

November 13, 2000

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

Gentlemen:

Subject: Docket No. 50-361
Special Report: Inservice Inspection of Steam Generator Tubes
San Onofre Nuclear Generating Station, Unit 2

Reference: Steam Generator Program Guidelines, Nuclear Energy Institute Document
Number NEI 97-06 [Original], dated December 1997

On November 5, 2000, Southern California Edison (SCE) completed the inservice inspection of steam generator tubes at San Onofre Nuclear Generating Station Unit 2. The attached report satisfies the following reporting requirements of Technical Specification 5.7.2.c:

- Within 15 days of inspection completion, report the number of tubes plugged and tubes sleeved in each steam generator;
- Prior to resumption of plant operation, report the results of the steam generator tube inspections which fall into Category C-3; and
- Within 12 months of inspection completion, report the complete results of steam generator tube inspections.

In addition, the contents of the report were prepared using the guidance contained in the above reference. In accordance with the suggested NEI guidance, the enclosed report includes:

- a. Scope of inspections performed;
- b. Active Degradation Mechanisms found;
- c. Nondestructive Examination (NDE) techniques utilized for each degradation mechanism;
- d. Number of tubes plugged or repaired during the inspection for each active degradation mechanism. Repair methods utilized and the number of tubes repaired by each repair method; and

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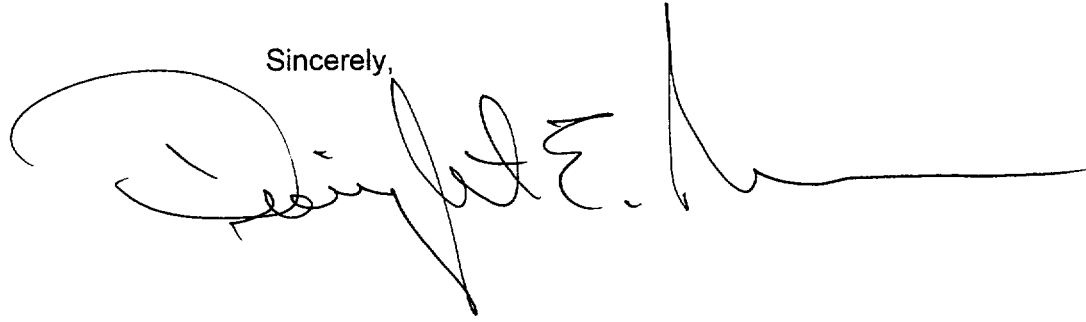
San Onofre Nuclear Generating Station, Unit 2

Special Report

- e. Total number and percentage of tubes plugged and/or repaired to date and the effective plugging percentage in each steam generator.

This report contains no new commitments. If you require any additional information, please advise.

Sincerely,

A handwritten signature in black ink, appearing to read "E. W. Merschoff", written in a cursive style. The signature is positioned to the right of the word "Sincerely,".

Attachments:

cc: E. W. Merschoff, Regional Administrator, NRC Region IV
L. Raghavan, NRC Project Manager, San Onofre Units 2 & 3
J. A. Sloan, NRC Senior Resident, San Onofre Units 2 & 3
Institute of Nuclear Power Operations (INPO)

SPECIAL REPORT - INSERVICE INSPECTION OF STEAM GENERATOR TUBES

Regulatory Reporting Requirements

Reporting Requirement 5.7.2.c of Appendix A, Technical Specification to Facility Operating License NPF-10, requires the number of tubes plugged and tubes sleeved in each steam generator to be reported to the Nuclear Regulatory Commission within 15 days following completion of the inspection.

Reporting Requirement 5.7.2.c of Appendix A, Technical Specification to Facility Operating License NPF-10, requires the results of steam generator tube inspections which fall into Category C-3 to be reported to the Nuclear Regulatory Commission prior to resumption of plant operation.

Reporting Requirement 5.7.2.c of Appendix A, Technical Specification to Facility Operating License NPF-10, requires the complete results of steam generator tube inspections to be reported to the Nuclear Regulatory Commission within 12 months following completion of the inspection.

Planned Inspection Scope

Table 1 summarizes the planned inspection program. Also, when indications by the bobbin probe were non-quantifiable or distorted, the inspection program included inspection with the Plus-Point Probe. Table 4 provides the list of Nondestructive Examination (NDE) techniques utilized for each degradation mechanism.

Inspection Scope Expansion

Table 2 summarizes significant inspection program scope expansion in response to inspection results. The following explanatory details are provided for these expansions.

The planned inspection scope included Plus-Point Probe examination at all dented (≥ 2 volts) tube support locations in the hot leg of the tubing. An axially oriented indication was detected by the bobbin probe at a 2.2 volt dent at a tube support that is referred to as "VC2." This location was outside the planned Plus-Point Probe examination of hot leg dents. In response to this indication, the inspection was expanded to provide Plus-Point Probe examination of all dented (≥ 2 volts) tube support locations throughout the entire tube bundle.

SCE desired to continue the existing inspection of the U-bends in Rows 1, 2, and 3, but also evaluate the potential benefit of a newly developed inspection technique. The planned inspection scope included mid-range Plus-Point Probe inspection of the U-bends of all (100%), of the U-bends in Rows 1, 2, and 3. The planned inspection scope also included high frequency Plus-Point Probe inspection of a sample of the U-bends in Rows 1, 2, and 3. The evaluation indicated that the high frequency Plus-Point Probe provides some benefit in detection capabilities. The inspection was expanded to include high frequency Plus-Point Probe examination of all (100%) of the U-bends in Rows 1, 2, and 3.

Results

This report satisfies the listed regulatory reporting requirements.

The contents of this report are prepared using the guidance contained in NEI 97-06, Rev. 0, "Steam Generator Program Guidelines." The NEI guidance is an initiative to unify the industry approach towards steam generator issues and strengthen, where necessary, the steam generator program. In accordance with the suggested NEI guidance, the following five report contents are included within this report:

- (1) Scope of inspections performed;
- (2) Active Degradation Mechanisms found;
- (3) Nondestructive Examination (NDE) techniques utilized for each degradation mechanism;
- (4) Number of tubes plugged or repaired during the inspection outage for each active degradation mechanism. Repair methods utilized and the number of tubes repaired by each repair method; and
- (5) Total number and percentage of tubes plugged and/or repaired to date and the effective plugging percentage in each steam generator.

Table 3 summarizes significant inspection results, and active degradation mechanisms found. Each tube is only counted once in this listing, although it may also have an eddy current indication of a type below the point in the listing where it appears. The Appendices provide the complete results of the steam generator tubing inservice inspection.

Table 5 summarizes in-situ pressure and leak testing results. This particular testing demonstrated the structural and leakage (i.e., there was no leakage) integrity of the tested tubes consistent with EPRI guidelines and recent industry guidance.¹ Eddy current testing results and in-situ pressure and leak testing results provide assurance that performance criteria in the NEI guidance (structural integrity and accident-induced leakage) were met during operation prior to this inspection.

Repair of Tubes

Table 3 lists the number of tubes repaired (removed from service by plugging, or repaired by sleeving) for each steam generator. Table 6 provides an itemized listing of the tubes plugged in steam generator E-088 along with the corresponding Table 3 category specifying the indication orientation/location. Table 7 provides an itemized listing of the tubes sleeved in steam generator E-088 along with the corresponding Table 3 category specifying the indication orientation/location. Table 8 provides an itemized listing of the tubes plugged in steam generator E-089 along with the corresponding Table 3 category specifying the indication orientation/location. Table 9 provides an itemized listing of the tubes sleeved in steam

¹ Letter from Lawrence F. Womack (Pacific Gas and Electric Company) to Steam Generator Management Program Utility Steering Committees, et al., "Steam Generator Management Program (SGMP) Interim Guidelines on In Situ Pressure Testing of Steam Generator Tubes," dated October 13, 2000.

generator E-089 along with the corresponding Table 3 category specifying the indication orientation/location.

Repair Methods, Number of Tubes Repaired and Effective Plugging Percentage

All tube plugging was performed using the design, materials, and installation methods of FRAMATOME Technologies, Inc. (FTI). A "roll" method was used for all tube plugs. Four tubes were "stabilized" in the vicinity of the top of the tubesheet using the design, materials, and installation methods of FTI.

All tube sleeving was performed using the welded sleeve design, materials, and installation methods of Westinghouse (formerly ABB Combustion Engineering). This repair method is specifically addressed in the San Onofre Unit 2 and 3 Technical Specifications.

Thirty-six tubes were plugged, and ninety-six tubes were sleeved in Steam Generator E-088 during the Cycle 11 refueling outage. A total of 724 tubes have been plugged, and to date, 180 sleeved tubes are in service. The design number of tubes is 9350 tubes and the sleeve to plug equivalency ratio is thirty-eight sleeves per plug. The effective plugging percentage for E-088 is 7.8%.

Fifty-seven tubes were plugged, and fifty-two tubes were sleeved in Steam Generator E-089 during the Cycle 11 refueling outage. A total of 765 tubes have been plugged, and to date, 103 sleeved tubes are in service. The design number of tubes is 9350 tubes and the sleeve to plug equivalency ratio is thirty-eight sleeves per plug. The effective plugging percentage for E-089 is 8.2%.

Causes And Corrective Actions

The degradation detected during this inspection remained within the Technical Specification category "C-3". There is no significant update since a previous report of causes and corrective actions for "C-3" category results. Thus, this portion of a previous report is provided below.

Actions have been taken to improve the secondary side chemistry environment for steam generator tubing in both Unit 2 steam generators. These actions have been reviewed by a panel of industry experts for application at SONGS. The expert panel concurs with these measures. The actions include:

1. Chemical cleaning of the entire tube bundle (full bundle) performed during the Cycle 9 refueling outage in December, 1996.
2. Addition of an inhibitor (titanium dioxide) for IGA/SCC immediately after the chemical cleaning for maximum crevice penetration potential.
3. Use of Ethanolamine (ETA) for pH control of the secondary fluids.

4. Boric acid addition in the secondary side to help reduce denting of the tube supports and stress corrosion cracking of tubing.

In addition, SCE reduced the reactor coolant temperature at the steam generator inlet (T-hot) by about 13°F. SCE expects this will reduce stress corrosion cracking of the tubing initiating from the inside diameter of the tubing. The first phase of this change, a reduction of about 4°F, was completed in January 1998. The final phase of this change, a reduction of an additional 9°F, was completed in February 1999.

Description of Tables and Appendices

Table 1	-	Summary of the Planned Inspection Program for the Unit 2 Cycle 11 (U2C11) Refueling Outage
Table 2	-	Summary of Significant Scope Expansion for the U2C11 Refueling Outage
Table 3	-	Number of Tubes Repaired and Active Degradation Mechanisms Found During the U2C11 Refueling Outage
Table 4	-	List of Nondestructive Examination (NDE) Techniques Utilized for Each Degradation Mechanism for the U2C11 Refueling Outage
Table 5	-	Summary of Results of In-Situ Pressure and Leak Testing for the U2C11 Refueling Outage
Table 6	-	U2C11 Refueling Outage Tubes Plugged, Steam Generator E-088
Table 7	-	U2C11 Refueling Outage Tubes Sleeved, Steam Generator E-088
Table 8	-	U2C11 Refueling Outage Tubes Plugged, Steam Generator E-089
Table 9	-	U2C11 Refueling Outage Tubes Sleeved, Steam Generator E-089
Appendix 1	-	Steam Generator Reference Information
Appendix 2	-	Legend for Appendices 3 and 4
Appendix 3	-	Inspection Summary, Steam Generator E-088
Appendix 4	-	Inspection Summary, Steam Generator E-089

TABLE 1 - Summary of the Planned Inspection Program for the Unit 2 Cycle 11 (U2C11) Refueling Outage

	Number of Tubes/Percentage of Tubes Steam Generator	
	E-088	E-089
Full length of tube with the bobbin probe (excluding sleeved regions)	8662 / 100%	8642 / 100%
Hot leg expansion transition at the top-of-tubesheet with the Plus-Point Probe	8577 / 100%	8590 / 100%
Cold leg expansion transition at the top-of-tubesheet with the Plus-Point Probe	4331 / 50%	4325 / 50%
U-bend regions of Rows 1, 2, and 3 with the mid-range frequency Plus-Point Probe	182 / 100%	184 / 100%
Sample of U-bend regions of Rows 1, 2, and 3 with the high frequency Plus-Point Probe	N/A	62 / 17%
Plus-Point Probe examinations of all hot leg tube support intersections at 01H through DBH with dents greater than, or equal to, 2 volts	3951 / 100%	3005 / 100%
Plus-Point Probe examination of all tube support intersections with quantified wear indications by the bobbin probe	246 / 100%	313 / 100%
Full length of sleeves with the Plus-Point Probe	85 / 100%	52 / 100%

TABLE 2 - Summary of Significant Scope Expansion for the U2C11 Refueling Outage

	Number of Tubes/Percentage of Tubes Steam Generator	
	E-088	E-089
Plus-Point Probe examinations of all tube support intersections with dents greater than, or equal to, 2 volts	387 / 100%	168 / 100%
U-bend regions of Rows 1, 2, and 3 with the high frequency Plus-Point Probe	182 / 100%	122 / 100%

TABLE 3 - Number of Tubes Repaired and Active Degradation Mechanisms Found During the U2C11 Refueling Outage

Category	Indication Orientation/Location	Steam Generator	
		E-088	E-089
1	Tubes with axially oriented ID (initiated on the inside-diameter of the tubing wall) indications at tube support locations. (ID Axial @ Support)	3	3
2	Tubes with axially oriented OD (initiated on the outside-diameter of the tubing wall) indications at tube support locations. (OD Axial @ Support)	12	5
3	Tubes with axially oriented OD indications not associated with a tube support (freespan) . (OD Axial @ Freespan)	4	9
4	Tubes with circumferentially oriented ID indications near the expansion transition at the top of the hot leg tubesheet. (ID Circ @ TSH)	47	9
5	Tubes with circumferentially oriented OD indications near the expansion transition at the top of the hot leg tubesheet. (OD Circ @ TSH)	7	7
6	Tubes with axially oriented OD indications in the sludge pile region near the top of the hot leg tubesheet. (OD Axial @ Sludge Pile TSH)	10	14
7	Tubes with axially oriented OD indications near the expansion transition at the top of the hot leg tubesheet. (OD Axial @ TSH)	1	0
8	Tubes with axially oriented ID indications near the expansion transition at the top of the hot leg tubesheet. (ID Axial @ TSH)	1	0
9	Tubes with axially oriented ID indications below the inlet top-of-tubesheet. (ID Axial below TSH)	24	24
10	Tubes with circumferentially oriented ID indications below the inlet top-of-tubesheet. (ID Circ below TSH)	12	10
11	Tubes with indications of wear at tube support locations. (Wear @ Support)	11	22
12	Tubes with volumetric indications. (OD Vol @ Miscellaneous)	0	2
13	Miscellaneous preventative plugging (not an active degradation mechanism). (Prevent @ Miscellaneous)	0	4
	Total	132	109

TABLE 4 - List of Nondestructive Examination (NDE) Techniques Utilized for Each Degradation Mechanism for the U2C11 Refueling Outage

Indication Orientation/Location	Probe Type for	
	Detection	Characterization
Axially oriented ID (initiated on the inside-diameter of the tubing wall) indications at tube support locations	Bobbin Plus Point (Note 1)	Plus Point Plus Point
Axially oriented OD (initiated on the outside-diameter of the tubing wall) indications at tube support locations	Bobbin Plus Point (Note 1)	Plus Point Plus Point
Axially oriented OD indications not associated with a tube support (freSPAN)	Bobbin	Plus Point
Circumferentially oriented ID indications near or below the expansion transition at the top of the hot leg tubesheet	Plus Point	Plus Point
Circumferentially oriented OD indications near the expansion transition at the top of the hot leg tubesheet	Plus Point	Plus Point
Axially oriented indications in the sludge pile region near the top of the hot leg tubesheet	Plus Point	Plus Point
Axially oriented ID indications near or below the expansion transition at the top of the hot leg tubesheet	Plus Point	Plus Point
Indications of wear at tube support locations	Bobbin	Plus Point

Note 1: Plus-Point technique is used at dents with greater than, or equal to, two volts.

TABLE 5 - Summary of Results of In-Situ Pressure and Leak Testing for the U2C11 Refueling Outage

Steam Generator E-088

TUBE AND EDDY CURRENT INFORMATION										IN-SITU TEST RESULTS				
REGION	TUBE INFORMATION			PLUS POINT DATA					BOBBIN DATA	SELECTION CRITERIA	GPM @ NOPD	GPM @ MSLB	GPM @ NOPD POST MSLB	PRESSURE 3xNOPD
	ROW	COL	LOCATION	LENGTH	VOLTS	Max. Depth %	PDA or Avg. Depth %	ORIENTATION	VOLTS					
EGGCRATE	24	62	07H + 0.09	1.37	0.43	39%	27.4% (AD)	OD AXIAL	0.26	-	0	0	0	5050
TUBESHEET	77	75	TSH - 0.09	0.26	0.73	95%	12.0% (PDA)	ID CIRC	N/A	L	0	0	0	5450
	62	98	TSH + 0.12	2.04	0.54	88%	49.9% (PDA)	OD CIRC	N/A	-	0	0	0	5450

Steam Generator E-089

TUBE AND EDDY CURRENT INFORMATION										IN-SITU TEST RESULTS				
REGION	TUBE INFORMATION			PLUS POINT DATA					BOBBIN DATA	SELECTION CRITERIA	GPM @ NOPD	GPM @ MSLB	GPM @ NOPD POST MSLB	PRESSURE 3xNOPD
	ROW	COL	LOCATION	LENGTH	VOLTS	Max. Depth %	PDA or Avg. Depth %	ORIENTATION	VOLTS					
EGGCRATE	71	73	07H + 0.51	0.57	0.79	54%	45.4% (AD)	ID AXIAL	0.92	-	0	0	0	5050
LOW ROW U-BEND	1	21	DBH + 5.90	N/A	2.4	N/A	N/A	GEOMETRY (GEO)	N/A	-	0	0	0	5050

NOTES: The SELECTION CRITERIA column indicates the EPRI In Situ Testing Guidelines' criteria that prompted selection.
P = Pressure testing for structural integrity criteria
L = Testing for criteria for postulation of accident-induced leakage integrity
GPM = Gallons per Minute
NOPD = Normal Operation Pressure Differential
MSLB = Main Steam Line Break Pressure Differential
N/A = Not Applicable
OD = Degradation initiated on the outside diameter of the tubing
ID = Degradation initiated on the inside diameter of the tubing
CIRC = Circumferential
PDA = Percent degraded area

**TABLE 6 - SONGS U2C11 Refueling Outage Tubes Plugged
STEAM GENERATOR E-088**

Row	Column	Reason for Plugging Tube (per Table 3)
37	11	OD Axial @ Support
91	25	OD Axial @ Freespan
24	46	ID Axial @ Support
28	48	OD Axial @ Support
2	54	ID Circ below TSH
24	62	OD Axial @ Support
22	68	Wear @ Support
37	73	ID Axial below TSH
41	75	Wear @ Support
77	75	ID Circ @ TSH
85	75	OD Axial @ Support
96	78	ID Circ @ TSH
54	80	Wear @ Support
130	80	OD Axial @ Support
85	83	OD Axial @ Support
143	85	Wear @ Support
52	86	Wear @ Support
54	88	ID Axial below TSH
137	89	OD Axial @ Support
80	90	OD Axial @ Freespan
146	90	Wear @ Support
53	93	Wear @ Support
48	96	Wear @ Support
50	96	Wear @ Support
62	98	OD Circ @ TSH
85	99	OD Axial @ Support
35	103	Wear @ Support
87	103	OD Axial @ Support
76	106	OD Axial @ Freespan
106	108	ID Axial @ Support

**TABLE 6 - SONGS U2C11 Refueling Outage Tubes Plugged
STEAM GENERATOR E-088**

Row	Column	Reason for Plugging Tube (per Table 3)
43	109	OD Axial @ Support
57	113	ID Axial @ Support
14	120	OD Axial @ Support
64	122	Wear @ Support
85	125	OD Axial @ Support
13	161	OD Axial @ Freespan

**TABLE 7 - SONGS U2C11 Refueling Outage Tubes Sleeved
STEAM GENERATOR E-088**

Row	Column	Reason for Sleeving Tube (per Table 3)
18	30	ID Axial below TSH
41	45	ID Circ @ TSH
34	46	ID Circ @ TSH
27	47	ID Circ @ TSH
4	48	ID Circ below TSH
5	51	ID Circ below TSH
9	51	ID Circ below TSH
17	51	ID Circ @ TSH
22	52	ID Circ @ TSH
42	52	ID Circ @ TSH
15	53	ID Circ below TSH
17	53	ID Axial below TSH
84	56	ID Circ @ TSH
20	58	ID Circ @ TSH
38	58	ID Axial below TSH
26	60	ID Axial below TSH
28	60	ID Axial below TSH
72	62	ID Circ @ TSH
62	64	ID Circ @ TSH
27	65	ID Axial below TSH
75	65	ID Circ @ TSH
60	66	OD Axial @ Sludge Pile TSH
40	68	ID Axial below TSH
33	69	ID Axial below TSH
77	69	ID Circ @ TSH
84	70	ID Circ @ TSH
97	71	ID Circ @ TSH
44	72	ID Axial below TSH
48	72	ID Axial below TSH
58	72	ID Axial below TSH

**TABLE 7 - SONGS U2C11 Refueling Outage Tubes Sleeved
STEAM GENERATOR E-088**

Row	Column	Reason for Sleeving Tube (per Table 3)
53	73	ID Axial below TSH
58	74	OD Circ @ TSH
64	76	OD Axial @ Sludge Pile TSH
80	76	ID Circ @ TSH
69	77	ID Circ @ TSH
48	78	ID Circ @ TSH
72	78	ID Circ @ TSH
63	79	OD Circ @ TSH
89	79	ID Circ @ TSH
91	79	ID Circ @ TSH
55	83	OD Axial @ Sludge Pile TSH
94	86	ID Circ @ TSH
69	87	OD Axial @ Sludge Pile TSH
54	90	ID Circ @ TSH
66	90	ID Circ @ TSH
99	91	ID Circ @ TSH
72	92	OD Axial @ Sludge Pile TSH
55	93	ID Axial below TSH
84	94	ID Circ @ TSH
54	96	ID Circ below TSH
69	97	OD Axial @ Sludge Pile TSH
54	98	ID Circ @ TSH
66	98	OD Axial @ Sludge Pile TSH
74	98	OD Circ @ TSH
65	101	OD Axial @ Sludge Pile TSH
73	101	ID Circ @ TSH
79	101	ID Circ @ TSH
42	102	ID Circ below TSH
46	102	ID Axial below TSH
70	102	ID Circ @ TSH
80	102	ID Circ @ TSH

**TABLE 7 - SONGS U2C11 Refueling Outage Tubes Sleeved
STEAM GENERATOR E-088**

Row	Column	Reason for Sleeving Tube (per Table 3)
39	103	ID Axial below TSH
41	105	ID Axial below TSH
63	107	OD Axial @ Sludge Pile TSH
24	108	OD Circ @ TSH
37	109	ID Axial below TSH
39	109	OD Axial @ Sludge Pile TSH
47	109	ID Circ @ TSH
79	109	ID Circ @ TSH
39	111	ID Axial @ TSH
43	111	ID Axial below TSH
49	111	OD Axial @ TSH
59	111	ID Circ below TSH
34	114	ID Axial below TSH
65	115	ID Axial below TSH
18	116	ID Circ @ TSH
46	120	OD Circ @ TSH
49	121	ID Circ below TSH
75	121	ID Circ @ TSH
42	124	OD Circ @ TSH
25	125	ID Circ @ TSH
41	125	ID Circ @ TSH
16	126	ID Circ @ TSH
95	127	ID Circ @ TSH
51	129	ID Circ @ TSH
24	130	ID Circ below TSH
44	130	ID Circ @ TSH
60	130	ID Circ @ TSH
14	132	ID Circ below TSH
26	132	ID Axial below TSH
40	132	ID Circ @ TSH
23	135	ID Circ @ TSH

