101		C	TEC-TEH	TEC-TEH		015	580UL	VH3- 0.69	1.0		0	21	18
			C	TEC-TEH	TEC-TEH		015	580UL	VH3+ 1.06	0.8		0	<20	18
35	103		C	TEC-TEH	TEC-TEH		001	580UL	VSM- 0.63	0.8		0	<20	18
145	103		C	TEC-TEH	TEC-TEH		052	580UL	DBH- 1.9	0.5		0	<20	M2
34	104		C	TEC-TEH	TEC-TEH		001	580UL	DBH- 1.73	1.1		0	22	18

CUMULATIVE REPORT
04/90, SOUTHERN CALIFORNIA EDISON, SAN ONOFRE, UNIT 3

STEAM GENERATOR: 88
LOCATION: ALL
CRITERIA: 0% TO 100%

PAGE: 3 OF 3
DATE: 05/22/90
TIME: 13:48:07

ROW	COL	HEAT#	LEG	EXAM EXTENT		REM	REEL	PROBE	LOCATION	CURRENT				
				PROGRAM	ACTUAL					VOLTS	MIL	DEG	%	CH
142	104		C	TEC-TEH	TEC-TEH		052	580UL	DBH+ 1.9	0.8		0	<20	M2
48	106		C	TEC-TEH	TEC-TEH		022	580UL	VSM- 0.85	0.2		0	<20	18
73	111		C	TEC-TEH	TEC-TEH		015	580UL	VSM+ 0.79	0.7		0	<20	18
81	111		C	TEC-TEH	TEC-TEH		015	580UL	VC3- 0.79	0.5		0	<20	18
140	114		C	TEC-TEH	TEC-TEH		053	580UL	DBH+ 1.9	1.6		0	27	M2
136	120		C	TEC-TEH	TEC-TEH		054	580UL	DBH+ 1.8	1.3		0	24	M2
80	126		C	TEC-TEH	TEC-TEH		024	580UL	VH3+ 0.94	1.1		0	20	18
			C	TEC-TEH	TEC-TEH		024	580UL	VC3+ 1.12	0.8		0	<20	18
82	126		C	TEC-TEH	TEC-TEH		024	580UL	VSM- 0.57	0.5		0	<20	18
			C	TEC-TEH	TEC-TEH		024	580UL	VC3- 0.69	0.9		0	<20	18
			C	TEC-TEH	TEC-TEH		024	580UL	VC3+ 1.15	1.0		0	<20	18
127	129		C	TEC-TEH	TEC-TEH		018	580UL	TSC+ 7.80	1.6	144	22	1	
77	131		C	TEC-TEH	TEC-TEH		024	580UL	VH3- 0.78	0.7		0	<20	18
79	131		C	TEC-TEH	TEC-TEH		024	580UL	VSM- 0.81	0.6		0	<20	18
53	151		C	TEC-TEH	TEC-TEH		034	580UL	VH3+ 1.30	0.5		0	<20	18
79	161		C	TEC-TEH	TEC-TEH		035	580UL	DBH+ 2.09	0.8		0	<20	18
10	166		C	TEC-TEH	TEC-TEH		038	560SM	01H+ 0.08	1.6	138	<20	17	

NUMBER OF TUBES SELECTED FROM CURRENT OUTAGE: 85

NO TREND ANALYSIS REQUESTED

Enclosure 3

LIST OF TUBES PLUGGED

San Onofre Unit 3 Steam Generator E-088

<u>Row</u>	<u>Column</u>	<u>Reason</u>
82	16	Preventive Maintenance
48	86	Preventive Maintenance
34	104	Preventive Maintenance
83	17	Preventive Maintenance
50	86	Preventive Maintenance
34	74	Preventive Maintenance
47	97	Preventive Maintenance
147	81	Preventive Maintenance
49	97	Preventive Maintenance
46	86	Preventive Maintenance
49	99	Preventive Maintenance