**TABLE 7 - SONGS U2C11 Refueling Outage Tubes Sleeved
STEAM GENERATOR E-088**

Row	Column	Reason for Sleeving Tube (per Table 3)
26	136	ID Axial below TSH
7	145	ID Circ below TSH
14	150	ID Circ @ TSH
10	156	ID Circ @ TSH

**TABLE 8 - SONGS U2C11 Refueling Outage Tubes Plugged
STEAM GENERATOR E-089**

Row	Column	Reason for Plugging Tube (per Table 3)
45	7	Prevent @ Miscellaneous
25	17	OD Axial @ Freespan
1	21	Prevent @ Miscellaneous
30	28	OD Axial @ Freespan
9	29	ID Circ @ TSH
106	34	OD Axial @ Freespan
94	38	OD Axial @ Support
98	38	OD Axial @ Support
12	40	ID Axial below TSH
123	41	OD Vol @ Miscellaneous
8	44	OD Axial @ Support
60	48	ID Circ @ TSH
47	55	ID Axial @ Support
131	57	ID Axial below TSH
2	60	OD Axial @ Support
47	63	ID Axial @ Support
15	65	OD Axial @ Freespan
64	70	OD Axial @ Sludge Pile TSH
138	70	OD Vol @ Miscellaneous
41	71	Wear @ Support
71	73	ID Axial @ Support
145	73	Wear @ Support
44	76	Wear @ Support
47	79	Wear @ Support
48	82	Wear @ Support
59	83	Wear @ Support
147	83	Wear @ Support
58	84	Wear @ Support
57	85	Wear @ Support
145	85	Wear @ Support

**TABLE 8 - SONGS U2C11 Refueling Outage Tubes Plugged
STEAM GENERATOR E-089**

Row	Column	Reason for Plugging Tube (per Table 3)
56	86	Wear @ Support
59	87	Wear @ Support
147	87	Wear @ Support
54	88	Wear @ Support
70	88	Wear @ Support
57	89	Wear @ Support
51	91	Wear @ Support
55	93	Wear @ Support
57	93	ID Axial below TSH
72	94	Wear @ Support
57	95	Wear @ Support
42	100	Wear @ Support
78	102	ID Axial below TSH
36	108	ID Axial below TSH
36	110	ID Axial below TSH
5	113	OD Axial @ Freespan
68	114	OD Axial @ Freespan
91	121	ID Axial below TSH
28	124	OD Axial @ Freespan
77	125	Wear @ Support
1	127	ID Circ below TSH
103	133	OD Axial @ Support
10	136	ID Circ below TSH
9	141	OD Axial @ Freespan
3	145	Prevent @ Miscellaneous
103	147	OD Axial @ Freespan
3	157	Prevent @ Miscellaneous

**TABLE 9 - SONGS U2C11 Refueling Outage Tubes Sleeved
STEAM GENERATOR E-089**

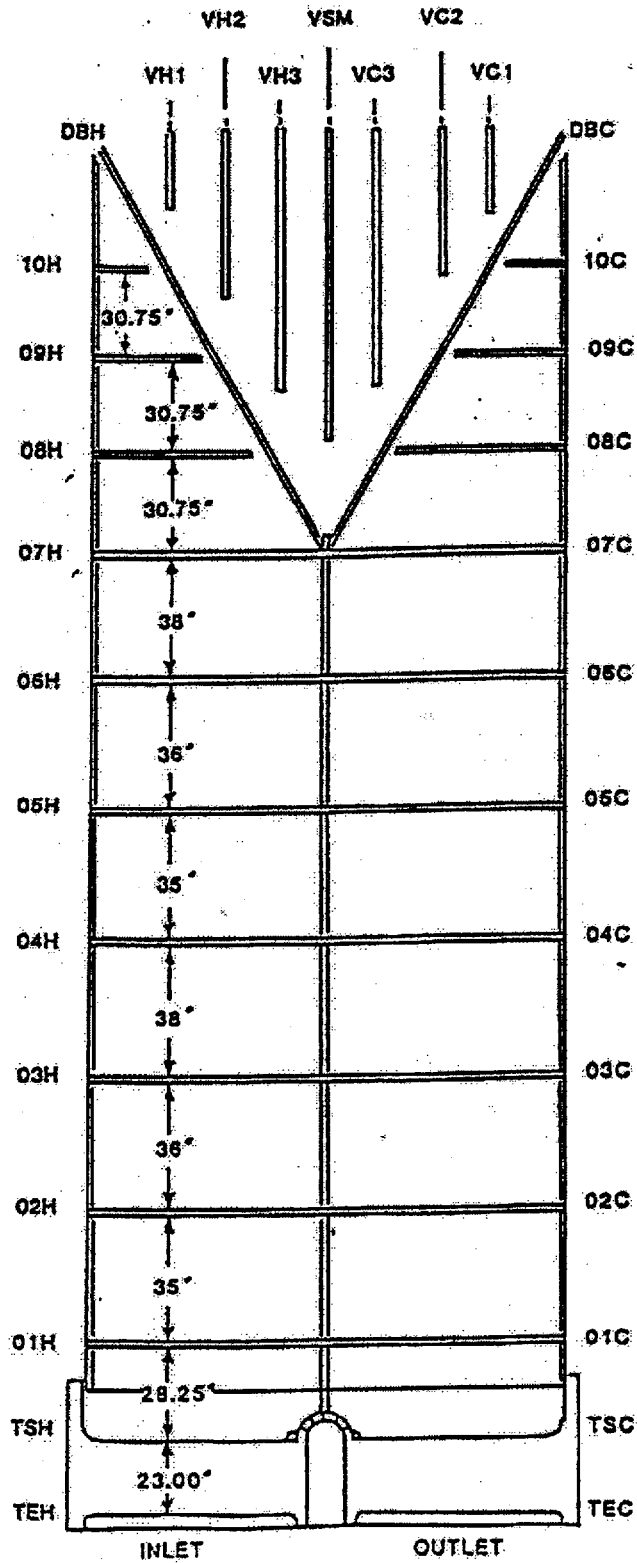
Row	Column	Reason for Sleeving Tube (per Table 3)
16	24	ID Circ @ TSH
83	49	ID Circ @ TSH
8	52	ID Circ below TSH
28	52	OD Circ @ TSH
84	54	ID Circ @ TSH
65	57	OD Axial @ Sludge Pile TSH
62	58	ID Axial below TSH
26	60	ID Axial below TSH
11	63	OD Circ @ TSH
34	64	OD Axial @ Sludge Pile TSH
26	66	ID Axial below TSH
57	67	OD Axial @ Sludge Pile TSH
63	67	ID Circ @ TSH
44	68	OD Axial @ Sludge Pile TSH
58	70	OD Axial @ Sludge Pile TSH
78	82	ID Axial below TSH
56	84	OD Circ @ TSH
120	84	OD Circ @ TSH
83	89	ID Circ @ TSH
107	89	OD Circ @ TSH
64	92	OD Axial @ Sludge Pile TSH
63	93	OD Axial @ Sludge Pile TSH
64	96	ID Axial below TSH
64	98	OD Axial @ Sludge Pile TSH
78	98	ID Axial below TSH
54	102	ID Axial below TSH
41	105	ID Axial below TSH
34	106	ID Axial below TSH
38	106	ID Axial below TSH
56	106	OD Axial @ Sludge Pile TSH

**TABLE 9 - SONGS U2C11 Refueling Outage Tubes Sleeved
STEAM GENERATOR E-089**

Row	Column	Reason for Sleeving Tube (per Table 3)
37	109	OD Axial @ Sludge Pile TSH
38	110	OD Axial @ Sludge Pile TSH
40	110	OD Axial @ Sludge Pile TSH
29	111	OD Circ @ TSH
21	113	OD Circ @ TSH
37	113	ID Axial below TSH
49	113	OD Axial @ Sludge Pile TSH
59	113	ID Axial below TSH
48	114	ID Axial below TSH
62	116	ID Axial below TSH
68	118	ID Axial below TSH
20	120	ID Circ below TSH
82	122	ID Circ @ TSH
8	124	ID Circ below TSH
9	125	ID Circ below TSH
46	126	ID Circ @ TSH
5	127	ID Circ below TSH
11	129	ID Circ below TSH
7	133	ID Circ below TSH
78	136	ID Axial below TSH
19	139	ID Circ below TSH
8	146	ID Axial below TSH

Appendix 1
Steam Generator Reference Information

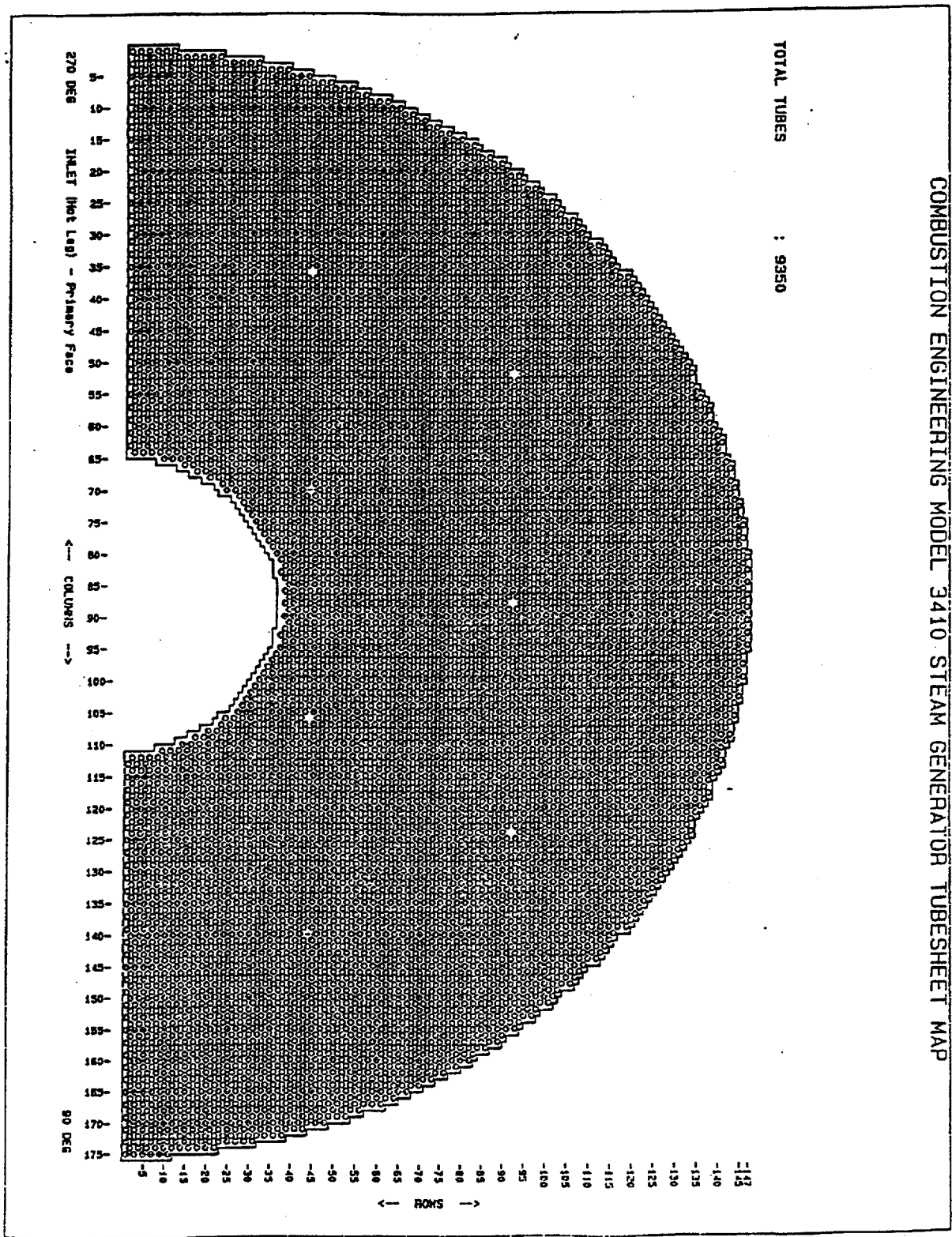
CE MODEL 3410 TUBE SUPPORT DRAWING



CLARIFICATION OF TUBING/SUPPORT INTERFACES

ABOVE THE 7TH FULL EGGCRATE 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		



Appendix 2

Legend for Appendices 3 and 4

List of Abbreviations and Format Used to Describe
the Indications from Rotating Probe Testing

<u>"I-Code" Abbreviations</u>	<u>Explanation of the Abbreviations</u>
SCI	Single Circumferential Indication
MCI	Multiple Circumferential Indications
SAI	Single Axial Indication
MAI	Multiple Axial Indications
MMI	Mixed Mode Indications
SVI	Single Volumetric Indication (i.e., no special axial or circumferential aspect)
MVI	Multiple Volumetric Indication (i.e., no special axial or circumferential aspect)

Format

In Appendices 3 and 4, a single line of data is associated with each individual rotating probe indication. Below is a descriptive example of the format.

SG	ROW	COL	VOLTS	DEG	PCT	CHAN	LOCATION	FROM	TO	EXTENT	UTIL 1	UTIL 2
11	45	59	+P VOLTS	+P DEG	CODE	CH #	LOCATION	+0.01		TSHTSH	PAN VOLTS	+ P LEN

1. All "I-code" indications require a single line entry. The example above displays the form of a Resolution report line. The VOLTS field contains the Plus-point P-to-P voltage of the largest, most representative response. The DEG field contains the corresponding phase angle. The PCT field contains the appropriate 3-letter code. The CHAN field contains the reporting channel (i.e. the appropriate 300kHz Plus-point channel). The LOCATION field contains the referenced landmark. The FROM field contains the axial distance from the landmark to the response measured above. The EXTENT field indicates the test extent. The UTIL 1 field contains the 300kHz 0.115" pancake P-to-P voltage of the largest, most representative response. The UTIL 2 field contains the measured Plus-point length of the indication. Exceptions to this general guidance are in paragraphs 2 and 3 below.
2. For axial indications of extended length, the location should be ranged in the FROM and TO fields. If the range of such an indication includes any part of a support structure, it should be referenced from that landmark.
3. For "I-code" indications which have both axial and circumferential extent (i.e. SVI, MVI, and MMI) the location should be ranged in the FROM and TO fields and the UTIL 2 field should contain the circumferential length.

Appendix 3
Inspection Summary
Steam Generator E-088

Inservice Inspection of Steam Generator Tubes
Appendix 3

SG88 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 88
DATABASE: SONGS_U2_1000_SG88_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE
1	50	8	0.35	141	14	P 2	VSM	+0.84	TEHTEC		H1748	reso	88C00005	C	600UL		
2	52	8	0.39	38	14	P 2	VH3	+0.73	TEHTEC		T9924	seco	88C00004	C	600UL		
3	13	9	0.47	78	18	P 2	05H	+0.00	TEHTEC		H1748	reso	88C00005	C	600UL		
4	52	10	0.36	35	13	P 2	VH3	+0.68	TEHTEC		T9924	seco	88C00004	C	600UL		
5	31	11	0.35	70	11	P 3	DBH	+1.35	TEHTEC		V1371	prim	88C00004	C	600UL		
6	37	11	0.37	122	MAI	2	06H	-0.45	06H06H	0.0	0.33	M0554	reso	88H00237	H	600PP	
7			0.16	132	SAI	2	06H	+0.78	06H06H	0.27	0.30	M0554	reso	88H00237	H	600PP	
8	63	11	0.36	103	13	P 2	VH3	-0.58	TEHTEC		V1371	prim	88C00004	C	600UL		
9	67	11	0.42	65	15	P 2	VH3	-0.60	TEHTEC		V1371	prim	88C00004	C	600UL		
10	54	12	0.23	125	9	P 2	VH3	-0.56	TEHTEC		V1371	prim	88C00004	C	600UL		
11	39	13	0.37	138	14	P 2	VSM	+0.42	TEHTEC		T9924	seco	88C00004	C	600UL		
12	24	14	0.31	89	11	P 2	VSM	+0.62	TEHTEC		B3170	prim	88C00007	C	600UL		
13	43	19	0.62	130	21	P 2	02H	+0.97	TEHTEC		M0554	reso	88C00006	C	600UL		
14	16	20	0.28	140	11	P 3	DBC	+0.51	TEHTEC		W9658	seco	88C00009	C	600UL		
15	70	20	0.43	108	16	P 2	VC3	+0.73	TEHTEC		V1371	prim	88C00008	C	600UL		
16	43	21	0.27	85	11	P 2	VSM	+0.88	TEHTEC		L9168	prim	88C00008	C	600UL		
17	78	22	0.79	129	25	P 2	VC3	-0.83	TEHTEC		D2003	prim	88C00070	C	600UL		
18	81	23	0.35	86	12	P 3	DBC	+1.86	TEHTEC		D2003	prim	88C00070	C	600UL		
19	35	25	-0.60	124	20	P 2	VSM	-0.75	TEHTEC		B5926	seco	88C00068	C	600UL		
20	91	25	0.15	122	SAI	2	06H	+24.53	06H07H	0.00	0.26	H1748	reso	88H00239	H	600PP	
	102	26	0.38	146	15	P 2	06H	+0.87	TEHTEC		D2003	prim	88C00070	C	600UL		
	18	30	1.58	27	SAI	2	TSH	-4.81	TSHTSH	0.73	0.35	E4963	reso	88H00183	H	600PP	
23	106	30	0.51	126	21	P 2	06H	+0.85	TEHTEC		L9168	prim	88C00073	C	600UL		
24	94	32	0.52	97	21	P 2	VH2	-0.81	TEHTEC		L9168	prim	88C00073	C	600UL		
25	77	33	0.49	96	17	P 2	VSM	+1.04	TEHTEC		D5695	seco	88C00072	C	600UL		
26	92	36	0.53	84	19	P 2	VH2	-0.54	TEHTEC		R8278	seco	88C00074	C	600UL		
27			0.27	68	11	P 2	VSM	+0.88	TEHTEC		R8278	seco	88C00074	C	600UL		
28	108	36	0.24	69	9	P 3	DBC	-1.51	TEHTEC		R8278	seco	88C00074	C	600UL		
29	89	37	0.36	123	14	P 2	VH2	-0.54	TEHTEC		L3025	prim	88C00074	C	600UL		
30			0.27	97	11	P 2	VH2	+0.60	TEHTEC		L3025	prim	88C00074	C	600UL		
31	111	37	0.39	25	16	P 3	DBH	+1.59	TEHTEC		L9168	prim	88C00075	C	600UL		
32	113	37	0.23	147	9	P 2	VH2	-0.91	TEHTEC		M7262	reso	88C00074	C	600UL		
33	84	38	0.19	109	7	P 2	09C	-1.11	TEHTEC		L3025	prim	88C00074	C	600UL		
34	96	38	0.25	65	10	P 2	VH2	-0.78	TEHTEC		R8278	seco	88C00074	C	600UL		
35	100	38	0.25	67	10	P 2	VC2	+0.88	TEHTEC		R8278	seco	88C00074	C	600UL		
36	120	38	0.21	132	8	P 3	DBC	+1.83	TEHTEC		R8278	seco	88C00074	C	600UL		
37	81	39	0.27	63	11	P 2	VSM	+0.85	TEHTEC		L3025	prim	88C00074	C	600UL		
38	93	39	0.22	113	8	P 2	VC3	+0.95	TEHTEC		L3025	prim	88C00074	C	600UL		
39	113	39	0.36	110	13	P 3	DBH	+1.79	TEHTEC		L3025	prim	88C00074	C	600UL		
40	121	39	0.28	127	11	P 2	VH1	-0.67	TEHTEC		L3025	prim	88C00074	C	600UL		
41			0.40	74	15	P 2	03C	-0.93	TEHTEC		L3025	prim	88C00074	C	600UL		
42	92	40	0.36	81	14	P 2	VSM	-0.73	TEHTEC		L3025	prim	88C00074	C	600UL		
43	96	40	0.31	86	12	P 2	VC2	+0.80	TEHTEC		R8278	seco	88C00074	C	600UL		
44	77	41	0.23	79	9	P 2	VSM	+0.78	TEHTEC		L3025	prim	88C00074	C	600UL		
45	85	41	0.30	140	12	P 2	VH2	-0.80	TEHTEC		R8278	seco	88C00074	C	600UL		
46			0.25	88	10	P 2	VH2	+0.80	TEHTEC		R8278	seco	88C00074	C	600UL		
	113	41	0.48	107	18	P 2	VH2	-0.51	TEHTEC		L3025	prim	88C00074	C	600UL		
	121	41	0.40	114	15	P 2	VH1	+0.76	TEHTEC		L3025	prim	88C00074	C	600UL		
49	123	41	0.33	137	13	P 2	VH1	-0.69	TEHTEC		L3025	prim	88C00074	C	600UL		

Inservice Inspection of Steam Generator Tubes
Appendix 3

SG88 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 88
DATABASE: SONGS_U2_1000_SG88_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE	
50	116	42	0.20	96	8	P 2	VSM	+0.93			TEHTEC			R8278	seco	88C00074	C	600UL
51	71	43	0.39	62	17	P 2	01H	+0.84			TEHTEC			M0554	reso	88C00075	C	600UL
52	85	43	0.23	124	9	P 2	VH2	-0.61			TEHTEC			R8278	seco	88C00074	C	600UL
53	18	44	0.26	80	10	P 3	DBH	-1.75			TEHTEC			T6144	seco	88C00085	C	600UL
54	41	45	0.49	23	SCI	P 1	TSH	-0.11		0.00	0.20	TSHTSH		M7262	reso	88H00192	H	600PP
55	24	46	0.28	22	SAI	2	05H	+0.52		.20	.16	05H05H		P4578	reso	88H00232	H	600PP
56			0.36	117	13	P 2	05H	+0.60				TEHTEC		M7262	reso	88C00086	C	600UL
57			0.33	103	SAI	2	06H	-0.27		.49	.22	06H06H		P4578	reso	88H00232	H	600PP
58			0.56	117	19	P 2	06H	-0.11				TEHTEC		M7262	reso	88C00086	C	600UL
59	34	46	0.32	21	SCI	P 1	TSH	-0.08		0.00	0.20	TSHTSH		M7262	reso	88H00191	H	600PP
60	27	47	0.42	22	SCI	P 1	TSH	-0.18		0.57	0.16	TSHTSH		G4841	reso	88H00194	H	600PP
61	37	47	0.48	126	17	P 2	VSM	+0.92				TEHTEC		B2265	prim	88C00086	C	600UL
62	129	47	0.63	144	22	P 2	VH3	-0.89				TEHTEC		W9213	seco	88C00078	C	600UL
63	4	48	0.93	17	SCI	P 1	TSH	-5.66		0.57	0.19	TSHTSH		G4841	reso	88H00194	H	600PP
64	28	48	0.44	117	SAI	2	07H	+0.48		0.0	0.26	07H07H		M0554	reso	88H00234	H	600PP
65	66	48	0.47	133	17	P 2	VSM	-0.72				TEHTEC		T6144	seco	88C00085	C	600UL
66	96	50	0.42	67	16	P 2	VC2	+0.86				TEHTEC		B2153	seco	88C00078	C	600UL
67	5	51	0.55	20	SCI	P 1	TSH	-4.85		0.58	0.17	TSHTSH		M7262	reso	88H00052	H	600PP
68	9	51	0.39	25	SCI	P 1	TSH	-6.89		0.32	0.17	TSHTSH		M7262	reso	88H00052	H	600PP
69	17	51	0.55	25	SCI	P 1	TSH	-0.04		0.34	0.11	TSHTSH		H7791	reso	88H00053	H	600PP
70	43	51	0.79	125	26	P 2	VSM	+0.88				TEHTEC		V1371	prim	88C00049	C	600UL
71	89	51	0.35	122	14	P 2	VH3	+0.92				TEHTEC		W9213	seco	88C00090	C	600UL
72	119	51	0.46	131	18	P 2	VH2	-0.58				TEHTEC		B8090	reso	88C00090	C	600UL
73	22	52	0.40	21	SCI	P 1	TSH	-0.08		0.0	0.18	TSHTSH		M7262	reso	88H00053	H	600PP
74	42	52	0.47	17	SCI	P 1	TSH	-0.14		.23	.17	TSHTSH		P4578	reso	88H00106	H	600PP
75	88	52	0.52	18	18	P 2	VH2	+0.87				TEHTEC		P4578	reso	88C00089	C	600UL
76	15	53	1.20	30	SCI	P 1	TSH	-6.60		1.29	0.32	TSHTSH		M7262	reso	88H00053	H	600PP
77	17	53	1.06	27	SCI	P 1	TSH	-5.52		1.13	0.27	TSHTSH		H7791	reso	88H00052	H	600PP
78			0.65	18	SAI	2	TSH	-1.98		0.56	0.19	TSHTSH		H7791	reso	88H00052	H	600PP
79	125	53	0.30	145	12	P 2	VH1	-0.75				TEHTEC		L9168	prim	88C00090	C	600UL
80	2	54	2.06	35	SCI	P 1	TSH	-5.55		2.45	0.83	TSHTSH		H1748	reso	88H00051	H	600PP
81	82	54	0.78	128	25	P 2	VH3	-0.61				TEHTEC		R8278	seco	88C00089	C	600UL
82	21	55	0.28	128	13	P 3	DBH	+1.39				TEHTEC		M7262	reso	88C00053	C	600UL
83	119	55	0.30	73	14	P 3	DBH	+1.66				TEHTEC		P1465	prim	88C00092	C	600UL
84	125	55	0.25	140	11	P 2	VH1	-0.83				TEHTEC		D2003	prim	88C00091	C	600UL
85	133	55	0.28	132	12	P 2	VH1	-0.82				TEHTEC		D2003	prim	88C00091	C	600UL
86	84	56	0.65	27	SCI	P 1	TSH	-0.15		0.76	0.24	TSHTSH		E4963	reso	88H00102	H	600PP
87	132	56	0.29	118	12	P 2	VH1	-0.82				TEHTEC		D2003	prim	88C00091	C	600UL
88	20	58	0.22	20	SCI	P 1	TSH	-0.04		0.00	0.18	TSHTSH		H1748	reso	88H00045	H	600PP
89	38	58	0.40	16	SAI	2	TSH	-0.85		0.60	0.35	TSHTSH		C0360	reso	88H00044	H	600PP
90	44	58	0.37	146	15	P 2	VSM	+0.80				TEHTEC		T6144	seco	88C00054	C	600UL
91	119	59	0.49	103	19	P 2	09H	+0.00				TEHTEC		M7262	reso	88C00092	C	600UL
92			0.37	76	15	P 2	VH1	-0.62				TEHTEC		B8090	reso	88C00092	C	600UL
93	125	59	0.27	155	11	P 2	VH1	-0.78				TEHTEC		D2003	prim	88C00091	C	600UL
94	26	60	0.51	16	SAI	2	TSH	-0.36		0.50	0.20	TSHTSH		H1748	reso	88H00045	H	600PP
95	28	60	1.93	23	SAI	2	TSH	-4.10		2.25	1.2	TSHTSH		H1748	reso	88H00044	H	600PP
96	118	60	0.25	154	9	P 2	VCL	-0.75				TEHTEC		E4963	reso	88C00126	C	600UL
97	128	60	0.46	117	19	P 2	10H	-1.00				TEHTEC		G4841	reso	88C00092	C	600UL
98	37	61	0.45	134	17	P 2	VSM	+0.97				TEHTEC		D3858	reso	88C00059	C	600UL

Inservice Inspection of Steam Generator Tubes
Appendix 3

SG88 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 88
DATABASE: SONGS_U2_1000_SG88_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE	
99	117	61	0.26	77	9	P 2	VH2	+0.80			TEHTEC			B2027	prim	88C00093	C	600UL
100	133	61	0.25	109	9	P 2	VH1	-0.85			TEHTEC			B2027	prim	88C00093	C	600UL
101	24	62	0.43	92	SAI	2	07H	+0.09			07H07H	0.31	1.37	W3386	reso	88H00160	H	600PP
102	72	62	0.40	17	SCI	P 1	TSH	-0.06			TSHTSH	0.0	0.18	W3386	reso	88H00100	H	600PP
103	92	62	0.45	57	16	P 2	VH2	+0.84			TEHTEC			B2027	prim	88C00093	C	600UL
104	120	62	0.34	122	12	P 2	VH1	-1.11			TEHTEC			B2027	prim	88C00093	C	600UL
105			0.25	137	9	P 2	VH1	+0.33			TEHTEC			B2027	prim	88C00093	C	600UL
106	126	62	0.65	100	24	P 2	10H	-0.96			TEHTEC			L3025	prim	88C00094	C	600UL
107	23	63	0.46	108	16	P 2	01H	+1.06			TEHTEC			R8278	seco	88C00058	C	600UL
108	129	63	0.22	143	4	P 2	10H	-0.06			TEHTEC			T4180	seco	88C00093	C	600UL
109	62	64	0.38	25	SCI	P 1	TSH	-0.10			TSHTSH	0.91	0.21	H7791	reso	88H00041	H	600PP
110	124	64	0.52	44	17	P 2	10H	-0.92			TEHTEC			T4180	seco	88C00093	C	600UL
111	27	65	4.41	38	MCI	P 1	TSH	-6.02			TSHTSH	5.38	0.24	H7791	reso	88H00040	H	600PP
112			0.44	11	SAI	2	TSH	-0.60			TSHTSH	0.80	0.10	H7791	reso	88H00040	H	600PP
113	75	65	0.29	29	SCI	P 1	TSH	-0.16			TSHTSH	0.79	0.21	W3386	reso	88H00099	H	600PP
114	93	65	0.29	145	11	P 2	VH2	-0.91			TEHTEC			B2027	prim	88C00093	C	600UL
115	123	65	0.40	129	18	P 3	DBH	+0.35			TEHTEC			G4841	reso	88C00094	C	600UL
116	141	65	0.35	140	14	P 2	08C	+0.71			TEHTEC			T6144	seco	88C00130	C	600UL
117	50	66	0.44	86	17	P 2	08C	+1.68			STHTEC	LAR		M7262	reso	88C00061	C	600UL
118	60	66	0.19	83	SAI	2	TSH	+1.12			TSHTSH	0.30	0.38	H7791	reso	88H00041	H	600PP
	85	67	0.36	76	13	P 2	VH2	-0.48			TEHTEC			B2027	prim	88C00093	C	600UL
	123	67	0.31	132	14	P 2	VH1	-0.80			TEHTEC			D2003	prim	88C00096	C	600UL
121	137	67	0.24	153	11	P 2	VH1	-0.78			TEHTEC			D2003	prim	88C00096	C	600UL
122	22	68	1.10	66	32	P 2	VSM	+0.84			TEHTEC			D3858	reso	88C00061	C	600UL
123	40	68	0.65	21	SAI	2	TSH	-0.90			TSHTSH	1.05	0.25	H7791	reso	88H00036	H	600PP
124	98	68	0.45	49	18	P 2	VH2	-0.71			TEHTEC			E4963	reso	88C00096	C	600UL
125			0.42	148	17	P 2	VC2	+0.86			TEHTEC			E4963	reso	88C00096	C	600UL
126	33	69	0.61	22	SAI	2	TSH	-0.26			TSHTSH	0.54	0.12	H7791	reso	88H00036	H	600PP
127	77	69	0.40	24	SCI	P 1	TSH	-0.07			TSHTSH	0.00	0.19	M7262	reso	88H00096	H	600PP
128	72	70	0.43	108	18	P 2	VC3	-0.53			TEHTEC			W9658	seco	88C00096	C	600UL
129	84	70	0.35	26	MCI	P 1	TSH	-0.05			TSHTSH	0.00	0.39	M7262	reso	88H00096	H	600PP
130	130	70	0.50	127	20	P 2	VH1	-0.80			TEHTEC			D2003	prim	88C00096	C	600UL
131	33	71	0.38	154	18	P 3	DBC	-1.31			TEHTEC			D3858	reso	88C00061	C	600UL
132	49	71	0.33	150	13	P 2	VSM	-0.80			TEHTEC			D3858	reso	88C00061	C	600UL
133	97	71	0.40	20	SCI	P 1	TSH	-0.09			TSHTSH	0.00	0.18	M7262	reso	88H00096	H	600PP
134	123	71	0.30	128	13	P 2	VH1	-0.70			TEHTEC			L9168	prim	88C00098	C	600UL
135	34	72	0.53	103	23	P 3	DBC	+1.21			TEHTEC			D3858	reso	88C00061	C	600UL
136	44	72	0.56	15	SAI	2	TSH	-1.65			TSHTSH	0.42	0.17	C0360	reso	88H00035	H	600PP
137	48	72	0.25	11	SAI	2	TSH	-4.05			TSHTSH	0.00	0.17	C0360	reso	88H00035	H	600PP
138	58	72	0.65	18	SAI	2	TSH	-2.42			TSHTSH	0.82	0.13	H7791	reso	88H00034	H	600PP
139	120	72	0.68	87	23	P 2	09C	-1.07			TEHTEC			P1465	prim	88C00097	C	600UL
140	142	72	0.58	54	20	P 3	DBC	+1.58			TEHTEC			C4330	prim	88C00130	C	600UL
141	37	73	0.58	18	SAI	2	TSH	-5.20			TSHTSH	0.61	0.14	C0360	reso	88H00035	H	600PP
142			1.28	89	38	P 3	DBH	-1.49			TEHTEC			D3858	reso	88C00061	C	600UL
143	41	73	0.34	130	14	P 2	VSM	+0.87			TEHTEC			D2003	prim	88C00061	C	600UL
144	45	73	0.32	131	15	P 3	DBC	-1.36			STHTEC			D3858	reso	88C00061	C	600UL
	53	73	0.34	11	SAI	2	TSH	-1.01			TSHTSH	0.66	0.13	H7791	reso	88H00034	H	600PP
	73	73	0.57	123	21	P 2	VSM	+0.92			TEHTEC			T0854	seco	88C00099	C	600UL
147	89	73	0.28	76	12	P 2	VC2	-1.18			TEHTEC			T0854	seco	88C00099	C	600UL

Inservice Inspection of Steam Generator Tubes
Appendix 3

SG88 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 88
DATABASE: SONGS_UZ_1000_SG88_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE		
148	129	73	0.33	148	14	P 2	VH1	-0.76			B3170	prim	88C00099	C	600UL				
149	133	73	0.34	140	15	P 2	VH1	-0.78			B3170	prim	88C00099	C	600UL				
150	145	73	0.84	92	27	P 3	DBH	+2.07			C4330	prim	88C00130	C	600UL				
151	46	74	0.96	112	29	P 2	VSM	-0.69			M7262	reso	88C00062	C	600UL				
152			0.49	63	18	P 2	VSM	+0.81			M7262	reso	88C00062	C	600UL				
153	58	74	0.14	128	SCI	P 1	TSH	-0.02		0.18	R5555	reso	88H00034	H	600PP				
154	98	74	0.27	153	12	P 2	VC2	+0.75			B3170	prim	88C00099	C	600UL				
155	120	74	0.27	120	11	P 2	10H	-1.10			M7262	reso	88C00097	C	600UL				
156	130	74	0.77	91	26	P 2	10H	-1.02			B3170	prim	88C00099	C	600UL				
157	136	74	0.55	105	20	P 2	10H	-1.00			C4330	prim	88C00097	C	600UL				
158	138	74	0.31	54	14	P 2	VH1	-0.75			B3170	prim	88C00099	C	600UL				
159	41	75	1.47	76	38	P 3	DBC	+1.38			R8278	seco	88C00063	C	600UL				
160	43	75	0.49	124	18	P 2	VSM	+0.89			B2027	prim	88C00062	C	600UL				
161	45	75	0.91	77	29	P 3	DBH	-1.70			R8278	seco	88C00063	C	600UL				
162			0.76	138	26	P 3	DBC	+1.01			E4963	reso	88C00063	C	600UL				
163	49	75	0.36	92	15	P 3	DBH	-1.70			R8278	seco	88C00063	C	600UL				
164	77	75	0.73	31	SCI	P 1	TSH	-0.09	1.03	0.26	M7262	reso	88H00096	H	600PP				
165	79	75	0.42	99	16	P 2	VH3	+0.81			T0854	seco	88C00099	C	600UL				
166	85	75	0.49	78	18	P 2	09C	+1.24			H1748	reso	88C00097	C	600UL				
167			0.20	101	SAI	2	09C	+1.41	0.18	0.36	W3386	reso	88C00194	C	600PP				
	121	75	0.32	134	12	P 2	VH1	-0.86			G4841	reso	88C00126	C	600UL				
			0.25	139	11	P 2	VH1	-0.62			H1748	reso	88C00097	C	600UL				
170	125	75	0.59	120	21	P 2	10H	-0.91			C4330	prim	88C00097	C	600UL				
171	127	75	0.30	147	13	P 2	VH1	-0.82			B3170	prim	88C00099	C	600UL				
172			0.31	143	14	P 2	VH1	+0.88			B3170	prim	88C00099	C	600UL				
173	131	75	0.29	139	13	P 2	VH1	-0.86			B3170	prim	88C00099	C	600UL				
174	133	75	0.46	104	14	P 3	DBH	+1.98			M7262	reso	88C00097	C	600UL				
175	145	75	0.61	87	21	P 3	DBH	+2.05			B8090	reso	88C00130	C	600UL				
176			0.32	148	11	P 2	VH1	-0.84			C4330	prim	88C00130	C	600UL				
177	46	76	0.83	15	28	P 3	DBH	+1.78			R8278	seco	88C00063	C	600UL				
178	50	76	0.65	121	24	P 3	DBC	-1.33			R8278	seco	88C00063	C	600UL				
179	54	76	0.28	137	12	P 3	DBC	-1.24			R8278	seco	88C00063	C	600UL				
180	64	76	0.25	104	MAI	2	TSH	+0.71	0.17	0.35	H1748	reso	88H00033	H	600PP				
181	80	76	0.61	26	SCI	P 1	TSH	-0.12	0.52	0.41	M7262	reso	88H00096	H	600PP				
182	124	76	0.33	129	14	P 2	VH1	-0.78			K3270	seco	88C00103	C	600UL				
183	51	77	0.56	143	21	P 3	DBC	-1.51			R8278	seco	88C00063	C	600UL				
184	69	77	0.39	25	SCI	P 1	TSH	-0.01	0.30	0.25	H1748	reso	88H00032	H	600PP				
185	123	77	0.36	127	14	P 2	VH2	-0.80			B4014	prim	88C00101	C	600UL				
186	131	77	0.61	29	21	P 3	DBH	+2.00			V1371	prim	88C00100	C	600UL				
187			0.35	117	15	P 2	VH1	-0.85			E4963	reso	88C00100	C	600UL				
188	48	78	0.61	18	SCI	P 1	TSH	-0.09	0.39	0.19	E4963	reso	88H00030	H	600PP				
189	72	78	0.36	20	SCI	P 1	TSH	-0.05	0.89	0.22	M7262	reso	88H00095	H	600PP				
190	90	78	0.59	98	20	P 2	03H	-1.14			G7112	seco	88C00104	C	600UL				
191	96	78	0.41	26	SCI	P 1	TSH	-0.04	0.60	0.19	M7262	reso	88H00094	H	600PP				
192			0.17	82	SVI	2	TSC	+4.69	TO+5.22	TSC01C	0.79	0.53	G4841	reso	88C00194	C	600PP		
193	134	78	0.39	127	14	P 2	VH1	-0.80			V1371	prim	88C00126	C	600UL				
			0.24	117	9	P 2	VH1	+0.91			V1371	prim	88C00126	C	600UL				
	138	78	0.43	102	15	P 2	VH1	-0.75			V1371	prim	88C00126	C	600UL				
196			0.28	90	10	P 2	VH1	+0.97			V1371	prim	88C00126	C	600UL				

Inservice Inspection of Steam Generator Tubes
Appendix 3

SG88 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 88
DATABASE: SONGS_U2_1000_SG88_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE	
197	51	79	0.45	90	15	P 3	DBC	-2.00			TEHTEC			B2153	seco	88C00064	C	600UL
198	63	79	0.19	103	SCI	P 1	TSH	+0.14			TSHTSH	0.47	0.29	E4963	reso	88H00031	H	600PP
199	89	79	0.38	23	SCI	P 1	TSH	-0.08			TSHTSH	0.00	0.17	M7262	reso	88H00094	H	600PP
200	91	79	0.46	18	SCI	P 1	TSH	-0.16			TSHTSH	0.36	0.16	M7262	reso	88H00095	H	600PP
201	119	79	0.46	120	17	P 3	DBH	+1.60			TEHTEC			B8090	reso	88C00105	C	600UL
202	141	79	0.33	146	13	P 2	VCL	+0.95			TEHTEC			T6144	seco	88C00130	C	600UL
203			0.87	85	28	P 3	DBC	+1.63			TEHTEC			T6144	seco	88C00130	C	600UL
204	54	80	1.35	87	36	P 3	DBC	-2.00			TEHTEC			V1371	prim	88C00065	C	600UL
205	64	80	0.45	111	15	P 3	DBH	+1.83			TEHTEC			L9168	prim	88C00124	C	600UL
206	80	80	0.32	126	13	P 2	VSM	-0.64			TEHTEC			B2027	prim	88C00104	C	600UL
207	120	80	0.31	119	10	P 3	DBH	-1.86			TEHTEC			C4330	prim	88C00104	C	600UL
208	130	80	0.26	94	SAI	2	04H	-0.31			04H04H	0.0	0.38	M0554	reso	88H00243	H	600PP
209	144	80	0.41	129	16	P 3	DBH	+2.00			TEHTEC			T6144	seco	88C00130	C	600UL
210	53	81	0.77	96	24	P 3	DBH	-1.26			TEHTEC			W3386	reso	88C00064	C	600UL
211	135	81	0.34	133	14	P 2	VH1	-0.79			TEHTEC			R5555	reso	88C00104	C	600UL
212	145	81	0.43	146	16	P 2	VH1	-0.91			TEHTEC			T6144	seco	88C00130	C	600UL
213			0.80	97	26	P 3	DBC	-1.42			TEHTEC			T6144	seco	88C00130	C	600UL
214	74	82	0.42	138	19	P 2	VSM	-0.89			TEHTEC			L3025	prim	88C00105	C	600UL
215			0.74	132	28	P 2	VSM	+0.89			TEHTEC			M0155	seco	88C00105	C	600UL
216	142	82	0.52	115	18	P 3	DBC	-0.24			TEHTEC			C4330	prim	88C00130	C	600UL
217	144	82	0.68	107	23	P 3	DBC	+1.62			TEHTEC			T6144	seco	88C00130	C	600UL
218	55	83	0.17	108	SAI	2	TSH	+0.96			TSHTSH	0.00	0.19	E4963	reso	88H00030	H	600PP
219			0.28	98	10	P 3	DBH	-1.27			TEHTEC			W3386	reso	88C00064	C	600UL
220	85	83	0.09	97	SAI	2	09C	+1.49			09C09C	0.00	0.20	M7262	reso	88C00194	C	600PP
221	125	83	0.85	139	26	P 2	10H	-0.91			TEHTEC			G7112	seco	88C00104	C	600UL
222			0.63	121	19	P 3	DBH	+2.17			TEHTEC			G7112	seco	88C00104	C	600UL
223	131	83	0.23	70	10	P 3	DBH	-1.92			TEHTEC			L3025	prim	88C00105	C	600UL
224	133	83	0.37	94	15	P 2	10H	-0.97			TEHTEC			G4841	reso	88C00104	C	600UL
225	145	83	0.33	64	13	P 2	VCL	+0.89			TEHTEC			T6144	seco	88C00130	C	600UL
226	76	84	0.37	132	16	P 2	VH3	-0.83			TEHTEC			L3025	prim	88C00107	C	600UL
227			0.28	138	12	P 2	VH3	+1.03			TEHTEC			L3025	prim	88C00107	C	600UL
228	94	84	0.31	130	13	P 2	VH3	+0.83			TEHTEC			G7112	seco	88C00107	C	600UL
229	114	84	0.23	140	10	P 2	VH2	-0.70			TEHTEC			M7262	reso	88C00107	C	600UL
230	132	84	0.69	123	22	P 2	09H	-0.94			TEHTEC			G7112	seco	88C00106	C	600UL
231	134	84	0.47	114	19	P 2	10H	-1.03			TEHTEC			L3025	prim	88C00107	C	600UL
232	144	84	0.54	97	19	P 3	DBC	+1.49			TEHTEC			C4330	prim	88C00130	C	600UL
233	67	85	0.68	88	21	P 3	DBC	-1.85			TEHTEC			B2153	seco	88C00064	C	600UL
234	71	85	0.80	76	27	P 3	DBC	-1.35			TEHTEC			L3025	prim	88C00107	C	600UL
235	125	85	0.35	123	15	P 2	VH1	-0.65			TEHTEC			L3025	prim	88C00107	C	600UL
236			0.30	83	13	P 2	VH2	-0.85			TEHTEC			L3025	prim	88C00107	C	600UL
237	143	85	0.37	131	14	P 2	VC2	-0.90			TEHTEC			R3710	prim	88C00208	C	600UL
238			0.31	152	11	P 2	VC2	-0.86			TEHTEC			C4330	prim	88C00130	C	600UL
239			1.40	116	35	P 2	VCL	-0.82			TEHTEC			C4330	prim	88C00130	C	600UL
240			0.39	95	14	P 2	VCL	+0.83			TEHTEC			R3710	prim	88C00208	C	600UL
241			0.40	140	14	P 2	VCL	+0.89			TEHTEC			C4330	prim	88C00130	C	600UL
242	147	85	0.30	115	12	P 3	DBH	-1.75			TEHTEC			T6144	seco	88C00130	C	600UL
243			0.29	127	12	P 2	VH1	+0.86			TEHTEC			T6144	seco	88C00130	C	600UL
244			0.53	150	19	P 2	VCL	-0.84			TEHTEC			T6144	seco	88C00130	C	600UL
245			0.97	115	29	P 2	VCL	+0.50			TEHTEC			T6144	seco	88C00130	C	600UL