Enclosure 4
CUMULATIVE REPORT
04/90, SOUTHERN CALIFORNIA EDISON, SAN ONOFRE, UNIT 3

STEAM GENERATOR: 89
LOCATION: ALL
CRITERIA: 0% TO 100%

PAGE: 1 OF 2
DATE: 06/01/90
TIME: 10:03 09

ROW	COL	HEAT#	LEG	EXAM EXTENT		REM	REEL	PROBE	LOCATION	CURRENT				
				PROGRAM	ACTUAL					VOLTS	MIL	DEG	%	CH
27	3		C	TEC-TEH	TEC-TEH		044	560SM	TSH+ 10.6	0.8		170	<20	1
30	4		C	TEC-TEH	TEC-TEH		009	580UL	03C+ 34.36	0.9		140	24	1
42	6		C	TEC-TEH	TEC-TEH		009	580UL	VSM- 0.08	0.6		0	<20	18
			C	TEC-TEH	TEC-TEH		009	580UL	VSM+ 0.88	0.9		0	<20	18
80	16		C	TEC-TEH	TEC-TEH		008	580UL	DBC+ 2.2	1.1		0	22	M2
83	17		C	TEC-TEH	TEC-TEH		045	560SM	08H+ 6.8	0.6		148	20	1
73	21		C	TEC-TEH	TEC-TEH		008	580UL	DBH- 0.60	0.9		0	<20	18
104	28		C	TEC-TEH	TEC-TEH		011	580UL	VH2- 1.14	2.1		0	34	18
120	54		C	TEC-TEH	TEC-TEH		023	580UL	09H+ 8.39	1.1		136	35	1
77	61		C	TEC-TEH	TEC-TEH		025	580UL	VH3- 1.11	0.5		0	<20	18
			C	TEC-TEH	TEC-TEH		025	580UL	VSM+ 0.57	0.9		0	<20	18
129	65		C	TEC-TEH	TEC-TEH		022	580UL	VH2- 1.32	0.7		0	<20	18
42	70		C	TEC-TEH	TEC-TEH		001	580UL	VSM- 0.83	1.8		0	31	18
37	71		C	TEC-TEH	TEC-TEH		001	580UL	VSM- 0.73	0.4		0	<20	18
79	71		C	TEC-TEH	TEC-TEH		026	580UL	VC3+ 1.10	0.6		0	<20	18
37	73		C	TEC-TEH	TEC-TEH		001	580UL	DBH+ 2.13	0.7		0	<20	18
45	75		C	TEC-TEH	TEC-TEH		004	580UL	DBC- 1.74	0.4		0	<20	18
52	76		C	TEC-TEH	TEC-TEH		004	580UL	DBC- 2.04	0.5		0	<20	18
48	78		C	TEC-TEH	TEC-TEH		004	580UL	DBC- 1.54	0.8		0	<20	18
108	80		C	TEC-TEH	TEC-TEH		021	580UL	07H+ 22.66	0.9		140	30	1
137	81		C	TEC-TEH	TEC-TEH		021	580UL	09H+ 5.96	1.1		157	<20	1
56	86		C	TEC-TEH	TEC-TEH		004	580UL	DBH- 2.08	0.5		0	<20	18
138	86		C	TEC-TEH	TEC-TEH		021	580UL	VH1- 0.78	0.7		0	<20	18
54	88		C	TEC-TEH	TEC-TEH		004	580UL	DBC- 2.62	0.5		0	<20	18
54	94		C	TEC-TEH	TEC-TEH		003	580UL	DBC- 1.19	0.4		0	<20	18
51	95		C	TEC-TEH	TEC-TEH		003	580UL	DBH- 2.63	0.3		0	<20	18
			C	TEC-TEH	TEC-TEH		003	580UL	DBC+ 1.91	1.0		0	20	18
50	96		C	TEC-TEH	TEC-TEH		003	580UL	VSM- 0.92	1.6		0	29	18
49	97		C	TEC-TEH	TEC-TEH		003	580UL	VSM- 0.72	0.5		0	<20	18
50	98		C	TEC-TEH	TEC-TEH		003	580UL	DBH- 2.15	0.8		0	<20	18
40	100		C	TEC-TEH	TEC-TEH		003	580UL	DBH+ 2.63	1.1		0	23	18
41	101		C	TEC-TEH	TEC-TEH		002	580UL	VSM+ 1.00	3.0		0	39	18
			C	TEC-TEH	TEC-TEH		002	580UL	DBC+ 1.33	0.6		0	<20	18
45	101		C	TEC-TEH	TEC-TEH		002	580UL	DBC+ 1.43	0.5		0	<20	18
77	101		C	TEC-TEH	TEC-TEH		015	580UL	VH3- 0.98	0.5		0	<20	18
83	101		C	TEC-TEH	TEC-TEH		017	580UL	VSM+ 1.21	0.4		0	<20	18
38	102		C	TEC-TEH	TEC-TEH		002	580UL	DBC- 0.85	0.7		0	<20	18
44	102		C	TEC-TEH	TEC-TEH		002	580UL	VSM- 0.63	3.1		0	39	18
46	102		C	TEC-TEH	TEC-TEH	RPI	002	580UL	VSM- 0.69	11.7		0	52	18
46	104		C	TEC-TEH	TEC-TEH		015	580UL	VSM- 0.73	0.5		0	<20	18
37	105		C	TEC-TEH	TEC-TEH		002	580UL	VSM+ 0.74	0.9		0	20	18
129	105		C	TEC-TEH	TEC-TEH		019	580UL	02H+ 13.24	0.9		152	<20	1
141	107		H	TEH-DBH	TEH-DBH		047	580UL	TSH+ 2.3	0.7		0	<20	M2
143	107		H	TEH-DBH	TEH-DBH		047	580UL	TSH+ 1.3	2.3		0	32	M2
			H	TEH-DBH	TEH-DBH		047	580UL	TSH+ 4.3	0.9		0	<20	M2