Inservice Inspection of Steam Generator Tubes
Appendix 3

SG88 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 88
DATABASE: SONGS_U2_1000_SG88_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE
246		0.97	132	29	P 2	VC1	+0.82	TEHTEC			T6144	seco	88C00130	C	600UL		
247		0.59	69	20	P 3	DBC	+1.66	TEHTEC			C4330	prim	88C00130	C	600UL		
248	52	86	0.90	66	20	P 3	DBH	-1.57	TEHTEC		W9213	seco	88C00208	C	600UL		
249		1.95	105	37	P 3	DBH	+1.72	TEHTEC			W9213	seco	88C00208	C	600UL		
250	56	86	1.05	79	23	P 3	DBH	-1.71	TEHTEC		R3710	prim	88C00208	C	600UL		
251	94	86	0.35	16	SCI	P 1	TSH	-0.10	TSHTSH	0.32	M7262	reso	88H00093	H	600PP		
252	100	86	0.32	80	14	P 2	VH2	-0.69	TEHTEC		L3025	prim	88C00107	C	600UL		
253	120	86	0.38	122	16	P 2	10H	+0.85	TEHTEC		L3025	prim	88C00107	C	600UL		
254		0.20	167	9	P 3	DBH	-0.70	TEHTEC			L3025	prim	88C00107	C	600UL		
255	126	86	0.36	110	12	P 3	DBH	+1.73	TEHTEC		G7112	seco	88C00106	C	600UL		
256	134	86	0.53	129	18	P 2	09H	-0.95	TEHTEC		G7112	seco	88C00106	C	600UL		
257		0.50	85	17	P 2	10H	-0.95	TEHTEC			G7112	seco	88C00106	C	600UL		
258	136	86	0.55	124	19	P 2	10H	-1.02	TEHTEC		G7112	seco	88C00106	C	600UL		
259	142	86	0.30	130	12	P 3	DBH	+2.00	TEHTEC		T6144	seco	88C00130	C	600UL		
260	144	86	0.24	147	10	P 3	DBH	+2.00	TEHTEC		T6144	seco	88C00130	C	600UL		
261	69	87	0.15	106	SAI	4	TSH	+0.69	TSHTSH	0.00	W3386	reso	88H00216	H	600PP		
262	81	87	0.22	140	10	P 2	VC3	-0.68	TEHTEC		L3025	prim	88C00107	C	600UL		
263	127	87	0.29	115	11	P 2	09H	-1.02	TEHTEC		G7112	seco	88C00106	C	600UL		
264		0.30	47	11	P 2	10H	-1.08	TEHTEC			G7112	seco	88C00106	C	600UL		
265	133	87	0.30	127	13	P 2	VH1	-0.88	TEHTEC		L3025	prim	88C00107	C	600UL		
	135	87	0.35	50	13	P 2	09H	-0.99	TEHTEC		G7112	seco	88C00106	C	600UL		
		0.28	94	11	P 2	10H	-0.94	TEHTEC			G7112	seco	88C00106	C	600UL		
268	54	88	0.51	20	SAI	2	TSH	-0.92	TSHTSH	.27	P4578	reso	88H00199	H	600PP		
269		0.99	81	22	P 3	DBC	-1.76	TEHTEC			W9213	seco	88C00208	C	600UL		
270	56	88	0.48	98	12	P 3	DBC	-1.80	TEHTEC		W9213	seco	88C00208	C	600UL		
271	58	88	0.32	119	8	P 3	DBC	-1.63	TEHTEC		W9213	seco	88C00208	C	600UL		
272	72	88	0.54	119	21	P 3	DBC	-1.55	TEHTEC		L3025	prim	88C00107	C	600UL		
273	76	88	0.28	136	12	P 2	VSM	-0.90	TEHTEC		L3025	prim	88C00107	C	600UL		
274		0.32	94	14	P 2	VC3	-0.90	TEHTEC			L3025	prim	88C00107	C	600UL		
275	98	88	0.36	110	15	P 2	VH2	-0.76	TEHTEC		L3025	prim	88C00107	C	600UL		
276	118	88	0.31	70	14	P 2	VH1	-0.68	TEHTEC		E4963	reso	88C00107	C	600UL		
277		0.35	109	15	P 2	VH1	+0.83	TEHTEC			W3386	reso	88C00107	C	600UL		
278	128	88	0.55	122	19	P 2	10H	-0.98	TEHTEC		G7112	seco	88C00106	C	600UL		
279	132	88	0.49	145	17	P 2	09H	-0.96	TEHTEC		G7112	seco	88C00106	C	600UL		
280	136	88	0.65	136	21	P 2	09H	-0.98	TEHTEC		G7112	seco	88C00106	C	600UL		
281	140	88	0.22	137	8	P 3	DBH	+1.88	TEHTEC		G7112	seco	88C00106	C	600UL		
282	144	88	0.77	70	25	P 3	DBC	+1.66	TEHTEC		C4330	prim	88C00130	C	600UL		
283	123	89	0.72	96	23	P 2	10H	-0.89	TEHTEC		G7112	seco	88C00106	C	600UL		
284	127	89	0.33	154	12	P 2	09H	-1.00	TEHTEC		G7112	seco	88C00106	C	600UL		
285		0.46	91	16	P 2	10H	-1.00	TEHTEC			G7112	seco	88C00106	C	600UL		
286	131	89	0.70	137	22	P 2	09H	-0.98	TEHTEC		G7112	seco	88C00106	C	600UL		
287		0.64	124	21	P 2	10H	+0.98	TEHTEC			G7112	seco	88C00106	C	600UL		
288	135	89	0.75	137	23	P 2	09H	-0.95	TEHTEC		G7112	seco	88C00106	C	600UL		
289		0.42	124	15	P 2	10H	-1.02	TEHTEC			G7112	seco	88C00106	C	600UL		
290	137	89	0.36	136	SAI	2	06H	+0.11	06H06H	0.00	M7262	reso	88H00144	H	600PP		
291	143	89	0.26	40	11	P 3	DBH	-1.75	TEHTEC		B8090	reso	88C00130	C	600UL		
	145	89	0.35	123	12	P 2	VC1	+0.80	TEHTEC		C4330	prim	88C00130	C	600UL		
	147	89	0.86	130	27	P 2	VC1	+0.84	TEHTEC		C4330	prim	88C00130	C	600UL		
294	52	90	0.95	86	21	P 3	DBH	-2.07	STHTEC		R3710	prim	88C00208	C	600UL		

Inservice Inspection of Steam Generator Tubes
Appendix 3

SG88 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 88
DATABASE: SONGS_U2_1000_SG88_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE
295	54	90	0.36	17	SCI	P 1	TSH	+0.08	TSHTSH	0.00	0.20	M7262	reso	88H00199	H	600PP	
296			1.18	63	25	P 3	DBH	-1.99	TEHTEC			R3710	prim	88C00208	C	600UL	
297			0.58	143	14	P 3	DBH	+1.15	TEHTEC			W9213	seco	88C00208	C	600UL	
298	66	90	0.27	23	SCI	P 1	TSH	-0.10	TSHTSH	0	.14	P4578	reso	88H00199	H	600PP	
299	72	90	0.60	132	24	P 2	VSM	+0.97	TEHTEC			L8038	prim	88C00109	C	600UL	
300	76	90	0.50	61	21	P 2	VSM	+0.00	TEHTEC			L8038	prim	88C00109	C	600UL	
301	80	90	0.18	93	SAI	2	02H	+9.60	02H02H	0.00	0.23	W3386	reso	88H00240	H	600PP	
302			0.26	100	SAI	2	02H	+9.96	02H02H	0.00	0.26	W3386	reso	88H00240	H	600PP	
303	126	90	0.42	121	17	P 3	DBH	+2.00	TEHTEC			L8038	prim	88C00109	C	600UL	
304	128	90	0.37	99	13	P 2	10H	+0.94	TEHTEC			P1465	prim	88C00108	C	600UL	
305	142	90	0.26	129	11	P 3	DBH	+2.00	TEHTEC			T6144	seco	88C00130	C	600UL	
306	144	90	0.64	40	22	P 3	DBC	+1.70	TEHTEC			T6144	seco	88C00130	C	600UL	
307	146	90	1.14	64	33	P 3	DBC	+1.60	TEHTEC			C4330	prim	88C00130	C	600UL	
308	85	91	0.41	82	15	P 2	09H	-0.15	TEHTEC			W9213	seco	88C00132	C	600UL	
309	99	91	0.41	11	SCI	P 1	TSH	-0.14	TSHTSH	0.37	0.16	R5555	reso	88H00091	H	600PP	
310	125	91	0.30	140	13	P 3	DBH	+1.96	TEHTEC			L8038	prim	88C00109	C	600UL	
311	137	91	0.43	140	19	P 2	10H	-1.08	TEHTEC			L8038	prim	88C00109	C	600UL	
312	145	91	0.30	151	10	P 2	VH2	+0.76	TEHTEC			C4330	prim	88C00130	C	600UL	
313	147	91	0.39	152	14	P 2	VC1	-0.82	TEHTEC			C4330	prim	88C00130	C	600UL	
314	72	92	0.18	104	SAI	2	TSH	+1.53	TSHTSH	0	0.40	M7262	reso	88H00091	H	600PP	
			0.10	119	SAI	2	TSH	+2.38	TSHTSH	0.00	0.20	M7262	reso	88H00091	H	600PP	
	112	92	0.37	62	13	P 2	VH2	-0.61	TEHTEC			P1465	prim	88C00108	C	600UL	
317	120	92	0.37	85	13	P 3	DBH	-1.89	TEHTEC			R8278	seco	88C00108	C	600UL	
318	126	92	0.26	119	12	P 2	VH1	-0.84	TEHTEC			B3170	prim	88C00109	C	600UL	
319	138	92	0.28	148	13	P 2	VH1	-0.73	TEHTEC			B3170	prim	88C00109	C	600UL	
320	53	93	1.49	64	34	P 3	DBH	-1.84	07HTEC			B4165	prim	88C00207	C	600UL	
321	55	93	0.81	17	SAI	2	TSH	-1.46	TSHTSH	1.36	.75	P4578	reso	88H00199	H	600PP	
322	135	93	0.29	118	11	P 2	10H	+0.94	TEHTEC			P1465	prim	88C00108	C	600UL	
323	147	93	0.26	76	8	P 2	VC1	-0.47	TEHTEC			C4330	prim	88C00130	C	600UL	
324			0.78	112	25	P 2	VC1	+0.97	TEHTEC			C4330	prim	88C00130	C	600UL	
325			0.22	52	10	P 3	DBC	-1.90	TEHTEC			G4841	reso	88C00130	C	600UL	
326	52	94	0.35	134	11	P 3	DBC	-1.80	TEHTEC			R5555	reso	88C00207	C	600UL	
327	84	94	0.31	22	SCI	P 1	TSH	-0.12	TSHTSH	0.29	0.21	M7262	reso	88H00090	H	600PP	
328	122	94	0.25	80	9	P 3	DBH	+1.99	TEHTEC			R8278	seco	88C00108	C	600UL	
329	130	94	0.42	128	15	P 2	10H	-0.95	TEHTEC			G4841	reso	88C00108	C	600UL	
330	132	94	0.66	64	25	P 2	10H	+0.90	TEHTEC			B3170	prim	88C00109	C	600UL	
331	119	95	0.43	115	14	P 3	DBH	-1.82	TEHTEC			R8278	seco	88C00110	C	600UL	
332	127	95	0.25	156	10	P 2	VH1	-0.85	TEHTEC			R8278	seco	88C00110	C	600UL	
333	129	95	0.43	91	17	P 3	DBH	+2.04	TEHTEC			L3025	prim	88C00111	C	600UL	
334	48	96	1.18	116	30	P 3	DBH	-1.75	TEHTEC			R5555	reso	88C00207	C	600UL	
335	50	96	3.12	19	49	P 3	DBH	+0.00	TEHTEC	LAR		M7262	reso	88C00207	C	600UL	
336			0.86	110	24	P 3	DBC	-1.98	TEHTEC			R5555	reso	88C00207	C	600UL	
337	54	96	0.38	33	SCI	P 1	TSH	-2.14	TSHTSH	0.66	0.28	M7262	reso	88H00199	H	600PP	
338			0.41	62	13	P 3	DBH	-1.75	TEHTEC			R5555	reso	88C00207	C	600UL	
339	114	96	0.29	152	12	P 2	VH3	-0.87	TEHTEC			R8278	seco	88C00110	C	600UL	
340	122	96	0.41	120	13	P 3	DBH	+2.01	TEHTEC			L9168	prim	88C00110	C	600UL	
	134	96	0.37	121	15	P 2	VH1	-0.72	TEHTEC			L9168	prim	88C00110	C	600UL	
	144	96	0.39	125	13	P 3	DBH	+2.11	TEHTEC			C4330	prim	88C00130	C	600UL	
343	69	97	0.15	98	SAI	2	TSH	+1.45	TSHTSH	0	0.26	R5555	reso	88H00091	H	600PP	

Inservice Inspection of Steam Generator Tubes
Appendix 3

SG88 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 88
DATABASE: SONGS_U2_1000_SG88_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE
344	125	97	0.38	136	14	P 2	VH1	-0.90	TEHTEC		B8589	seco	88C00111	C	600UL		
345	135	97	0.21	146	10	P 2	10H	-0.94	TEHTEC		L9168	prim	88C00110	C	600UL		
346			0.26	130	12	P 2	10H	+0.97	TEHTEC		L9168	prim	88C00110	C	600UL		
347	50	98	0.36	34	14	P 2	VSM	-0.76	TEHTEC		W3386	reso	88C00207	C	600UL		
348	54	98	0.44	18	SCI	P 1	TSH	-0.01	TSHTSH	.57	P4578	reso	88H00199	H	600PP		
349	62	98	0.54	84	MCI	P 1	TSH	+0.12	TSHTSH	.56	P4578	reso	88H00199	H	600PP		
350	66	98	0.22	97	SAI	2	TSH	+0.19	TSHTSH	0	P4578	reso	88H00199	H	600PP		
351			0.19	103	MAI	2	TSH	+0.93	TSHTSH	0	P4578	reso	88H00199	H	600PP		
352	74	98	0.23	103	SCI	P 1	TSH	+0.00	TSHTSH	0	R5555	reso	88H00091	H	600PP		
353	47	99	0.90	136	25	P 3	DBH	-1.87	TEHTEC		R5555	reso	88C00207	C	600UL		
354			0.52	48	16	P 3	DBC	-1.95	TEHTEC		R5555	reso	88C00207	C	600UL		
355	51	99	0.60	77	18	P 3	DBH	-1.92	TEHTEC		B4165	prim	88C00207	C	600UL		
356	85	99	0.56	122	19	P 2	09C	+1.28	TEHTEC	LAR	M7262	reso	88C00111	C	600UL		
357			0.19	103	SAI	2	09C	+1.50	09C09C	0.00	H1748	reso	88C00192	C	600PP		
358	113	99	0.32	91	14	P 2	VH2	-0.75	TEHTEC		H1748	reso	88C00110	C	600UL		
359	133	99	0.22	60	10	P 2	VH1	-0.78	TEHTEC		V1371	prim	88C00110	C	600UL		
360	44	100	0.52	83	16	P 3	DBC	-1.98	TEHTEC		R5555	reso	88C00207	C	600UL		
361			0.77	95	22	P 3	DBC	+1.90	TEHTEC		G4841	reso	88C00207	C	600UL		
362	134	100	0.36	105	15	P 2	10H	+1.11	TEHTEC		V1371	prim	88C00110	C	600UL		
363	146	100	0.71	130	24	P 3	DBH	-1.98	TEHTEC		C4330	prim	88C00130	C	600UL		
364	39	101	0.83	50	23	P 3	DBC	+1.98	TEHTEC		B4165	prim	88C00207	C	600UL		
365	41	101	0.30	114	12	P 2	VSM	-0.73	TEHTEC		B4165	prim	88C00207	C	600UL		
366	43	101	0.40	73	13	P 3	DBC	-2.11	TEHTEC		B4165	prim	88C00207	C	600UL		
367	65	101	0.16	108	SAI	2	TSH	+1.01	TSHTSH	0	P4578	reso	88H00199	H	600PP		
368	73	101	0.25	29	SCI	P 1	TSH	-0.11	TSHTSH	0.00	G4841	reso	88H00090	H	600PP		
369	79	101	0.45	27	SCI	P 1	TSH	-0.03	TSHTSH	.24	P4578	reso	88H00088	H	600PP		
370	111	101	0.22	92	8	P 3	DBH	-0.86	TEHTEC		W9213	seco	88C00132	C	600UL		
371	119	101	0.43	136	13	P 3	DBH	-1.62	TEHTEC		P4578	reso	88C00110	C	600UL		
372	127	101	0.34	122	14	P 2	VH1	-0.78	TEHTEC		V1371	prim	88C00110	C	600UL		
373			0.23	91	10	P 2	VH3	+0.82	TEHTEC		V1371	prim	88C00110	C	600UL		
374	36	102	1.00	49	28	P 3	DBC	+2.07	TEHTEC		W9213	seco	88C00205	C	600UL		
375	42	102	0.49	20	MCI	P 1	TSH	-6.43	TSHTSH	.33	P4578	reso	88H00199	H	600PP		
376	46	102	0.85	14	SAI	2	TSH	-0.52	TSHTSH	.85	P4578	reso	88H00199	H	600PP		
377	70	102	0.56	23	SCI	P 1	TSH	-0.06	TSHTSH	.86	P4578	reso	88H00199	H	600PP		
378	80	102	0.34	25	SCI	P 1	TSH	+0.00	TSHTSH	.31	P4578	reso	88H00089	H	600PP		
379	116	102	0.31	118	13	P 3	DBH	+1.04	TEHTEC		B5926	seco	88C00113	C	600UL		
380	35	103	1.44	79	35	P 3	DBH	-1.43	TEHTEC		F0037	prim	88C00205	C	600UL		
381			0.42	43	16	P 2	VSM	-0.60	TEHTEC		W9213	seco	88C00205	C	600UL		
382	39	103	1.93	24	SAI	2	TSH	-5.68	TSHTSH	2.40	R5555	reso	88H00200	H	600PP		
383	87	103	0.35	116	SAI	2	07H	-0.37	07H07H	0.00	M7262	reso	88H00138	H	600PP		
384	36	104	0.74	108	23	P 3	DBH	-1.74	STHTEC		W3386	reso	88C00205	C	600UL		
385	84	104	0.49	89	14	P 2	09H	-1.31	TEHTEC	LAR	M7262	reso	88C00112	C	600UL		
386	41	105	0.67	20	SAI	2	TSH	-0.69	TSHTSH	.87	P4578	reso	88H00211	H	600PP		
387	139	105	0.49	61	16	P 2	10H	+0.86	TEHTEC		F0037	prim	88C00112	C	600UL		
388	42	106	0.63	128	21	P 2	VSM	-0.72	TEHTEC		B3170	prim	88C00203	C	600UL		
389	76	106	0.14	65	SAI	2	02H	-7.79	02H02H	0.11	E4963	reso	88H00242	H	600PP		
390	128	106	0.29	147	9	P 2	10H	-0.83	TEHTEC		B3170	prim	88C00113	C	600UL		
391	130	106	0.43	64	14	P 2	VH1	-0.77	TEHTEC		F0037	prim	88C00112	C	600UL		
392	144	106	1.08	97	24	P 3	DBC	+1.70	TEHTEC		R3710	prim	88C00208	C	600UL		

Inservice Inspection of Steam Generator Tubes
Appendix 3

SG88 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 88
DATABASE: SONGS_U2_1000_SG88_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE	
393	63	107	0.11	99	SAI	2	TSH	+2.32			TSHTSH	.16	.16	B8090	reso	88H00201	H	600PP
394	127	107	0.40	157	17	P	2	VH1	-0.75		TEHTEC			V1371	prim	88C00114	C	600UL
395	24	108	0.15	109	SCI	P	1	TSH	+0.01		TSHTSH	0.11	0.31	W3386	reso	88H00201	H	600PP
396	48	108	0.62	113	21	P	2	VSM	-0.12		TEHTEC			M7262	reso	88C00203	C	600UL
397	106	108	0.65	17	SAI	2	VC2	+1.07			VC2VC2	0.67	0.43	W3386	reso	88C00249	C	560PP
398	128	108	0.33	145	11	P	2	VH1	-0.87		TEHTEC			T9924	seco	88C00114	C	600UL
399	23	109	0.54	131	19	P	2	VSM	+1.06		TEHTEC			W9213	seco	88C00203	C	600UL
400	37	109	0.61	14	SAI	2	TSH	-5.25			TSHTSH	.44	.13	P4578	reso	88H00211	H	600PP
401			0.75	20	SAI	2	TSH	-3.79			TSHTSH	.73	.18	P4578	reso	88H00211	H	600PP
402	39	109	0.19	80	SAI	2	TSH	+1.05			TSHTSH	.14	.13	B8090	reso	88H00201	H	600PP
403	43	109	0.20	98	SAI	2	01H	+0.71			01H01H	0.00	0.20	E4963	reso	88H00265	H	600PP
404			0.50	100	17	P	2	01H	+0.82		TEHTEC			M7262	reso	88C00203	C	600UL
405	47	109	1.07	18	SAI	2	TSH	-1.36	TO-0.99		TSHTSH	.81	.36	P4578	reso	88H00211	H	600PP
406			0.37	22	SCI	P	1	TSH	-0.15		TSHTSH	.21	.13	P4578	reso	88H00211	H	600PP
407			0.27	123	11	P	2	VSM	+0.94		TEHTEC			W9213	seco	88C00203	C	600UL
408	79	109	0.39	19	SCI	P	1	TSH	-0.07		TSHTSH	0.43	0.19	W3386	reso	88H00084	H	600PP
409	111	109	0.24	50	11	P	2	VH3	+1.14		TEHTEC			V1371	prim	88C00114	C	600UL
410	123	109	0.47	144	16	P	2	VH1	-0.95		TEHTEC			T9924	seco	88C00114	C	600UL
411	143	109	0.22	131	9	P	3	DBH	-1.54		TEHTEC			V1371	prim	88C00131	C	600UL
412	78	110	0.36	115	12	P	2	VH3	-0.74		TEHTEC			T9924	seco	88C00114	C	600UL
			0.39	138	13	P	2	VC3	-0.74		TEHTEC			T9924	seco	88C00114	C	600UL
	86	110	0.41	67	18	P	2	VC2	-0.66		TEHTEC			B2265	prim	88C00115	C	600UL
415	114	110	0.32	108	16	P	3	DBH	-1.59		TEHTEC			B2265	prim	88C00115	C	600UL
416	142	110	0.51	55	18	P	3	DBH	+1.86		TEHTEC			V1371	prim	88C00131	C	600UL
417	39	111	0.65	19	SAI	2	TSH	-0.01			TSHTSH	0.63	0.18	W3386	reso	88H00201	H	600PP
418	43	111	0.55	11	SAI	2	TSH	-4.34			TSHTSH	0.83	0.21	M7262	reso	88H00201	H	600PP
419			0.76	20	SAI	2	TSH	-3.05			TSHTSH	2.25	0.34	M7262	reso	88H00201	H	600PP
420			0.43	15	SCI	P	1	TSH	-2.66		TSHTSH	0.68	0.14	M7262	reso	88H00201	H	600PP
421			1.14	13	SAI	2	TSH	-0.44			TSHTSH	1.67	0.16	M7262	reso	88H00201	H	600PP
422	49	111	0.28	80	SAI	2	TSH	+0.13			TSHTSH	.27	.18	P4578	reso	88H00211	H	600PP
423	59	111	0.80	21	SCI	P	1	TSH	-3.64		TSHTSH	.67	.20	P4578	reso	88H00211	H	600PP
424			0.43	108	15	P	2	01H	+1.25		TEHTEC			M7262	reso	88C00203	C	600UL
425	123	111	0.58	32	19	P	3	DBH	+1.99		TEHTEC			R8278	seco	88C00134	C	600UL
426	122	112	0.29	34	11	P	2	10H	-0.86		TEHTEC			B2027	prim	88C00133	C	600UL
427	126	112	0.46	23	14	P	3	DBH	+1.78		TEHTEC			B2027	prim	88C00133	C	600UL
428	57	113	0.58	10	SAI	2	07H	+0.23			07H07H	0	.11	P4578	reso	88H00223	H	600PP
429	34	114	3.25	30	SCI	P	1	TSH	-6.03		TSHTSH	6.29	0.51	W3386	reso	88H00201	H	600PP
430			1.00	20	MCI	P	1	TSH	-5.54		TSHTSH	1.15	0.28	W3386	reso	88H00201	H	600PP
431			0.38	17	SCI	P	1	TSH	-5.10		TSHTSH	0.76	0.14	W3386	reso	88H00201	H	600PP
432			1.11	21	SCI	P	1	TSH	-4.58		TSHTSH	2.50	0.28	W3386	reso	88H00201	H	600PP
433			0.38	14	SAI	2	TSH	-1.75	TO-6.20		TSHTSH	1.0	4.45	W3386	reso	88H00201	H	600PP
434	122	114	0.31	55	15	P	2	10H	+0.92		TEHTEC			B3170	prim	88C00117	C	600UL
435	65	115	0.90	18	SAI	2	TSH	-5.80			TSHTSH	1.42	1.57	P4578	reso	88H00211	H	600PP
436			0.91	18	SAI	2	TSH	-2.80			TSHTSH	1.21	.15	P4578	reso	88H00211	H	600PP
437	107	115	0.43	51	16	P	2	VH2	+0.72		TECTEH			J9815	prim	88H00260	C	580SF
438			0.33	121	12	P	2	VH2	+0.85		TEHTEC			G4841	reso	88C00133	C	600UL
	133	115	0.41	69	19	P	2	10H	+0.92		TEHTEC			B3170	prim	88C00117	C	600UL
	18	116	0.35	28	SCI	P	1	TSH	-0.10		TSHTSH	0	0.16	R5555	reso	88H00204	H	600PP
441	46	116	0.83	50	28	P	2	VSM	-0.67		TEHTEC			L8038	prim	88C00230	C	600UL

Inservice Inspection of Steam Generator Tubes
Appendix 3

SG88 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 88
DATABASE: SONGS_U2_1000_SG88_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE
442	112 116	0.20	72	11 P 2	VH3	-0.77		TEHTEC			B3170	prim	88C00117	C	600UL		
443	85 119	0.49	84	18 P 2	09H	+1.71		TEHTEC	LAR		G4841	reso	88C00132	C	600UL		
444	129 119	0.35	126	13 P 2	VH1	-0.78		TEHTEC			B8090	reso	88C00132	C	600UL		
445	14 120	0.48	38	15 P 2	05H	+0.51		TEHTEC			M0554	reso	88C00199	C	600UL		
446		0.35	124	SAI	2 05H	+0.63		05H05H	0.00	0.63	H8259	reso	88H00267	H	600PP		
447	46 120	0.19	100	SCI P 1	TSH	+0.12		TSHTSH	0.30	0.23	B4260	reso	88H00205	H	600PP		
448	49 121	0.85	21	SCI P 1	TSH	-2.87		TSHTSH	1.85	0.37	W3386	reso	88H00205	H	600PP		
449	75 121	0.19	19	SCI P 1	TSH	-0.07		TSHTSH	0.08	0.16	C0360	reso	88H00078	H	600PP		
450	123 121	0.47	124	17 P 2	VH1	-0.86		TEHTEC			W9213	seco	88C00132	C	600UL		
451	133 121	0.55	156	27 P 2	VH1	-0.74		TEHTEC			T6144	seco	88C00118	C	600UL		
452	64 122	1.73	96	36 P 2	VH3	+0.90		TEHTEC			L9168	prim	88C00198	C	600UL		
453	100 122	0.32	104	17 P 2	VH3	-0.77		TEHTEC			P1465	prim	88C00118	C	600UL		
454	89 123	0.46	137	17 P 2	VH2	-1.04		TSHTSH			L3025	prim	88C00121	C	600UL		
455		0.33	119	13 P 2	VH2	-0.81		TEHTEC			M7262	reso	88C00132	C	600UL		
456	99 123	0.37	115	13 P 2	VC2	+0.84		TEHTEC			M7262	reso	88C00120	C	600UL		
457	42 124	0.11	66	SCI P 1	TSH	+0.10		TSHTSH	0.00	0.17	W3386	reso	88H00205	H	600PP		
458	100 124	0.31	83	11 P 2	VSM	-0.71		TEHTEC			B2027	prim	88C00120	C	600UL		
459	122 124	0.50	137	15 P 3	DBH	+1.79		TEHTEC			J0927	seco	88C00120	C	600UL		
460	25 125	0.60	18	MCI P 1	TSH	-0.12		TSHTSH	1.25	0.25	B4260	reso	88H00206	H	600PP		
461	41 125	0.42	16	SCI P 1	TSH	-0.20		TSHTSH	0.26	0.20	B4260	reso	88H00205	H	600PP		
462	43 125	0.40	136	14 P 2	VSM	-0.80		TEHTEC			V1371	prim	88C00198	C	600UL		
463	85 125	0.65	118	21 P 2	09C	+1.35		TEHTEC	LAR		M7262	reso	88C00120	C	600UL		
464		0.32	117	SAI	2 09C	+1.52		09CDBC	0.00	0.32	H1748	reso	88C00192	C	600PP		
465	87 125	0.38	118	13 P 2	VH2	-0.71		TEHTEC			B2027	prim	88C00120	C	600UL		
466	89 125	0.40	73	14 P 2	VH2	-0.62		TEHTEC			B2027	prim	88C00120	C	600UL		
467	107 125	0.17	98	4 P 3	DBH	-1.44		TEHTEC			J0927	seco	88C00120	C	600UL		
468	121 125	0.32	87	11 P 2	10H	+0.60		TEHTEC			B2027	prim	88C00120	C	600UL		
469	125 125	0.36	127	13 P 2	VH1	-0.73		TEHTEC			B2027	prim	88C00120	C	600UL		
470	127 125	0.36	93	13 P 2	VH1	-0.64		TEHTEC			B2027	prim	88C00120	C	600UL		
471	16 126	0.19	21	SCI P 1	TSH	-0.08		TSHTSH	.24	.14	P4578	reso	88H00075	H	600PP		
472	39 127	0.36	83	13 P 2	VSM	-0.69		TEHTEC			B2265	prim	88C00047	C	600UL		
473	89 127	0.37	148	15 P 2	VH2	-0.72		TEHTEC			T6144	seco	88C00032	C	600UL		
474		0.20	160	8 P 2	VSM	-0.72		TEHTEC			B2265	prim	88C00032	C	600UL		
475	95 127	0.23	19	SCI P 1	TSH	-0.08		TSHTSH	0.21	0.16	H7791	reso	88H00054	H	600PP		
476	131 127	0.50	130	19 P 2	03C	+0.82		TEHTEC			T6144	seco	88C00032	C	600UL		
477	90 128	0.29	106	12 P 2	VH2	+0.85		TEHTEC			T0854	seco	88C00034	C	600UL		
478	130 128	0.32	65	13 P 2	VH2	-0.51		TEHTEC			T6144	seco	88C00032	C	600UL		
479	51 129	0.53	19	SCI P 1	TSH	-0.08		TSHTSH	0.19	0.16	R5555	reso	88H00074	H	600PP		
480	83 129	0.39	133	16 P 2	VC2	+0.82		TEHTEC			G4841	reso	88C00033	C	600UL		
481	85 129	0.22	102	9 P 2	VH2	-0.63		TEHTEC			T6144	seco	88C00032	C	600UL		
482	24 130	0.54	22	SCI P 1	TSH	-5.65		TSHTSH	0.48	0.16	R5555	reso	88H00074	H	600PP		
483	44 130	0.21	20	SCI P 1	TSH	-0.10		TSHTSH	0	0.19	R5555	reso	88H00074	H	600PP		
484	60 130	0.37	24	SCI P 1	TSH	-0.11		TSHTSH	0.38	0.16	R5555	reso	88H00074	H	600PP		
485	86 130	0.37	122	14 P 2	VC2	+0.87		TEHTEC			B4014	prim	88C00033	C	600UL		
486	90 130	0.45	147	17 P 2	VH2	-0.85		TEHTEC			T0854	seco	88C00033	C	600UL		
487	14 132	0.58	18	SCI P 1	TSH	-5.42		TSHTSH	.64	.14	P4578	reso	88H00072	H	600PP		
488	26 132	0.61	12	SAI	2 TSH	-5.25		TSHTSH	.46	.14	P4578	reso	88H00072	H	600PP		
489		0.85	14	SAI	2 TSH	-3.78		TSHTSH	.77	.17	P4578	reso	88H00072	H	600PP		
490	40 132	0.40	21	SCI P 1	TSH	-0.10		TSHTSH	.27	.14	P4578	reso	88H00071	H	600PP		

Inservice Inspection of Steam Generator Tubes
Appendix 3

SG88 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 88
DATABASE: SONGS_U2_1000_SG88_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE
491	47	133	0.34	143	12	P 2	VSM	-0.74	TEHTEC		R8278	seco	88C00045	C	600UL		
492	73	133	0.42	96	16	P 2	VH3	+1.00	TEHTEC		G4841	reso	88C00030	C	600UL		
493	72	134	0.32	119	13	P 2	VH3	-1.08	TEHTEC		F0037	prim	88C00031	C	600UL		
494	76	134	0.42	142	16	P 2	VH3	+0.65	TEHTEC		F0037	prim	88C00031	C	600UL		
495	23	135	0.23	14	SCI	P 1	TSH	-0.13	TSHTSH	.37	P4578	reso	88H00071	H	600PP		
496	59	135	0.48	28	18	P 2	VC3	-0.83	TEHTEC		V1371	prim	88C00046	C	600UL		
497	89	135	0.42	115	16	P 2	VH2	-0.72	TEHTEC		B3170	prim	88C00030	C	600UL		
498			0.26	62	10	P 2	VSM	+0.89	TEHTEC		B3170	prim	88C00030	C	600UL		
499	26	136	1.36	31	SCI	P 1	TSH	-5.18	TSHTSH	2.46	P4578	reso	88H00072	H	600PP		
500			1.22	22	SAI	2	TSH	-4.87	TSHTSH	.93	P4578	reso	88H00072	H	600PP		
501			0.80	15	SAI	2	TSH	-4.49	TSHTSH	1.03	P4578	reso	88H00072	H	600PP		
502			0.44	14	SCI	P 1	TSH	-4.48	TSHTSH	0.0	M7262	reso	88H00072	H	600PP		
503			0.48	13	SAI	2	TSH	-4.12	TSHTSH	.64	P4578	reso	88H00072	H	600PP		
504	78	136	0.51	60	17	P 3	DBH	-2.10	TEHTEC		G4841	reso	88C00030	C	600UL		
505	94	138	0.28	114	11	P 2	VSM	-0.76	TEHTEC		T6144	seco	88C00028	C	600UL		
506	110	138	0.45	139	17	P 2	VC3	-0.84	TEHTEC		B4014	prim	88C00029	C	600UL		
507	120	138	0.48	73	16	P 3	DBH	-1.62	TEHTEC		R8278	seco	88C00028	C	600UL		
508	75	139	0.34	158	13	P 2	VH3	+0.87	TEHTEC		B4014	prim	88C00029	C	600UL		
509			0.61	108	21	P 2	VSM	+0.39	TEHTEC		B4014	prim	88C00029	C	600UL		
510	93	139	0.31	148	12	P 2	VH2	-0.61	TEHTEC		R8278	seco	88C00028	C	600UL		
511	85	141	0.43	141	16	P 2	09H	+1.18	TEHTEC	LAR	M7262	reso	88C00028	C	600UL		
512	89	141	0.37	102	14	P 2	VH2	+0.73	TEHTEC		R8278	seco	88C00028	C	600UL		
513			0.28	148	11	P 2	VC2	+1.01	TEHTEC		R8278	seco	88C00028	C	600UL		
514	97	141	0.28	135	11	P 2	VH2	+0.86	TEHTEC		C4330	prim	88C00028	C	600UL		
515	78	142	0.43	127	17	P 2	VH3	+0.85	TEHTEC		L9168	prim	88C00027	C	600UL		
516	79	143	0.20	134	8	P 3	DBC	-1.33	TEHTEC		L9168	prim	88C00027	C	600UL		
517	95	143	0.40	119	16	P 2	VH2	-0.62	TEHTEC		D2003	prim	88C00026	C	600UL		
518	54	144	0.35	133	12	P 2	VH3	+0.70	TEHTEC		P4578	reso	88C00019	C	600UL		
519	112	144	0.70	165	21	P 3	DBH	+2.23	TEHTEC		W3386	reso	88C00026	C	600UL		
520	7	145	2.44	34	SCI	P 1	TSH	-4.32	TSHTSH	3.33	P4578	reso	88H00069	H	600PP		
521	68	146	0.53	119	19	P 2	VC3	-0.73	TEHTEC		B2027	prim	88C00042	C	600UL		
522	74	146	0.63	136	22	P 2	VH3	-0.82	TEHTEC		L9168	prim	88C00027	C	600UL		
523			0.86	140	27	P 2	VC3	-0.89	TEHTEC		L9168	prim	88C00027	C	600UL		
524			0.61	51	22	P 2	VC3	+0.91	TEHTEC		L9168	prim	88C00027	C	600UL		
525	101	147	0.40	160	16	P 2	VSM	-0.65	TEHTEC		G7112	seco	88C00024	C	600UL		
526	74	148	0.23	126	10	P 2	VH3	-0.83	TEHTEC		G7112	seco	88C00024	C	600UL		
527	78	148	0.47	144	18	P 2	08C	-0.94	TEHTEC		G7112	seco	88C00024	C	600UL		
528	90	148	0.43	50	17	P 2	VH2	+0.83	VH2TEC		W9658	seco	88C00022	C	600UL		
529			0.46	57	16	P 2	VH2	+0.88	TEHTEC		G4841	reso	88C00122	C	600UL		
530	65	149	0.38	125	15	P 2	04H	+0.49	TEHTEC		H7791	reso	88C00042	C	600UL		
531	14	150	0.89	23	SCI	P 1	TSH	-0.06	TSHTSH	0.45	M7262	reso	88H00007	H	600PP		
532	86	150	0.27	149	11	P 2	VH2	+0.84	TEHTEC		W9658	seco	88C00022	C	600UL		
533	96	150	0.40	129	16	P 2	VH2	-0.85	TEHTEC		B3170	prim	88C00023	C	600UL		
534	81	151	0.25	137	11	P 2	VH3	+0.87	TEHTEC		W9658	seco	88C00022	C	600UL		
535	85	151	0.37	109	15	P 2	VH2	+0.85	TEHTEC		W9658	seco	88C00022	C	600UL		
536	99	151	0.38	149	15	P 2	VH2	-0.69	TEHTEC		B3170	prim	88C00023	C	600UL		
537	93	153	0.53	39	19	P 2	05C	-1.01	TEHTEC		B3170	prim	88C00021	C	600UL		
538			0.44	73	16	P 2	03C	+0.89	TEHTEC		B3170	prim	88C00021	C	600UL		
539	78	154	0.39	136	15	P 2	VC3	+0.88	TEHTEC		W4786	seco	88C00020	C	600UL		

Inservice Inspection of Steam Generator Tubes
Appendix 3

SG88 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 88
DATABASE: SONGS_U2_1000_SG88_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE	
540	10	156	0.63	22	MCI	P 1	TSH	-0.05			TSHTSH		0.28	0.31	M7262	reso	88H00013	H 600PP
541	74	156	0.45	42	16	P 2	VH3	+0.99			TEHTEC				B3170	prim	88C00021	C 600UL
542	21	159	0.46	130	18	P 2	06H	+0.88			TEHTEC				M7262	reso	88C00038	C 600UL
543	18	160	0.47	117	18	P 2	06H	-0.24			TEHTEC				B8090	reso	88C00038	C 600UL
544			0.48	107	19	P 2	06H	+0.95			TEHTEC				B8090	reso	88C00038	C 600UL
545	40	160	0.30	145	13	P 2	VSM	-0.66			TEHTEC				T4180	seco	88C00038	C 600UL
546	13	161	0.14	98	MAI	4	06H	+14.00			07H06H		0.33	0.88	H1748	reso	88H00276	H 600PP
547	17	161	0.34	157	12	P 2	06H	+0.86			TEHTEC				R8278	seco	88C00037	C 600UL
548	64	162	0.30	115	13	P 2	VH3	-0.66			TEHTEC				L3025	prim	88C00038	C 600UL
549			0.29	48	13	P 2	VH3	+0.81			TEHTEC				H1748	reso	88C00038	C 600UL
550	51	163	0.46	57	18	P 2	VH3	+0.84			TEHTEC				L3025	prim	88C00038	C 600UL
551	50	164	0.39	89	14	P 2	VSM	+0.95			TEHTEC				R8278	seco	88C00037	C 600UL
552	15	165	0.55	145	19	P 2	07H	-0.30			TEHTEC				M7262	reso	88C00035	C 600UL
553	67	165	0.71	116	24	P 2	VH3	-0.75			TEHTEC				L9168	prim	88C00035	C 600UL
554	57	167	0.47	150	17	P 2	02C	+0.81			TEHTEC				L9168	prim	88C00035	C 600UL
555	3	169	0.50	63	18	P 2	05H	-0.26			DBHTEH				M7262	reso	88H00119	H 600UL

QUERY REPORT SUMMARY:

QUERY PARAMETER	ENTRIES	TUBES
0 to 100 Percent	411	348
MAI Indication Code	4	4
MCI Indication Code	7	7
MMI Indication Code	0	0
MVI Indication Code	0	0
SAI Indication Code	64	54
SCI Indication Code	68	65
SVI Indication Code	1	1
TOTAL ENTRIES:	555	
TOTAL TUBES:	456	

Appendix 4
Inspection Summary
Steam Generator E-089

Inservice Inspection of Steam Generator Tubes
Appendix 4

SG89 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 89
DATABASE: SONGS_U2_1000_SG89_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE	
1	1	1	0.21	64	11	P 2	DBH	+1.01			M7262	reso	89C00110	C 1	560SF			
2	22	2	0.49	146	19	P 2	VSM	-0.94			B2265	prim	89C00001	C 0	600UL			
3	38	4	0.35	93	15	P 2	02C	-0.92			B4260	reso	89C00001	C 0	600UL			
4			0.35	45	15	P 2	01C	+0.18			B4260	reso	89C00001	C 0	600UL			
5	48	6	0.50	85	19	P 2	08C	-1.84		LAR	M7262	reso	89C00001	C 0	600UL			
6	32	10	0.34	89	14	P 2	03H	+0.97			R8278	seco	89C00001	C 0	600UL			
7	36	10	0.25	150	11	P 2	VSM	+0.93			R8278	seco	89C00001	C 0	600UL			
8	64	10	0.54	114	20	P 2	03C	-1.04			R8278	seco	89C00001	C 0	600UL			
9	73	13	0.35	48	14	P 2	VH3	+0.95			V1371	prim	89C00085	C 0	600UL			
10	25	17	0.18	80	SAI	2	05H	+9.67	0.00	0.34	W3386	reso	89H00206	H 2	600PP			
11	44	18	0.32	141	12	P 2	VSM	-0.84			B2027	prim	89C00005	C 0	600UL			
12	93	23	0.81	94	28	P 2	02C	+0.87			B3170	prim	89C00086	C 0	600UL			
13	16	24	0.58	19	SCI	P 1	TSH	+0.01	0.42	0.22	E4963	reso	89H00147	H 0	600PP			
14	90	24	0.36	123	14	P 2	VH2	-0.84			T6144	seco	89C00085	C 0	600UL			
15			0.37	79	14	P 2	VSM	-0.83			T6144	seco	89C00085	C 0	600UL			
16	59	25	0.37	69	16	P 2	VH3	-0.62			B2027	prim	89C00070	C 0	600UL			
17	72	26	0.43	97	18	P 2	VC3	+0.85			B3170	prim	89C00086	C 0	600UL			
18	90	26	0.39	74	15	P 2	VH2	-0.68			V1371	prim	89C00085	C 0	600UL			
19	92	26	0.31	138	13	P 2	VH2	+0.00			B3170	prim	89C00086	C 0	600UL			
20	94	26	0.34	87	14	P 2	VH2	+0.98			V1371	prim	89C00085	C 0	600UL			
21	96	26	0.22	31	10	P 2	VH2	-0.70			B3170	prim	89C00086	C 0	600UL			
22	30	28	0.13	108	SAI	2	02H	+17.16	0.25	0.44	W3386	reso	89H00206	H 2	600PP			
23	82	28	0.18	151	9	P 2	VH3	-0.43			D5695	seco	89C00086	C 0	600UL			
24	9	29	0.55	16	SCI	P 1	TSH	-0.07	0.52	0.46	E4963	reso	89H00147	H 0	600PP			
25	99	29	0.32	80	12	P 2	VH2	+0.85			T6144	seco	89C00085	C 0	600UL			
26	2	30	0.50	87	18	P 2	04H	+0.74			J9815	prim	89H00183	H 1	600UL			
27	88	30	0.43	60	17	P 2	VH2	-0.68			L9168	prim	89C00085	C 0	600UL			
28	94	30	0.29	126	13	P 2	VH2	-1.00			P4578	reso	89C00086	C 0	600UL			
29	97	31	0.36	95	14	P 2	VH2	-0.78			L9168	prim	89C00085	C 0	600UL			
30	72	32	0.29	133	13	P 2	08C	-0.95			M7262	reso	89C00086	C 0	600UL			
31	47	33	0.44	64	24	P 3	DBH	+1.83			M7262	reso	89C00074	C 0	600UL			
32	106	34	0.34	101	SAI	2	06H	+2.29	TO+3.75	0.21	0.87	M0554	reso	89H00212	H 2	600PP		
33	110	34	0.32	132	12	P 2	VH2	+1.04			R8278	seco	89C00087	C 0	600UL			
34	63	35	0.25	98	12	P 2	VH3	-0.54			G7112	seco	89C00074	C 0	600UL			
35	97	35	0.31	155	16	P 2	VH2	-0.67			P1465	prim	89C00088	C 0	600UL			
36	101	35	0.33	71	16	P 2	VH3	-0.61			P1465	prim	89C00088	C 0	600UL			
37	107	35	0.35	82	13	P 3	DBC	+1.39			R8278	seco	89C00087	C 0	600UL			
38	89	37	0.18	59	7	P 2	VC3	+0.79			D2003	prim	89C00087	C 0	600UL			
39	97	37	0.42	142	19	P 2	VC3	+0.89			P1465	prim	89C00088	C 0	600UL			
40	70	38	0.31	146	12	P 2	VC3	+1.20			B2027	prim	89C00075	C 0	600UL			
41	82	38	0.21	128	11	P 2	01H	+0.92			T4180	seco	89C00088	C 0	600UL			
42	94	38	0.37	67	17	P 2	06H	+0.60			M7262	reso	89C00088	C 0	600UL			
43			0.22	83	SAI	2	06H	+0.61	0.00	0.25	M7262	reso	89H00213	H 2	600PP			
44	98	38	0.29	101	SAI	2	06H	+0.52	0.64	0.32	M7262	reso	89H00213	H 2	600PP			
45			0.45	136	20	P 2	06H	+0.77			M7262	reso	89C00088	C 0	600UL			
46	108	38	0.31	108	11	P 2	VH2	+0.92			R8278	seco	89C00087	C 0	600UL			
47	9	39	0.32	89	13	P 2	03H	+0.93			W3386	reso	89C00075	C 0	600UL			
48	121	39	0.30	95	12	P 2	10H	-1.79		LAR	M7262	reso	89C00087	C 0	600UL			
49	12	40	1.01	11	SAI	2	TSH	-2.53	0.90	0.20	H1748	reso	89H00149	H 0	600PP			