CUMULATIVE REPORT
04/90, SOUTHERN CALIFORNIA EDISON, SAN ONOFRE, UNIT 3

STEAM GENERATOR: 89
LOCATION: ALL
CRITERIA: 0% TO 100%

PAGE: 2 OF 2
DATE: 06/01/90
TIME: 10:03:09

ROW	COL	HEAT#	LEG	EXAM EXTENT		REM	REEL	PROBE	LOCATION	CURRENT				
				PROGRAM	ACTUAL					VOLTS	MIL	DEG	%	CH
142	108		H	TEH-DBH	TEH-DBH		047	580UL	TSH+ 3.1	1.0		0	<20	M2
115	111		C	TEC-TEH	TEC-TEH		018	580UL	VH3- 1.27	0.4		0	<20	18
92	126		C	TEC-TEH	TEC-TEH		027	580UL	VSM+ 0.00	0.9		0	<20	18
43	131		C	TEC-TEH	TEC-TEH		031	580UL	VSM- 0.78	0.9		0	<20	18
77	131		C	TEC-TEH	TEC-TEH		028	580UL	VH3- 0.60	0.5		0	<20	18
			C	TEC-TEH	TEC-TEH		028	580UL	VC3+ 0.95	1.5		0	26	18
117	131		C	TEC-TEH	TEC-TEH		018	580UL	06H+ 32.23	0.6	134		34	1
46	138		C	TEC-TEH	TEC-TEH		031	580UL	04C- 0.17	1.1		0	21	18
41	141		C	TEC-TEH	TEC-TEH		032	580UL	VSM+ 0.74	0.6		0	<20	18
47	141		C	TEC-TEH	TEC-TEH		032	580UL	VSM- 0.74	0.5		0	<20	18
46	146		C	TEC-TEH	TEC-TEH		032	580UL	VSM+ 0.84	0.8		0	<20	18
104	146		C	TEC-TEH	TEC-TEH		030	580UL	VH2- 0.67	0.6		0	<20	18
			C	TEC-TEH	TEC-TEH		030	580UL	VH3- 0.81	1.5		0	27	18

NUMBER OF TUBES SELECTED FROM CURRENT OUTAGE: 51

NO TREND ANALYSIS REQUESTED

Enclosure 5

LIST OF TUBES PLUGGED

San Onofre Unit 3 Steam Generator E-089

<u>Row</u>	<u>Column</u>	<u>Reason</u>
104	28	Preventive Maintenance
46	102	52% Indication at Location VSM-0.69
51	95	Preventive Maintenance
43	105	Preventive Maintenance
40	100	Preventive Maintenance
41	101	Preventive Maintenance
44	102	Preventive Maintenance
143	107	Preventive Maintenance
141	109	Preventive Maintenance
141	107	Preventive Maintenance
142	110	Preventive Maintenance
142	108	Preventive Maintenance
140	110	Preventive Maintenance
140	108	Preventive Maintenance
2	8	Preventive Maintenance
143	109	Preventive Maintenance
1	9	Preventive Maintenance
1	3	Preventive Maintenance
2	4	Preventive Maintenance
1	5	Preventive Maintenance
2	6	Preventive Maintenance
1	7	Preventive Maintenance
141	111	Preventive Maintenance