Inservice Inspection of Steam Generator Tubes
Appendix 4

SG89 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 89
DATABASE: SONGS_U2_1000_SG89_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE	
50	34	40	0.34	114	12	P 2	02H	-1.17	TEHTEC		R8278	seco	89C00077	C 0		600UL		
51	114	40	0.51	87	18	P 3	DBH	+1.95	TEHTEC		D2003	prim	89C00087	C 0		600UL		
52	122	40	0.18	44	7	P 2	02C	-0.20	TEHTEC		D2003	prim	89C00087	C 0		600UL		
53	103	41	0.27	144	13	P 2	09H	-1.06	TEHTEC		T4180	seco	89C00090	C 0		600UL		
54	107	41	0.31	48	15	P 2	09H	-1.10	TEHTEC		T4180	seco	89C00090	C 0		600UL		
55	123	41	0.14	115	SVI	2	TSH	+7.55	TSH01H	0.27	0.33	M0554	reso	89H00212	H 2		600PP	
56	36	42	0.26	88	13	P 2	VSM	-0.67	TEHTEC		B5926	seco	89C00078	C 0		600UL		
57	40	42	0.21	119	10	P 2	VSM	-0.76	TEHTEC		B5926	seco	89C00078	C 0		600UL		
58	76	42	0.32	129	19	P 3	DBC	-1.76	TEHTEC		D2003	prim	89C00090	C 0		600UL		
59	94	42	0.41	62	16	P 2	VH2	+0.74	TEHTEC		L9168	prim	89C00089	C 0		600UL		
60	108	42	0.40	127	16	P 3	DBH	-2.00	TEHTEC		C0360	reso	89C00089	C 0		600UL		
61			0.39	123	16	P 3	DBH	+2.00	TEHTEC		C0360	reso	89C00089	C 0		600UL		
62	122	42	0.39	129	22	P 3	DBC	-2.19	TEHTEC		E4963	reso	89C00090	C 0		600UL		
63	77	43	0.23	143	12	P 2	VH3	+0.74	TEHTEC		D2003	prim	89C00090	C 0		600UL		
64	81	43	0.59	129	25	P 2	VSM	-0.82	TEHTEC		T4180	seco	89C00090	C 0		600UL		
65	8	44	0.33	94	SAI	2	05H	-0.77	05H05H	0.0	0.85	M7262	reso	89H00196	H 0		600PP	
66	50	44	0.26	149	9	P 2	VSM	-0.70	TEHTEC		T6144	seco	89C00077	C 0		600UL		
67	56	44	0.25	60	12	P 2	VH3	+0.09	TEHTEC		H1748	reso	89C00078	C 0		600UL		
68	74	44	0.56	134	20	P 2	VH3	-0.74	TEHTEC		L9168	prim	89C00089	C 0		600UL		
69	88	44	0.35	153	17	P 2	VH2	-0.67	TEHTEC		E4963	reso	89C00090	C 0		600UL		
70	121	45	0.59	91	21	P 2	VC2	-0.50	TEHTEC		L9168	prim	89C00089	C 0		600UL		
71	88	46	0.24	96	12	P 2	VH2	-0.69	TEHTEC		D2003	prim	89C00090	C 0		600UL		
72	126	46	0.23	105	11	P 2	VH1	-1.06	TEHTEC		D2003	prim	89C00090	C 0		600UL		
73	97	47	0.25	91	12	P 2	VH2	+0.89	TEHTEC		T4180	seco	89C00090	C 0		600UL		
74	101	47	0.17	64	9	P 2	VC2	+0.82	TEHTEC		D2003	prim	89C00090	C 0		600UL		
75	103	47	0.32	53	13	P 2	VH2	-0.78	TEHTEC		L9168	prim	89C00089	C 0		600UL		
76	109	47	0.23	144	12	P 2	VSM	-0.93	TEHTEC		D2003	prim	89C00090	C 0		600UL		
77			0.22	98	11	P 2	VC3	-0.82	TEHTEC		D2003	prim	89C00090	C 0		600UL		
78	121	47	0.35	90	17	P 2	10H	+0.79	TEHTEC		M7262	reso	89C00090	C 0		600UL		
79	60	48	0.85	17	SCI	P 1	TSH	-0.06	TSHTSH	0.40	0.19	H7791	reso	89H00151	H 0		600PP	
80	124	48	0.41	122	19	P 2	VH1	-0.83	TEHTEC		D2003	prim	89C00090	C 0		600UL		
81	49	49	0.30	94	13	P 2	08H	+1.80	TEHTEC	LAR	M7262	reso	89C00084	C 0		600UL		
82	65	49	0.42	117	18	P 2	VH3	+1.00	TEHTEC		B4014	prim	89C00084	C 0		600UL		
83	73	49	0.30	76	12	P 2	02H	+0.89	TEHTEC		L9168	prim	89C00089	C 0		600UL		
84	83	49	0.41	17	SCI	P 1	TSH	-0.14	TSHTSH	0.91	0.19	W3386	reso	89H00160	H 0		600PP	
85	87	49	0.16	97	8	P 2	VH2	+0.73	TEHTEC		D2003	prim	89C00090	C 0		600UL		
86	107	49	0.23	97	12	P 2	VC3	-0.76	TEHTEC		D2003	prim	89C00090	C 0		600UL		
87	125	49	0.19	139	10	P 2	VH1	-0.83	TEHTEC		D2003	prim	89C00090	C 0		600UL		
88	129	49	0.19	146	10	P 2	VH1	-0.85	TEHTEC		D2003	prim	89C00090	C 0		600UL		
89			0.21	130	11	P 2	VH1	+0.63	TEHTEC		D2003	prim	89C00090	C 0		600UL		
90	94	50	0.25	119	12	P 2	05C	-0.17	TEHTEC		D2003	prim	89C00092	C 0		600UL		
91	126	50	0.23	86	11	P 2	VH1	-0.97	TEHTEC		D2003	prim	89C00092	C 0		600UL		
92	128	50	0.22	128	9	P 2	VH1	-0.93	TEHTEC		B2027	prim	89C00091	C 0		600UL		
93	75	51	0.16	108	9	P 3	DBH	-1.63	TEHTEC		D2003	prim	89C00092	C 0		600UL		
94	8	52	0.68	19	SCI	P 1	TSH	-3.14	TSHTSH	0.88	0.19	C0360	reso	89H00051	H 0		600PP	
95	10	52	0.32	102	11	P 2	01C	+0.07	TEHTEC		D3858	reso	89C00032	C 0		600UL		
96	28	52	0.20	120	SCI	P 1	TSH	+0.18	TSHTSH	0.32	0.17	H7791	reso	89H00051	H 0		600PP	
97	130	52	0.23	155	11	P 2	VH1	-0.83	TEHTEC		D2003	prim	89C00092	C 0		600UL		
98	47	53	0.22	86	9	P 2	VSM	-0.65	TEHTEC		G4841	reso	89C00034	C 0		600UL		

Inservice Inspection of Steam Generator Tubes
Appendix 4

SG89 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 89
DATABASE: SONGS_U2_1000_SG89_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE		
99	49	53	0.43	129	19	P 2	08C	-1.31			TEHTEC	LAR			M7262	reso	89C00035	C 0	600UL
100	125	53	0.37	131	14	P 2	VH1	-0.79			TEHTEC				B2027	prim	89C00091	C 0	600UL
101	74	54	0.14	144	7	P 3	DBH	-2.03			TEHTEC				H1748	reso	89C00091	C 0	600UL
102	84	54	0.37	18	SCI	P 1	TSH	-0.04	0.41	0.21	TSHTSH				W3386	reso	89H00091	H 0	600PP
103	88	54	0.25	130	10	P 2	VH2	-0.74			TEHTEC				B2027	prim	89C00091	C 0	600UL
104			0.25	133	10	P 2	VH2	+0.85			TEHTEC				B2027	prim	89C00091	C 0	600UL
105	120	54	0.35	148	14	P 2	VH1	-0.68			TEHTEC				B2027	prim	89C00091	C 0	600UL
106			0.38	104	15	P 2	VH1	+0.70			TEHTEC				B2027	prim	89C00091	C 0	600UL
107	130	54	0.34	116	16	P 2	VH1	-0.74			TEHTEC				D2003	prim	89C00092	C 0	600UL
108	47	55	1.08	14	SAI	2	07H	-0.16	0.0	0.15	07H07H				M7262	reso	89H00049	H 5	600PP
109	49	55	0.45	88	20	P 2	08C	-1.11			08HTEC				B3170	prim	89C00035	C 0	600UL
110	109	55	0.32	118	13	P 2	VH2	-0.94			TEHTEC				B2027	prim	89C00091	C 0	600UL
111	74	56	0.27	81	16	P 3	DBH	+1.18			TEHTEC				P1465	prim	89C00094	C 0	600UL
112	126	56	0.38	116	14	P 2	VH1	-1.02			TEHTEC				B2027	prim	89C00091	C 0	600UL
113	65	57	0.13	94	SAI	2	TSH	+2.12	0.00	0.19	TSHTSH				W3386	reso	89H00045	H 0	600PP
114	131	57	0.85	14	SAI	2	TSH	-5.66	1.08	0.15	TSHTSH				G4841	reso	89H00124	H 0	600PP
115			1.35	20	SAI	2	TSH	-5.16	2.21	0.26	TSHTSH				G4841	reso	89H00124	H 0	600PP
116	16	58	0.31	119	14	P 2	07H	-0.11			TEHTEC				B4260	reso	89C00035	C 0	600UL
117	20	58	0.39	126	18	P 2	01H	+0.86			TEHTEC				H7791	reso	89C00035	C 0	600UL
118	50	58	0.42	111	16	P 2	02H	-1.21			TEHTEC				M7262	reso	89C00034	C 0	600UL
119	62	58	1.34	18	SAI	2	TSH	-6.37	1.29	0.12	TSHTSH				H7791	reso	89H00046	H 0	600PP
120	102	58	0.22	109	9	P 2	VC3	-1.10			TEHTEC				B4260	reso	89C00093	C 0	600UL
121	124	58	0.39	122	15	P 2	VH1	-0.75			TEHTEC				B2153	seco	89C00093	C 0	600UL
122	2	60	0.17	92	SAI	2	02H	+0.46	0.00	0.31	02H02H				H1748	reso	89H00134	H 2	600PP
123	6	60	0.31	48	13	P 2	02H	-1.23			TEHTEC				W9213	seco	89C00037	C 0	600UL
124	26	60	0.47	16	SAI	2	TSH	-2.29	0.99	0.10	TSHTSH				H7791	reso	89H00041	H 0	600PP
125	51	61	0.35	82	15	P 2	08C	-0.73			TEHTEC				W9213	seco	89C00037	C 0	600UL
126	139	61	0.20	98	10	P 2	09C	-1.08			TEHTEC				C4330	prim	89C00094	C 0	600UL
127	74	62	0.23	37	13	P 3	DBC	-2.00			STHTEC				T6144	seco	89C00096	C 0	600UL
128	106	62	0.28	56	11	P 2	VC2	-0.85			TEHTEC				T3513	prim	89C00138	C 0	600UL
129	114	62	0.35	127	12	P 3	DBH	-1.79			TEHTEC				R8278	seco	89C00138	C 0	600UL
130	11	63	0.47	13	SAI	2	TSH	-0.74	0.0	0.22	TSHTSH				H1748	reso	89H00035	H 0	600PP
131			0.17	116	SCI	P 1	TSH	+0.11	0.0	0.22	TSHTSH				H1748	reso	89H00035	H 0	600PP
132	47	63	0.70	15	SAI	2	07H	-0.12	0.0	0.14	07H07H				M7262	reso	89H00036	H 5	600PP
133	34	64	0.12	97	SAI	2	TSH	+1.31	0.0	0.20	TSHTSH				H1748	reso	89H00035	H 0	600PP
134	56	64	0.22	124	10	P 2	VH3	-0.66			TEHTEC				D2003	prim	89C00039	C 0	600UL
135	134	64	0.27	124	12	P 2	VH3	-0.86			TEHTEC				T6144	seco	89C00096	C 0	600UL
136			0.31	146	12	P 2	VC3	-0.82			TEHTEC				B4014	prim	89C00096	C 0	600UL
137	15	65	0.07	123	SAI	2	02H	+10.12	0.00	0.17	02H03H				H1748	reso	89H00134	H 0	600PP
138			0.20	87	SAI	2	02H	+11.44	0.30	0.40	02H03H				H1748	reso	89H00134	H 2	600PP
139	49	65	0.23	122	11	P 2	VSM	-0.62			TEHTEC				D2003	prim	89C00039	C 0	600UL
140	26	66	0.34	14	SAI	2	TSH	-3.63	0.18	0.13	TSHTSH				P4578	reso	89H00031	H 0	600PP
141	48	66	0.58	165	23	P 2	VSM	-0.66			TEHTEC				D3858	reso	89C00039	C 0	600UL
142	57	67	0.21	92	SAI	2	TSH	+3.38	0.11	0.15	TSHTSH				P4578	reso	89H00031	H 0	600PP
143			0.17	110	SAI	2	TSH	+3.51	0.08	0.13	TSHTSH				P4578	reso	89H00031	H 0	600PP
144	63	67	0.52	29	SCI	P 1	TSH	-0.14	0.27	0.19	TSHTSH				P4578	reso	89H00032	H 0	600PP
145	141	67	0.34	101	13	P 2	09C	-1.07			TEHTEC				W3386	reso	89C00141	C 0	600UL
146	44	68	0.19	82	MAI	2	TSH	+0.55	0.0	0.53	TSHTSH				M7262	reso	89H00029	H 0	600PP
147	78	68	0.32	54	13	P 2	VH3	+0.86			TEHTEC				B4014	prim	89C00098	C 0	600UL

Inservice Inspection of Steam Generator Tubes
Appendix 4

SG89 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 89
DATABASE: SONGS_U2_1000_SG89_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE	
148	82	68	0.59	135	21	P 2	VH3	-0.86			B4014	prim	89C00098	C 0		600UL		
149			0.31	155	12	P 2	VH3	+0.84			B4014	prim	89C00098	C 0		600UL		
150	132	68	0.26	134	12	P 2	VH1	-0.76			T6144	seco	89C00096	C 0		600UL		
151	136	68	0.42	122	17	P 2	VH1	-0.74			B4014	prim	89C00096	C 0		600UL		
152	137	69	0.26	80	10	P 2	VH1	+0.65			B4014	prim	89C00098	C 0		600UL		
153	58	70	0.14	93	SAI	2	TSH	+2.53	0.0	0.28	M7262	reso	89H00030	H 0		600PP		
154	64	70	0.14	111	SAI	2	TSH	+3.84	0.22	0.29	H7791	reso	89H00029	H 0		600PP		
155	128	70	0.26	75	11	P 2	VH3	+0.80			T6144	seco	89C00098	C 0		600UL		
156	138	70	0.54	99	SVI	2	DBH	+0.30	TO+1.00	DBHDBH	0.42	0.35	G4841	reso	89H00217	H10	560PP	
157			0.42	74	16	P 3	DBH	+0.71			T3513	prim	89C00138	C 0		600UL		
158	31	71	0.32	65	15	P 3	DBH	-1.73			M7262	reso	89C00041	C 0		600UL		
159			0.25	146	10	P 3	DBC	-1.76			M7262	reso	89C00041	C 0		600UL		
160	41	71	0.44	123	19	P 2	VSM	-0.82			T3513	prim	89C00041	C 0		600UL		
161			0.61	129	24	P 2	VSM	-0.66			T3513	prim	89C00041	C 0		600UL		
162			0.86	123	30	P 2	VSM	-0.11			T3513	prim	89C00041	C 0		600UL		
163	133	71	0.33	87	13	P 2	VH1	-0.80			B4014	prim	89C00098	C 0		600UL		
164			0.29	56	11	P 2	VH1	+0.85			B4014	prim	89C00098	C 0		600UL		
165	137	71	0.28	81	15	P 3	DBH	-1.62			B4014	prim	89C00098	C 0		600UL		
166	143	71	0.39	139	16	P 3	DBH	+1.98			B5926	seco	89C00141	C 0		600UL		
167			0.47	96	16	P 2	VH1	-0.80			B5926	seco	89C00141	C 0		600UL		
168			0.27	46	10	P 2	VH1	+0.84			B5926	seco	89C00141	C 0		600UL		
169	112	72	0.31	80	12	P 2	VH3	+0.90			B4014	prim	89C00098	C 0		600UL		
170	120	72	0.31	150	13	P 2	10H	-1.00			T6144	seco	89C00098	C 0		600UL		
171	128	72	0.34	98	14	P 2	10H	+0.90			B4014	prim	89C00098	C 0		600UL		
172	39	73	0.45	134	22	P 3	DBC	-1.59			M7262	reso	89C00041	C 0		600UL		
173	71	73	0.79	19	SAI	2	07H	+0.43	07H07H	1.58	0.30	W3386	reso	89H00213	H 2		600PP	
174			0.58	23	SAI	2	07H	+0.76	07H07H	0.00	0.15	M7262	reso	89H00213	H 2		600PP	
175	129	73	0.18	107	11	P 3	DBH	+1.83			T6144	seco	89C00098	C 0		600UL		
176	143	73	0.34	144	15	P 3	DBC	-1.33			B4014	prim	89C00141	C 0		600UL		
177			0.26	116	12	P 3	DBC	+1.72			B4014	prim	89C00141	C 0		600UL		
178	145	73	1.60	111	36	P 2	VC1	-0.84			B4014	prim	89C00141	C 0		600UL		
179			0.62	114	23	P 3	DBC	+1.42			B4014	prim	89C00141	C 0		600UL		
180	50	74	0.26	129	12	P 3	DBC	-2.19			B5926	seco	89C00040	C 0		600UL		
181			0.39	87	17	P 3	DBC	+1.74			B5926	seco	89C00040	C 0		600UL		
182	120	74	0.44	129	17	P 2	10H	+0.33			R5555	reso	89C00098	C 0		600UL		
183	130	74	0.25	76	7	P 2	10H	+0.94			B4014	prim	89C00097	C 0		600UL		
184	144	74	0.66	96	22	P 2	VC1	+1.01			B4014	prim	89C00141	C 0		600UL		
185	81	75	0.34	111	11	P 2	VC3	+0.78			V1371	prim	89C00099	C 0		600UL		
186	145	75	0.47	81	19	P 3	DBH	+2.06			B4014	prim	89C00141	C 0		600UL		
187	44	76	1.03	117	32	P 3	DBC	-1.50			B3170	prim	89C00040	C 0		600UL		
188	50	76	0.27	131	12	P 3	DBC	-1.61			B3170	prim	89C00040	C 0		600UL		
189	52	76	0.24	94	10	P 3	DBC	-1.51			D3858	reso	89C00041	C 0		600UL		
190	138	76	0.31	98	10	P 2	VH1	-0.79			V1371	prim	89C00099	C 0		600UL		
191	53	77	0.31	74	14	P 3	DBC	-1.88			B3170	prim	89C00040	C 0		600UL		
192	125	77	0.31	127	13	P 2	VH1	+0.85			M6664	prim	89C00100	C 0		600UL		
193	72	78	0.43	117	17	P 2	VH3	-0.77			D5695	seco	89C00100	C 0		600UL		
194			0.20	152	9	P 2	VC3	+1.05			D5695	seco	89C00100	C 0		600UL		
195	76	78	0.50	106	15	P 2	VC3	-1.07			L9168	prim	89C00099	C 0		600UL		
196			0.29	131	9	P 2	VC3	+1.03			L9168	prim	89C00099	C 0		600UL		

Inservice Inspection of Steam Generator Tubes
Appendix 4

SG89 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 89
DATABASE: SONGS_U2_1000_SG89_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE
197	130	78	0.26	129	11	P 2	10H	-1.04			M6664	prim	89C00100	C 0		600UL	
198	146	78	0.50	115	20	P 3	DBH	-0.12			B4014	prim	89C00141	C 0		600UL	
199	47	79	1.12	119	38	P 3	DBC	+1.40			K3270	seco	89C00041	C 0		600UL	
200	63	79	0.71	53	26	P 3	DBC	-1.38			G7112	seco	89C00040	C 0		600UL	
201	65	79	0.27	149	12	P 3	DBC	-1.39			K3270	seco	89C00041	C 0		600UL	
202	71	79	0.41	140	18	P 3	DBC	-1.85			M6664	prim	89C00100	C 0		600UL	
203	75	79	0.38	131	17	P 3	DBC	-2.05			M6664	prim	89C00100	C 0		600UL	
204	81	79	0.59	70	17	P 2	VH3	-0.89			L9168	prim	89C00099	C 0		600UL	
205	119	79	0.61	140	18	P 2	VH3	+0.89			L9168	prim	89C00099	C 0		600UL	
206	52	80	0.40	83	17	P 3	DBC	-1.70			B4260	reso	89C00040	C 0		600UL	
207	66	80	0.30	104	13	P 3	DBC	+1.60			B3170	prim	89C00040	C 0		600UL	
208	72	80	0.28	150	13	P 2	VC3	+0.92			D2003	prim	89C00102	C 0		600UL	
209	55	81	0.53	84	21	P 3	DBC	-1.81			B3170	prim	89C00040	C 0		600UL	
210	121	81	0.17	35	8	P 2	VH3	-0.76			W9213	seco	89C00102	C 0		600UL	
211	133	81	0.41	131	18	P 2	VH1	+0.92			D2003	prim	89C00102	C 0		600UL	
212	143	81	0.32	55	12	P 2	VC1	-0.86			B4014	prim	89C00141	C 0		600UL	
213	145	81	0.73	111	23	P 2	VH1	+0.92			B4014	prim	89C00141	C 0		600UL	
214	147	81	0.59	93	22	P 3	DBC	+1.86			W3386	reso	89C00141	C 0		600UL	
215	48	82	1.23	131	39	P 3	DBH	-1.75			G4841	reso	89C00041	C 0		600UL	
216			0.85	71	33	P 3	DBH	+2.00			G4841	reso	89C00041	C 0		600UL	
217			0.96	103	35	P 3	DBC	-1.85			G4841	reso	89C00041	C 0		600UL	
218			0.66	127	29	P 3	DBC	+1.75			G4841	reso	89C00041	C 0		600UL	
219	54	82	0.57	80	26	P 3	DBC	+1.23			D3858	reso	89C00041	C 0		600UL	
220	56	82	0.67	103	23	P 2	VH3	-0.84			B3170	prim	89C00040	C 0		600UL	
221			0.27	119	11	P 2	VH3	+0.99			B3170	prim	89C00040	C 0		600UL	
222	64	82	0.38	103	18	P 3	DBC	+1.29			D3858	reso	89C00041	C 0		600UL	
223	78	82	0.95	18	SAI	2	TSH	-6.23	75	17	P4578	reso	89H00084	H 0		600PP	
224	126	82	0.24	77	10	P 2	VH2	+0.93			D2003	prim	89C00140	C 0		600UL	
225	53	83	0.26	125	11	P 3	DBH	+1.72			K3270	seco	89C00041	C 0		600UL	
226			0.45	119	21	P 3	DBC	-1.33			K3270	seco	89C00041	C 0		600UL	
227	55	83	0.67	82	25	P 3	DBC	-1.72			B3170	prim	89C00040	C 0		600UL	
228	57	83	0.48	74	22	P 3	DBC	-1.53			D3858	reso	89C00041	C 0		600UL	
229	59	83	1.14	102	34	P 3	DBC	-1.64			G7112	seco	89C00040	C 0		600UL	
230	63	83	0.51	137	27	P 3	DBC	-1.76			D2003	prim	89C00043	C 0		600UL	
231	67	83	0.28	55	18	P 3	DBH	-1.59			B8589	seco	89C00043	C 0		600UL	
232			0.47	95	26	P 3	DBC	-1.57			B8589	seco	89C00043	C 0		600UL	
233	121	83	0.39	137	18	P 2	VC3	-0.84			D2003	prim	89C00102	C 0		600UL	
234	133	83	0.27	64	11	P 2	VH2	-0.73			D2003	prim	89C00140	C 0		600UL	
235	147	83	0.34	71	13	P 2	09H	-1.03			B4014	prim	89C00141	C 0		600UL	
236			0.30	123	11	P 2	10H	-0.19			B4014	prim	89C00141	C 0		600UL	
237			1.12	104	32	P 3	DBH	+1.75			B4014	prim	89C00141	C 0		600UL	
238			0.52	52	18	P 2	VH1	+0.88			B4014	prim	89C00141	C 0		600UL	
239	56	84	0.23	98	SCI	P 1	TSH	+0.04	0.0	0.40	B4260	reso	89H00024	H 0		600PP	
240			0.22	101	11	P 3	DBH	+1.89			D2003	prim	89C00043	C 0		600UL	
241			0.27	154	18	P 3	DBC	-1.85			B8589	seco	89C00043	C 0		600UL	
242	58	84	0.35	120	16	P 3	DBH	+1.78			L3025	prim	89C00042	C 0		600UL	
243			0.78	114	27	P 3	DBC	-1.90			G4841	reso	89C00042	C 0		600UL	
244			1.20	128	34	P 3	DBC	+1.80			G4841	reso	89C00042	C 0		600UL	
245	62	84	0.60	101	24	P 3	DBH	-1.64			L3025	prim	89C00042	C 0		600UL	

Inservice Inspection of Steam Generator Tubes
Appendix 4

SG89 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 89
DATABASE: SONGS_U2_1000_SG89_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE
246	64	84	0.26	72	14	P 3	DBH	+1.61			D2003 prim 89C00043	C 0				600UL	
247	68	84	0.21	35	11	P 2	VSM	-0.78			B8589 seco 89C00043	C 0				600UL	
248	72	84	0.23	132	11	P 2	VH3	-0.88			D2003 prim 89C00102	C 0				600UL	
249			0.19	49	10	P 2	VC3	-0.85			D2003 prim 89C00102	C 0				600UL	
250			0.36	136	20	P 3	DBC	-2.00			D2003 prim 89C00102	C 0				600UL	
251	106	84	0.32	88	13	P 2	VH3	+0.80			D2003 prim 89C00140	C 0				600UL	
252	118	84	0.35	95	14	P 2	VC2	+0.57			B4014 prim 89C00140	C 0				600UL	
253	120	84	0.25	58	SCI	P 1	TSH	+0.02	0.00	0.40	M7262 reso 89H00083	H 0				600PP	
254	57	85	0.48	88	20	P 3	DBH	-1.78			L3025 prim 89C00042	C 0				600UL	
255			1.17	96	34	P 3	DBH	+1.76			L3025 prim 89C00042	C 0				600UL	
256	75	85	0.23	72	14	P 3	DBC	+1.30			E4963 reso 89C00102	C 0				600UL	
257	81	85	0.25	60	12	P 2	VH3	+0.87			D2003 prim 89C00102	C 0				600UL	
258	89	85	0.32	105	15	P 2	VH2	-0.79			W9213 seco 89C00102	C 0				600UL	
259	145	85	1.14	111	32	P 3	DBC	+1.70			B4014 prim 89C00141	C 0				600UL	
260	56	86	0.97	98	33	P 3	DBC	+2.11			C4330 prim 89C00184	C 0				600UL	
261	132	86	0.30	128	12	P 2	VH1	-0.85			L3025 prim 89C00066	C 0				600UL	
262	59	87	0.96	90	33	P 3	DBH	+1.70			W3386 reso 89C00184	C 0				600UL	
263	63	87	0.52	110	24	P 3	DBH	-1.54			C4330 prim 89C00184	C 0				600UL	
264	75	87	0.29	146	12	P 3	DBC	-1.98			B4165 prim 89C00066	C 0				600UL	
265	143	87	0.53	85	20	P 3	DBC	+1.66			B5926 seco 89C00141	C 0				600UL	
266			0.31	136	12	P 2	10C	+0.76			B4014 prim 89C00141	C 0				600UL	
267	147	87	0.42	139	15	P 2	09H	-1.07			B4014 prim 89C00141	C 0				600UL	
268			0.60	145	20	P 2	10H	+0.66			B4014 prim 89C00141	C 0				600UL	
269			1.38	89	35	P 3	DBC	+1.84			B4014 prim 89C00141	C 0				600UL	
270	54	88	0.87	99	32	P 3	DBH	+1.64			C4330 prim 89C00184	C 0				600UL	
271			0.48	116	27	P 3	DBH	+2.00			T6144 seco 89C00184	C 0				600UL	
272			0.35	37	14	P 2	VSM	-0.79			C4330 prim 89C00184	C 0				600UL	
273			0.55	146	25	P 3	DBC	-1.89			W3386 reso 89C00184	C 0				600UL	
274	56	88	0.94	117	29	P 3	DBH	+1.42			B3170 prim 89C00183	C 0				600UL	
275	58	88	0.71	110	29	P 3	DBH	+2.19			W3386 reso 89C00184	C 0				600UL	
276	60	88	0.49	127	19	P 3	DBH	+1.80			P4578 reso 89C00183	C 0				600UL	
277	70	88	0.94	111	30	P 3	DBC	+1.44			B3170 prim 89C00183	C 0				600UL	
278	134	88	0.35	96	15	P 2	VH1	+0.80			L9168 prim 89C00067	C 0				600UL	
279	146	88	0.64	64	23	P 3	DBC	+1.72			B4014 prim 89C00141	C 0				600UL	
280	57	89	1.04	91	35	P 3	DBC	+1.39			W3386 reso 89C00184	C 0				600UL	
281	65	89	0.49	154	23	P 3	DBH	+1.83			W3386 reso 89C00184	C 0				600UL	
282	83	89	0.43	23	SCI	P 1	TSH	-0.11	0.46	0.21	E4963 reso 89H00083	H 0				600PP	
283	107	89	0.21	99	SCI	P 1	TSH	+0.07	0.00	0.40	M7262 reso 89H00082	H 0				600PP	
284	145	89	0.39	99	14	P 2	VC2	+0.87			B4014 prim 89C00141	C 0				600UL	
285	56	90	0.71	91	29	P 3	DBH	-1.29			W3386 reso 89C00184	C 0				600UL	
286	58	90	0.58	107	22	P 3	DBH	-1.86			B3170 prim 89C00183	C 0				600UL	
287	68	90	0.68	71	28	P 3	DBC	-1.98			C4330 prim 89C00184	C 0				600UL	
288	72	90	0.26	83	16	P 3	DBC	-2.01			M7262 reso 89C00065	C 0				600UL	
289	51	91	2.47	80	46	P 3	DBH	+1.66			C4330 prim 89C00184	C 0				600UL	
290			0.37	126	19	P 3	DBC	-2.18			C4330 prim 89C00184	C 0				600UL	
291	71	91	0.23	148	15	P 3	DBC	-2.11			M7262 reso 89C00065	C 0				600UL	
292	145	91	0.82	45	27	P 3	DBC	+1.64			B4014 prim 89C00141	C 0				600UL	
293	52	92	0.43	85	16	P 2	02H	+0.86			P4578 reso 89C00184	C 0				600UL	
294			0.55	70	25	P 3	DBH	-1.72			C4330 prim 89C00184	C 0				600UL	

Inservice Inspection of Steam Generator Tubes
Appendix 4

SG89 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 89
DATABASE: SONGS_U2_1000_SG89_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE	
295		0.55	79	25	P 3	DBH	+1.91	TEHTEC			C4330 prim	89C00184	C	0	600UL			
296	54	92	0.87	101	28	P 3	DBH	-1.65	TEHTEC		B3170 prim	89C00183	C	0	600UL			
297		0.74	138	26	P 3	DBC	+2.03	TEHTEC			M7262 reso	89C00183	C	0	600UL			
298	64	92	0.14	102	SAI	2	TSH	+1.77	TSHTSH	0.12	0.25	H7791 reso	89H00159	H	0	600PP		
299	142	92	0.35	93	13	P 2	VH1	-0.92	TEHTEC		B4014 prim	89C00141	C	0	600UL			
300	146	92	0.57	92	21	P 3	DBC	+1.63	TEHTEC		B4014 prim	89C00141	C	0	600UL			
301	55	93	1.58	120	40	P 3	DBH	-1.76	TEHTEC		W3386 reso	89C00184	C	0	600UL			
302	57	93	8.22	22	SAI	4	SBH	-0.27	STHSBH	N/A	0.25	H1748 prim	89H00235	H16	500SP			
303		0.68	17	SAI	2	TSH	-5.73	TSHTSH	0.71	0.19	H7791 reso	89H00159	H	0	600PP			
304		0.46	14	SAI	2	TSH	-1.26	TSHTSH	0.50	0.17	H7791 reso	89H00159	H	0	600PP			
305	63	93	0.15	89	SAI	2	TSH	+1.32	TSHTSH	0	0.25	H7791 reso	89H00159	H	0	600PP		
306	54	94	0.56	104	25	P 3	DBH	-1.60	TEHTEC		C4330 prim	89C00184	C	0	600UL			
307	56	94	0.46	53	26	P 3	DBH	-1.75	TEHTEC		T6144 seco	89C00184	C	0	600UL			
308	60	94	0.42	148	21	P 3	DBC	-2.02	TEHTEC		C4330 prim	89C00184	C	0	600UL			
309	62	94	0.42	110	17	P 3	DBC	+2.00	TEHTEC		T6144 seco	89C00183	C	0	600UL			
310	66	94	0.25	77	11	P 2	VSM	-0.76	TEHTEC		B3170 prim	89C00183	C	0	600UL			
311		0.48	99	19	P 3	DBC	+1.75	TEHTEC			T6144 seco	89C00183	C	0	600UL			
312	72	94	0.32	96	14	P 2	VH3	-0.92	TEHTEC		B2153 seco	89C00065	C	0	600UL			
313		0.57	99	22	P 2	VH3	+0.88	TEHTEC			B2153 seco	89C00065	C	0	600UL			
314		0.64	83	23	P 2	VSM	-0.66	TEHTEC			B2153 seco	89C00065	C	0	600UL			
315		0.18	104	8	P 2	VSM	+0.94	TEHTEC			B2153 seco	89C00065	C	0	600UL			
316		0.65	119	24	P 2	VC3	-0.81	TEHTEC			B2153 seco	89C00065	C	0	600UL			
317		1.08	109	32	P 2	VC3	+0.90	TEHTEC			B2153 seco	89C00065	C	0	600UL			
318	90	94	0.29	140	12	P 2	VSM	-0.96	TEHTEC		T6144 seco	89C00064	C	0	600UL			
319	104	94	0.45	123	18	P 2	VSM	-0.77	TEHTEC		B8090 reso	89C00065	C	0	600UL			
320	146	94	0.44	85	18	P 3	DBH	+1.90	TEHTEC		B4014 prim	89C00141	C	0	600UL			
321		0.75	65	26	P 3	DBC	+1.81	TEHTEC			B4014 prim	89C00141	C	0	600UL			
322	55	95	1.03	112	25	P 3	DBC	+1.90	TEHTEC		C4330 prim	89C00209	C	0	600UL			
323	57	95	1.09	72	30	P 3	DBH	-1.52	TEHTEC		C4330 prim	89C00181	C	0	600UL			
324		0.69	81	22	P 3	DBC	+1.89	TEHTEC			C4330 prim	89C00181	C	0	600UL			
325	109	95	0.27	86	12	P 2	VSM	+0.51	TEHTEC		B2153 seco	89C00065	C	0	600UL			
326	117	95	0.46	128	24	P 3	DBC	+0.60	TEHTEC		B3170 prim	89C00065	C	0	600UL			
327	64	96	0.48	14	SAI	2	TSH	-0.92	TSHTSH	0.43	0.23	W3386 reso	89H00160	H	0	600PP		
328	74	96	0.42	63	16	P 2	O2H	-1.22	TEHTEC		M0554 reso	89C00062	C	0	600UL			
329	51	97	0.89	124	22	P 3	DBC	-2.00	TEHTEC		W4786 seco	89C00209	C	0	600UL			
330	71	97	0.70	61	25	P 2	VSM	-0.02	TEHTEC		C4330 prim	89C00063	C	0	600UL			
331	75	97	0.29	83	13	P 2	VC3	-0.77	TEHTEC		C4330 prim	89C00063	C	0	600UL			
332	95	97	0.29	62	13	P 2	VH3	-0.79	TEHTEC		C4330 prim	89C00063	C	0	600UL			
333	64	98	0.15	122	SAI	2	TSH	+0.63	TSHTSH	0.00	0.20	M7262 reso	89H00160	H	0	600PP		
334	78	98	0.96	13	SAI	2	TSH	-6.09	TSHTSH	1.19	0.18	W3386 reso	89H00079	H	0	600PP		
335	45	99	0.66	51	18	P 3	DBH	-1.90	TEHTEC		G4841 reso	89C00209	C	0	600UL			
336		0.86	71	22	P 3	DBC	-1.90	TEHTEC			G4841 reso	89C00209	C	0	600UL			
337	49	99	0.48	59	14	P 3	DBH	-1.66	TEHTEC		C4330 prim	89C00209	C	0	600UL			
338		0.51	57	15	P 3	DBC	-2.25	TEHTEC			G4841 reso	89C00209	C	0	600UL			
339	51	99	0.29	50	10	P 2	VH3	+0.86	TEHTEC		C4330 prim	89C00181	C	0	600UL			
340		0.59	122	19	P 2	VSM	+0.91	TEHTEC			C4330 prim	89C00181	C	0	600UL			
341		0.46	42	16	P 2	VC3	+0.84	TEHTEC			C4330 prim	89C00181	C	0	600UL			
342		0.89	116	26	P 3	DBC	-2.11	TEHTEC			C4330 prim	89C00181	C	0	600UL			
343	79	99	0.27	117	12	P 2	VSM	+0.93	TEHTEC		B5926 seco	89C00063	C	0	600UL			

Inservice Inspection of Steam Generator Tubes
Appendix 4

SG89 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE	
344	111	99	0.41	70	16	P 2	09C	+0.46	TEHTEC		M7262	reso	89C00062	C 0		600UL		
345	42	100	2.32	85	40	P 3	DBC	+1.93	TEHTEC		C4330	prim	89C00209	C 0		600UL		
346	38	102	0.86	120	26	P 3	DBH	-1.82	TEHTEC		M0554	reso	89C00181	C 0		600UL		
347	50	102	0.35	133	12	P 2	08H	-1.20	TEHTEC		C4330	prim	89C00181	C 0		600UL		
348	54	102	0.76	16	SAI	2	TSH	-5.96	TSHTSH	0.46	0.12	M0554	reso	89H00164	H 0		600PP	
349	78	102	5.35	29	SAI	2	TEH	+14.73	TEHTEH	6.75	1.24	M7262	reso	89H00214	H 0		600PP	
350	80	102	0.18	141	8	P 2	VH3	-0.69	TEHTEC		B5926	seco	89C00061	C 0		600UL		
351			0.23	65	10	P 2	VSM	-0.73	TEHTEC		B5926	seco	89C00061	C 0		600UL		
352			0.28	46	12	P 2	VC3	+0.84	TEHTEC		B5926	seco	89C00061	C 0		600UL		
353	144	102	0.30	96	13	P 3	DBH	-1.69	TEHTEC		B4014	prim	89C00141	C 0		600UL		
354	41	103	0.30	116	11	P 2	VSM	+0.92	TEHTEC		V1371	prim	89C00182	C 0		600UL		
355	73	103	0.39	95	15	P 2	02H	-1.18	TEHTEC		L8038	prim	89C00108	C 0		600UL		
356	107	103	0.32	37	14	P 2	VH2	-1.09	TEHTEC		B5926	seco	89C00061	C 0		600UL		
357	115	103	0.23	37	10	P 2	VH2	+0.83	TEHTEC		E4963	reso	89C00061	C 0		600UL		
358	119	103	0.27	63	12	P 2	VH2	-0.69	TEHTEC		B5926	seco	89C00061	C 0		600UL		
359	139	103	0.51	119	20	P 2	VH2	+0.94	TSHTEC		B2265	prim	89C00061	C 0		600UL		
360	141	103	0.30	65	12	P 2	VH3	-0.88	TEHTEC		B4014	prim	89C00141	C 0		600UL		
361	143	103	0.75	138	25	P 3	DBH	+1.94	TEHTEC		B4014	prim	89C00141	C 0		600UL		
362	145	103	0.75	122	26	P 3	DBH	+1.40	TEHTEC		B4014	prim	89C00141	C 0		600UL		
363	46	104	0.54	91	18	P 2	VSM	-1.05	TEHTEC	LAR	G4841	reso	89C00181	C 0		600UL		
364			0.55	89	18	P 2	VSM	-0.75	TEHTEC		M0554	reso	89C00181	C 0		600UL		
365	70	104	0.24	121	9	P 2	08C	+0.09	TEHTEC		M7262	reso	89C00181	C 0		600UL		
366	138	104	0.31	51	13	P 2	VH1	-0.58	TEHTEC		B5926	seco	89C00061	C 0		600UL		
367			0.24	45	11	P 2	VH1	+0.75	TEHTEC		B5926	seco	89C00061	C 0		600UL		
368	37	105	0.31	74	11	P 2	VSM	+0.75	TEHTEC		B5926	seco	89C00181	C 0		600UL		
369	41	105	0.59	14	SAI	2	TSH	-3.24	TSHTSH	0.84	0.14	B8090	reso	89H00163	H 0		600PP	
370	55	105	0.58	101	19	P 2	08H	+1.00	TEHTEC		V1371	prim	89C00182	C 0		600UL		
371	69	105	0.45	107	16	P 2	02H	-1.17	TEHTEC		M0554	reso	89C00181	C 0		600UL		
372	73	105	0.44	148	18	P 2	VH3	-0.88	TEHTEC		B2265	prim	89C00061	C 0		600UL		
373			0.42	70	18	P 2	VSM	-0.83	TEHTEC		B2265	prim	89C00061	C 0		600UL		
374			0.64	140	23	P 2	VC3	-0.66	TEHTEC		B5926	seco	89C00061	C 0		600UL		
375	75	105	0.40	125	16	P 2	VH3	-0.61	TEHTEC		T0854	seco	89C00060	C 0		600UL		
376			0.46	121	17	P 2	VSM	-0.11	TEHTEC		T0854	seco	89C00060	C 0		600UL		
377	81	105	0.44	137	18	P 2	VH3	+0.93	TEHTEC		B2265	prim	89C00061	C 0		600UL		
378			0.20	73	9	P 2	VSM	+0.93	TEHTEC		B2265	prim	89C00061	C 0		600UL		
379	34	106	1.42	19	SAI	2	TSH	-4.71	TSHTSH	2.19	0.30	M0554	reso	89H00164	H 0		600PP	
380	38	106	0.50	15	SAI	2	TSH	-0.61	TSHTSH	0.43	0.21	M0554	reso	89H00164	H 0		600PP	
381	56	106	0.22	93	SAI	2	TSH	+0.82	TSHTSH	0.00	0.26	M7262	reso	89H00164	H 0		600PP	
382	80	106	0.28	40	13	P 2	VH3	+0.87	TEHTEC		K3270	seco	89C00061	C 0		600UL		
383	126	106	0.27	30	12	P 2	VH2	+0.97	TEHTEC		B2265	prim	89C00061	C 0		600UL		
384	132	106	0.20	36	8	P 2	10H	-1.02	TEHTEC		T0854	seco	89C00060	C 0		600UL		
385	143	107	0.19	22	7	P 2	VC1	+0.93	TEHTEC		B4014	prim	89C00144	C 0		600UL		
386	30	108	0.36	48	13	P 2	06C	-0.95	TEHTEC		M0155	seco	89C00182	C 0		600UL		
387	36	108	0.67	10	SAI	2	TSH	-1.16	TSHTSH	1.19	0.29	M0554	reso	89H00164	H 0		600PP	
388	56	108	0.39	43	14	P 2	VSM	+0.38	TEHTEC		M0155	seco	89C00182	C 0		600UL		
389	132	108	0.39	100	16	P 2	VH1	-0.91	TEHTEC		B2265	prim	89C00061	C 0		600UL		
390	37	109	0.16	93	SAI	2	TSH	+1.30	TSHTSH	0.18	0.26	M0554	reso	89H00164	H 0		600PP	
391	121	109	0.56	82	23	P 2	10H	-1.48	TEHTEC	LAR	M7262	reso	89C00059	C 0		600UL		
392	129	109	0.29	139	14	P 2	10H	-0.94	TEHTEC		B4165	prim	89C00059	C 0		600UL		

Inservice Inspection of Steam Generator Tubes
Appendix 4

SG89 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 89
DATABASE: SONGS_U2_1000_SG89_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE
393	141	109	0.51	88	18	P 2	VH3	+0.00	TEHTEC		B4014	prim	89C00144	C 0		600UL	
394	143	109	0.60	100	21	P 3	DBC	-1.78	TEHTEC		B4014	prim	89C00144	C 0		600UL	
395	36	110	0.63	15	SAI	2	TSH	-3.46	TSHTSH	0.0	M0554	reso	89H00164	H 0		600PP	
396			1.21	18	SAI	2	TSH	-1.34	TSHTSH	1.62	M0554	reso	89H00164	H 0		600PP	
397			0.66	8	SAI	2	TSH	-0.65	TSHTSH	0.0	M0554	reso	89H00164	H 0		600PP	
398	38	110	0.27	108	SAI	2	TSH	+1.01	TSHTSH	0.21	W3386	reso	89H00163	H 0		600PP	
399	40	110	0.12	103	SAI	2	TSH	+2.13	TSHTSH	0.05	M0554	reso	89H00164	H 0		600PP	
400	42	110	0.64	68	20	P 2	VSM	-0.17	TEHTEC		D1279	prim	89C00179	C 0		600UL	
401	116	110	0.27	59	13	P 2	VH1	+0.84	TEHTEC		B8589	seco	89C00059	C 0		600UL	
402			0.22	42	10	P 2	VH2	+0.99	TEHTEC		B8589	seco	89C00059	C 0		600UL	
403	130	110	0.30	143	14	P 2	VH1	-0.95	TEHTEC		B8589	seco	89C00059	C 0		600UL	
404			0.28	103	13	P 2	VH2	-0.80	TEHTEC		B4165	prim	89C00059	C 0		600UL	
405	29	111	0.21	90	SCI	P 1	TSH	+0.02	TSHTSH	0.0	W3386	reso	89H00163	H 0		600PP	
406	75	111	0.43	124	19	P 2	VH3	+0.04	TEHTEC		L3025	prim	89C00059	C 0		600UL	
407			0.63	124	25	P 2	VC3	+1.01	TEHTEC		W3386	reso	89C00059	C 0		600UL	
408	91	111	0.23	76	11	P 2	VH2	+0.87	TEHTEC		B8589	seco	89C00059	C 0		600UL	
409	44	112	0.54	137	19	P 2	VSM	-0.78	TEHTEC		T6144	seco	89C00180	C 0		600UL	
410	70	112	0.61	141	19	P 2	03C	-0.15	TEHTEC		M7262	reso	89C00179	C 0		600UL	
411	5	113	0.15	110	SAI	2	02H	-1.31	02H02H	0	G4841	reso	89H00188	H 2		600PP	
412	21	113	0.51	72	SCI	P 1	TSH	+0.03	TSHTSH	0.00	M7262	reso	89H00164	H 0		600PP	
413	37	113	0.97	15	SAI	2	TSH	-1.94	TSHTSH	1.13	M0554	reso	89H00164	H 0		600PP	
414	49	113	0.11	107	SAI	2	TSH	+1.71	TSHTSH	0.15	M0554	reso	89H00164	H 0		600PP	
415	59	113	2.80	20	SAI	2	TSH	-5.68	TSHTSH	3.61	M0554	reso	89H00164	H 0		600PP	
416			1.25	17	SAI	2	TSH	-5.27	TSHTSH	0.70	M0554	reso	89H00164	H 0		600PP	
417	77	113	0.21	92	10	P 2	VH3	-1.05	TEHTEC		L3025	prim	89C00059	C 0		600UL	
418			0.14	28	7	P 2	VH3	+0.81	TEHTEC		L3025	prim	89C00059	C 0		600UL	
419	125	113	0.27	111	10	P 2	09H	-1.07	TEHTEC		B4260	reso	89C00058	C 0		600UL	
420	48	114	0.48	21	SAI	2	TSH	-5.03	TSHTSH	0.92	M7262	reso	89H00163	H 0		600PP	
421	68	114	0.16	121	SAI	2	01H	+16.36	01H01H	0	P4578	reso	89H00187	H 2		600PP	
422	72	114	0.24	54	11	P 2	VC3	+0.81	TEHTEC		B2027	prim	89C00057	C 0		600UL	
423	76	114	0.33	43	15	P 2	VH3	-0.89	TEHTEC		B5926	seco	89C00057	C 0		600UL	
424	92	114	0.29	38	14	P 2	VH2	-0.66	TEHTEC		B5926	seco	89C00057	C 0		600UL	
425	130	114	0.32	62	15	P 2	VH1	-0.86	TEHTEC		L3025	prim	89C00059	C 0		600UL	
426			0.31	55	14	P 2	VH1	+0.80	TEHTEC		L3025	prim	89C00059	C 0		600UL	
427	132	114	0.31	39	11	P 2	VH1	-0.48	TEHTEC		J0927	seco	89C00058	C 0		600UL	
428			0.27	141	10	P 2	VH1	+1.01	TEHTEC		J0927	seco	89C00058	C 0		600UL	
429	140	114	0.24	135	10	P 2	VH2	+0.81	TEHTEC		P1465	prim	89C00058	C 0		600UL	
430	81	115	0.17	86	9	P 2	VH3	+0.86	TEHTEC		B5926	seco	89C00057	C 0		600UL	
431	105	115	0.26	60	13	P 2	VH2	-1.14	TEHTEC		B5926	seco	89C00057	C 0		600UL	
432	109	115	0.18	32	9	P 2	VH2	-0.77	TEHTEC		B5926	seco	89C00057	C 0		600UL	
433			0.20	35	10	P 2	VH2	+0.81	TEHTEC		B5926	seco	89C00057	C 0		600UL	
434	131	115	0.25	119	12	P 2	VH1	-0.69	TEHTEC		B5926	seco	89C00057	C 0		600UL	
435			0.23	49	11	P 2	VH1	+1.06	TEHTEC		B5926	seco	89C00057	C 0		600UL	
436			0.22	53	11	P 2	VH2	-0.73	TEHTEC		B5926	seco	89C00057	C 0		600UL	
437			0.18	130	9	P 2	VH2	+0.95	TEHTEC		B5926	seco	89C00057	C 0		600UL	
438	14	116	0.57	90	20	P 2	07H	-0.15	TEHTEC		M7262	reso	89C00180	C 0		600UL	
439	62	116	1.20	21	SAI	2	TSH	-6.31	TSHTSH	1.72	M0554	reso	89H00166	H 0		600PP	
440			1.02	21	SAI	2	TSH	-5.80	TSHTSH	0.68	M0554	reso	89H00166	H 0		600PP	
441	80	116	0.24	26	12	P 2	VH3	-0.62	TEHTEC		B5926	seco	89C00057	C 0		600UL	

Inservice Inspection of Steam Generator Tubes
Appendix 4

SG89 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 89
DATABASE: SONGS_U2_1000_SG89_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE
442		0.18	81	9	P 2	VH3	+0.79	TEHTEC			B5926	seco	89C00057	C 0	600UL		
443		0.20	37	10	P 2	VC3	-0.86	TEHTEC			B5926	seco	89C00057	C 0	600UL		
444	126 116	0.21	65	10	P 2	VH2	-0.67	TEHTEC			B5926	seco	89C00057	C 0	600UL		
445		0.24	124	12	P 2	VH2	+0.84	TEHTEC			B5926	seco	89C00057	C 0	600UL		
446	130 116	0.38	58	17	P 2	VH1	-0.78	TEHTEC			B5926	seco	89C00057	C 0	600UL		
447		0.23	58	11	P 2	VH1	+0.84	TEHTEC			B5926	seco	89C00057	C 0	600UL		
448		0.21	110	10	P 2	VH2	-0.86	TEHTEC			B5926	seco	89C00057	C 0	600UL		
449	138 116	0.24	48	11	P 2	VH1	-0.68	TEHTEC			B5926	seco	89C00057	C 0	600UL		
450		0.19	112	9	P 2	VH1	+0.75	TEHTEC			B5926	seco	89C00057	C 0	600UL		
451	31 117	0.37	133	12	P 2	07C	+0.40	TEHTEC			T6144	seco	89C00178	C 0	600UL		
452	123 117	0.17	97	9	P 2	VH1	-0.62	TEHTEC			B5926	seco	89C00057	C 0	600UL		
453		0.19	91	9	P 2	VH2	-0.78	TEHTEC			B5926	seco	89C00057	C 0	600UL		
454		0.19	54	9	P 2	VH3	+0.84	TEHTEC			B5926	seco	89C00057	C 0	600UL		
455		0.15	81	8	P 2	VSM	-0.71	TEHTEC			B5926	seco	89C00057	C 0	600UL		
456	68 118	0.52	17	SAI	2	TSH	-5.18	TSHTSH	0.59	0.21	M0554	reso	89H00168	H 0	600PP		
457	119 119	0.66	42	23	P 2	09H	-1.00	TEHTEC			G7112	seco	89C00056	C 0	600UL		
458		0.47	44	18	P 2	10H	-1.01	TEHTEC	LAR		M7262	reso	89C00056	C 0	600UL		
459	133 119	0.37	88	15	P 2	VH1	+0.79	TEHTEC			D3858	reso	89C00056	C 0	600UL		
460	20 120	1.55	24	SCI	P 1	TSH	-6.87	TSHTSH	0.68	0.22	M7262	reso	89H00168	H 0	600PP		
461	62 120	0.57	42	19	P 2	02H	-1.17	TEHTEC			P1465	prim	89C00177	C 0	600UL		
462	47 121	0.29	147	11	P 2	VSM	-0.84	TEHTEC			P1465	prim	89C00177	C 0	600UL		
463	79 121	0.33	84	13	P 2	02H	+1.00	TEHTEC			J0927	seco	89C00054	C 0	600UL		
464		0.59	115	21	P 2	VH3	-1.12	TEHTEC			D2003	prim	89C00054	C 0	600UL		
465	91 121	3.18	28	SAI	2	TEH	+5.09	TEHTEH	3.42	0.31	E4963	reso	89H00214	H 2	600PP		
466	119 121	0.52	113	19	P 2	10H	-2.08	TEHTEC	LAR		M7262	reso	89C00054	C 0	600UL		
467	123 121	0.28	116	11	P 2	VH1	-0.68	TEHTEC			D2003	prim	89C00054	C 0	600UL		
468	36 122	0.37	81	14	P 2	03H	-1.03	TEHTEC			W3386	reso	89C00177	C 0	600UL		
469	78 122	0.26	132	11	P 2	08H	+0.82	TEHTEC			D2003	prim	89C00054	C 0	600UL		
470	82 122	0.49	18	SCI	P 1	TSH	-0.09	TSHTSH	.16	.13	P4578	reso	89H00073	H 0	600PP		
471	102 122	0.32	84	13	P 2	VC2	-0.79	TEHTEC			D2003	prim	89C00054	C 0	600UL		
472	118 122	0.34	63	14	P 2	09H	-1.13	TEHTEC			D2003	prim	89C00054	C 0	600UL		
473	15 123	0.45	49	16	P 2	03H	+0.86	TEHTEC			P1465	prim	89C00177	C 0	600UL		
474	19 123	0.44	82	16	P 2	01H	+0.88	TEHTEC			P1465	prim	89C00177	C 0	600UL		
475	127 123	0.31	137	13	P 2	09C	-1.24	TEHTEC			M7262	reso	89C00054	C 0	600UL		
476	8 124	3.49	36	SCI	P 1	TSH	-5.14	TSHTSH	4.38	0.80	M0554	reso	89H00169	H 0	600PP		
477	28 124	0.31	96	SAI	2	02H	+8.05	02H03H	0.79	0.52	M7262	reso	89H00190	H 2	600PP		
478	134 124	0.20	139	9	P 2	VC3	+0.64	TEHTEC			B2153	seco	89C00109	C 0	580SF		
479	9 125	0.30	23	SCI	P 1	TSH	-6.44	TSHTSH	0.71	0.26	M0554	reso	89H00170	H 0	600PP		
480		0.42	23	SCI	P 1	TSH	-4.95	TSHTSH	0.29	0.19	M0554	reso	89H00170	H 0	600PP		
481	67 125	0.32	45	12	P 2	VH3	+0.76	TEHTEC			P1465	prim	89C00177	C 0	600UL		
482	77 125	0.37	120	17	P 2	VH3	-0.73	TEHTEC			G7112	seco	89C00053	C 0	600UL		
483		0.40	145	18	P 2	VSM	-0.77	TEHTEC			G7112	seco	89C00053	C 0	600UL		
484		0.34	124	16	P 2	VSM	+0.86	TEHTEC			G7112	seco	89C00053	C 0	600UL		
485		0.89	114	30	P 2	VC3	-0.82	TEHTEC			G7112	seco	89C00053	C 0	600UL		
486		0.98	96	31	P 2	VC3	-0.77	TEHTEC			G7112	seco	89C00053	C 0	600UL		
487		0.68	92	26	P 2	VC3	+0.00	TEHTEC			G7112	seco	89C00053	C 0	600UL		
488	46 126	0.28	19	SCI	P 1	TSH	-0.10	TSHTSH	0.00	0.14	M7262	reso	89H00072	H 0	600PP		
489	72 126	0.38	119	17	P 2	VSM	-0.74	TEHTEC			W9658	seco	89C00027	C 0	600UL		
490	1 127	0.44	9	SCI	P 1	TSH	-6.11	TSHTSH	.58	.19	P4578	reso	89H00073	H 0	600PP		

Inservice Inspection of Steam Generator Tubes
Appendix 4

SG89 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 89
DATABASE: SONGS_U2_1000_SG89_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE
491	5	127	1.42	34	SCI	P 1	TSH	-5.86	TSHTSH	1.65	0.21	M7262	reso	89H00073	H 0	600PP	
492	66	128	0.20	79	8	P 2	VSM	-0.66	TEHTEC			W9213	seco	89C00050	C 0	600UL	
493	68	128	0.29	49	14	P 2	VH3	-0.73	TEHTEC			L3025	prim	89C00051	C 0	600UL	
494	112	128	0.23	128	11	P 2	VH2	+0.19	TEHTEC			D3858	reso	89C00025	C 0	600UL	
495	118	128	0.25	52	10	P 2	05H	+0.67	TEHTEC			L8038	prim	89C00024	C 0	600UL	
496	11	129	0.89	24	MCI	P 1	TSH	-3.84	TSHTSH	1.91	.19	P4578	reso	89H00070	H 0	600PP	
497	78	130	0.31	96	13	P 2	VSM	-1.11	TEHTEC			L8038	prim	89C00024	C 0	600UL	
498	74	132	0.26	111	11	P 2	VC3	-0.70	TEHTEC			H7791	reso	89C00024	C 0	600UL	
499	7	133	0.81	30	SCI	P 1	TSH	-7.46	TSHTSH	.62	.16	P4578	reso	89H00070	H 0	600PP	
500	13	133	0.42	126	18	P 3	DBH	+2.23	TEHTEC			B3170	prim	89C00050	C 0	600UL	
501	103	133	0.21	104	SAI	2	02H	+0.39	02H02H	0.00	0.38	M7262	reso	89H00127	H 2	600PP	
502	58	134	0.31	31	15	P 2	VSM	+1.04	TEHTEC			B2265	prim	89C00049	C 0	600UL	
503	77	135	0.39	132	15	P 3	DBC	+2.16	TEHTEC			M0554	reso	89C00022	C 0	600UL	
504	81	135	0.33	139	14	P 2	VH3	+0.70	TEHTEC			P1465	prim	89C00022	C 0	600UL	
505	117	135	0.27	117	12	P 2	VH2	+0.71	TEHTEC			P1465	prim	89C00022	C 0	600UL	
506	10	136	2.62	32	MCI	P 1	TSH	-4.70	TSHTSH	3.24	0.72	W3386	reso	89H00069	H 0	600PP	
507	32	136	0.40	61	15	P 2	VSM	+0.96	TEHTEC			W9658	seco	89C00048	C 0	600UL	
508	78	136	3.15	31	SAI	2	TSH	-7.48	TSHTSH	5.05	0.72	W3386	reso	89H00060	H 0	600PP	
509			1.05	20	SAI	2	TSH	-6.86	TSHTSH	1.03	0.22	W3386	reso	89H00060	H 0	600PP	
510			0.26	150	11	P 2	VC3	-0.96	TEHTEC			P1465	prim	89C00022	C 0	600UL	
511	106	136	0.28	118	12	P 2	VH2	-0.71	TEHTEC			P1465	prim	89C00022	C 0	600UL	
512	114	136	0.35	151	15	P 2	VC3	+0.82	TEHTEC			P1465	prim	89C00022	C 0	600UL	
513	77	137	0.63	114	21	P 2	VSM	-0.95	TEHTEC			L3025	prim	89C00020	C 0	600UL	
514	79	137	0.29	133	14	P 2	VSM	-0.87	TEHTEC			D2003	prim	89C00021	C 0	600UL	
515	113	137	0.25	59	11	P 2	VH2	-0.68	TEHTEC			P1465	prim	89C00022	C 0	600UL	
516	66	138	0.31	104	13	P 2	08C	-0.94	TEHTEC			H1748	reso	89C00048	C 0	600UL	
517	19	139	1.11	28	SCI	P 1	TSH	-5.04	TSHTSH	1.61	0.26	R5555	reso	89H00003	H 0	600PP	
518	77	139	0.32	100	12	P 2	VH3	-0.88	TEHTEC			L3025	prim	89C00020	C 0	600UL	
519			0.67	144	22	P 2	VC3	+1.18	TEHTEC			L3025	prim	89C00020	C 0	600UL	
520	32	140	0.24	65	12	P 2	VSM	-0.56	TEHTEC			B5926	seco	89C00047	C 0	600UL	
521	40	140	0.23	33	12	P 2	VSM	-0.69	TEHTEC			B5926	seco	89C00047	C 0	600UL	
522	60	140	0.41	40	19	P 2	VSM	+0.84	TEHTEC			B5926	seco	89C00047	C 0	600UL	
523	88	140	0.37	116	14	P 2	VH2	-0.79	TEHTEC			H7791	reso	89C00020	C 0	600UL	
524			0.42	104	15	P 2	VH2	+0.92	TEHTEC			H7791	reso	89C00020	C 0	600UL	
525	9	141	0.14	114	MAI	2	02H	-1.72	02H02H	0.00	0.47	M7262	reso	89H00122	H 0	600PP	
526	49	141	0.53	33	22	P 2	08C	+1.80	TEHTEC	LAR		M7262	reso	89C00047	C 0	606UL	
527	76	142	0.21	124	10	P 2	08C	-0.58	TEHTEC			D2003	prim	89C00021	C 0	600UL	
528	59	143	0.25	134	13	P 2	VH3	-0.54	TEHTEC			B5926	seco	89C00047	C 0	600UL	
529	71	143	0.24	108	12	P 2	VH3	-0.73	TEHTEC			G7112	seco	89C00021	C 0	600UL	
530			0.24	109	11	P 2	04C	-0.17	TEHTEC			D3858	reso	89C00021	C 0	600UL	
531	66	144	0.34	58	16	P 2	VH3	-0.73	TEHTEC			B4014	prim	89C00047	C 0	600UL	
532			0.46	81	20	P 2	VSM	-0.80	TEHTEC			B4014	prim	89C00047	C 0	600UL	
533	70	144	0.35	96	13	P 2	VC3	-0.53	TEHTEC			B3170	prim	89C00046	C 0	600UL	
534	112	144	0.61	124	18	P 3	DBC	+2.15	TEHTEC			R5555	reso	89C00020	C 0	600UL	
535	45	145	0.22	68	12	P 2	VSM	-0.86	TEHTEC			B5926	seco	89C00047	C 0	600UL	
536	49	145	0.52	99	22	P 2	08H	-1.19	TEHTEC			M7262	reso	89C00047	C 0	600UL	
537	57	145	0.26	60	12	P 2	VC3	-0.69	TEHTEC			C4330	prim	89C00045	C 0	600UL	
538	63	145	0.40	110	15	P 2	VH3	+0.85	TEHTEC			B5926	seco	89C00044	C 0	600UL	
539	67	145	0.27	37	13	P 2	VH3	-0.64	TEHTEC			G4841	reso	89C00045	C 0	600UL	

Inservice Inspection of Steam Generator Tubes
Appendix 4

SG89 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 89
DATABASE: SONGS_U2_1000_SG89_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE
540	8	146	0.59	15	SAI	2	TSH	-6.46	TSHTSH	0.00	0.43	G4841	reso	89H00006	H	0	600PP
541	56	146	0.44	106	16	P	2 VH3	-0.75	TEHTEC			B4165	prim	89C00044	C	0	600UL
542	58	146	0.33	32	15	P	2 VH3	-0.45	TEHTEC			C4330	prim	89C00045	C	0	600UL
543	74	146	0.37	70	19	P	2 VH3	+0.86	TEHTEC			L9168	prim	89C00019	C	0	600UL
544	94	146	0.25	131	14	P	2 VH3	-0.87	TEHTEC			L9168	prim	89C00019	C	0	600UL
545	35	147	0.22	41	11	P	2 VSM	+0.88	TEHTEC			C4330	prim	89C00045	C	0	600UL
546	45	147	0.24	150	9	P	2 VSM	-0.86	TEHTEC			B5926	seco	89C00044	C	0	600UL
547	57	147	0.31	105	12	P	2 VH3	+0.68	TEHTEC			B5926	seco	89C00044	C	0	600UL
548	59	147	0.29	73	14	P	2 VH3	+0.75	TEHTEC			K3270	seco	89C00045	C	0	600UL
549	71	147	0.51	115	24	P	2 VH3	-0.91	TEHTEC			L9168	prim	89C00019	C	0	600UL
550			0.41	124	20	P	2 VC3	-0.82	TEHTEC			L9168	prim	89C00019	C	0	600UL
551	79	147	0.24	121	13	P	2 VH3	+0.93	TEHTEC			T4180	seco	89C00019	C	0	600UL
552	103	147	0.16	67	SAI	2	04H	-1.87	04H04H	0	.23	P4578	reso	89H00127	H	2	600PP
553	74	148	0.46	85	15	P	2 VH3	-0.86	TEHTEC			B4165	prim	89C00018	C	0	600UL
554	82	148	0.67	131	21	P	2 VH3	-0.72	TEHTEC			B4165	prim	89C00018	C	0	600UL
555	84	148	0.32	60	17	P	2 VH2	+0.87	TEHTEC			L9168	prim	89C00019	C	0	600UL
556	88	148	0.26	114	14	P	2 VC3	-0.76	TEHTEC			G4841	reso	89C00019	C	0	600UL
557	31	149	0.31	131	12	P	2 VSM	+0.90	TEHTEC			B4165	prim	89C00044	C	0	600UL
558	35	149	0.36	107	14	P	2 VSM	+0.83	TEHTEC			B4165	prim	89C00044	C	0	600UL
559	79	149	0.26	69	15	P	2 VSM	+1.01	TEHTEC			L9168	prim	89C00019	C	0	600UL
560	52	150	0.23	72	11	P	2 VC3	-0.96	TEHTEC			C4330	prim	89C00045	C	0	600UL
561	78	150	0.45	55	15	P	2 VH3	-0.64	TEHTEC			B4165	prim	89C00018	C	0	600UL
562	91	151	0.31	54	17	P	2 VH2	-0.66	TEHTEC			L9168	prim	89C00019	C	0	600UL
563	56	152	0.27	54	17	P	3 DBH	+1.07	TEHTEC			C4330	prim	89C00045	C	0	600UL
564	66	152	0.32	131	12	P	2 VH3	-0.70	TEHTEC			B4165	prim	89C00044	C	0	600UL
565	80	152	0.56	137	25	P	2 VSM	-0.69	TEHTEC			V1371	prim	89C00019	C	0	600UL
566			0.40	134	20	P	2 VSM	+0.94	TEHTEC			V1371	prim	89C00019	C	0	600UL
567			0.66	103	28	P	2 VC3	-0.56	TEHTEC			V1371	prim	89C00019	C	0	600UL
568			0.63	97	27	P	2 VC3	+0.97	TEHTEC			V1371	prim	89C00019	C	0	600UL
569	69	153	0.37	112	14	P	2 VH3	-0.94	TEHTEC			B4165	prim	89C00042	C	0	600UL
570	73	153	0.30	100	11	P	2 VH3	-0.88	TEHTEC			B4165	prim	89C00018	C	0	600UL
571	71	155	0.28	105	15	P	2 VH3	-0.88	TEHTEC			M7262	reso	89C00019	C	0	600UL
572			0.28	140	15	P	2 VH3	+0.65	TEHTEC			B2153	seco	89C00019	C	0	600UL
573	75	155	0.26	152	14	P	2 VH3	-0.83	TEHTEC			B2153	seco	89C00019	C	0	600UL
574	36	156	0.29	61	14	P	2 VSM	-0.35	TEHTEC			B8589	seco	89C00043	C	0	600UL
575	46	156	0.27	119	11	P	2 VSM	-0.92	TEHTEC			B4165	prim	89C00042	C	0	600UL
576	54	156	0.29	106	14	P	2 VH3	-0.67	TEHTEC			B8589	seco	89C00043	C	0	600UL
577	58	156	0.31	76	15	P	2 VH3	-0.84	TEHTEC			B8090	reso	89C00043	C	0	600UL
578	66	156	0.33	106	16	P	2 VH3	-0.58	TEHTEC			B8589	seco	89C00043	C	0	600UL
579	72	156	0.21	112	12	P	2 VC3	-0.90	TEHTEC			B2153	seco	89C00019	C	0	600UL
580	74	156	0.45	107	15	P	2 VH3	-0.90	TEHTEC			B4165	prim	89C00018	C	0	600UL
581			0.45	79	15	P	2 VSM	-0.90	TEHTEC			B4165	prim	89C00018	C	0	600UL
582			0.61	70	19	P	2 VC3	-0.64	TEHTEC			B4165	prim	89C00018	C	0	600UL
583	71	157	0.25	93	14	P	2 VH3	-0.88	TEHTEC			B2153	seco	89C00019	C	0	600UL
584			0.29	96	15	P	2 VH3	+1.08	TEHTEC			B2153	seco	89C00019	C	0	600UL
585	56	158	0.42	107	20	P	2 VH3	-0.66	TEHTEC			T0854	seco	89C00029	C	0	600UL
586	41	159	0.29	87	12	P	2 01H	+1.19	TEHTEC			D3858	reso	89C00028	C	0	600UL
587	79	159	0.40	69	20	P	2 VH3	+0.85	TEHTEC			V1371	prim	89C00019	C	0	600UL
588			0.33	76	17	P	2 VC3	-0.62	TEHTEC			V1371	prim	89C00019	C	0	600UL

Inservice Inspection of Steam Generator Tubes
Appendix 4

SG89 MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

UTILITY: Southern California Edison,
PLANT: San Onofre
UNIT: 2
SG: 89
DATABASE: SONGS_U2_1000_SG89_FINAL

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ROW	COL	VOLTS	DEG	PCT	CHN	FLAW	LOCATION	EXTENT	UTIL1	UTIL2	NAME	TYPE	CAL	GROUP	LEG	PROBE	SIZE
589	74	160	0.86	114	25	P 2	VH3	-0.79	TEHTEC		B4165	prim	89C00018	C 0		600UL	
590			0.51	136	18	P 2	VC3	-0.77	TEHTEC		B8589	seco	89C00018	C 0		600UL	
591	46	162	0.29	109	12	P 2	VSM	+1.08	TEHTEC		D3858	reso	89C00028	C 0		600UL	
592	11	167	0.37	49	18	P 2	03H	+1.03	TEHTEC		B4260	reso	89C00017	C 0		600UL	
593	45	167	0.36	98	17	P 2	VSM	-0.91	TEHTEC		K3270	seco	89C00017	C 0		600UL	
594	42	168	0.56	150	20	P 2	VSM	+0.96	TEHTEC		B4165	prim	89C00026	C 0		600UL	
595	42	170	0.61	101	21	P 2	VSM	-0.30	TEHTEC		F0037	prim	89C00026	C 0		600UL	
596	39	171	0.26	63	10	P 2	03H	+0.13	TEHTEC		B4260	reso	89C00026	C 0		600UL	
597	19	173	0.24	136	10	P 2	VSM	+1.01	TEHTEC		K3270	seco	89C00026	C 0		600UL	
598	7	175	0.29	80	11	P 2	02C	+0.82	TEHTEC		P1465	prim	89C00026	C 0		600UL	

QUERY REPORT SUMMARY:

QUERY PARAMETER	ENTRIES	TUBES
0 to 100 Percent	502	396
MAI Indication Code	2	2
MCI Indication Code	2	2
MMI Indication Code	0	0
MVI Indication Code	0	0
SAI Indication Code	65	54
SCI Indication Code	25	24
SVI Indication Code	2	2
TOTAL ENTRIES:	598	
TOTAL TUBES:	474	