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DUKE POWER

November 18, 1992

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Subject: Catawba Nuclear Station, Unit 2
Docket No. 50-414
Special Report
12 Month Steam Generator Inspection Report
End of Cycle 4

Pursuant to Technical Specifications 4.4.5.5 b. and 6.9.2, find attached the Catawba Unit 2 End of Cycle 4 Refueling Outage Steam Generator Inspection Report. The following number of tubes were inspected from either side of the steam generator:

<u>Steam Generator</u>	<u>Tubes Inspected Full Length</u>
A	4554
B	4556
C	4566
D	4556

Attachments 1, 2, 3, and 4 identify the tubes with imperfections, the imperfection location and the size of the imperfection for Steam Generators A, B, C and D respectively.

Attachments 5, 6, 7 and 8 identify the tubes that were removed from service by plugging for Steam Generators A, B, C and D respectively. There were 12 tubes plugged as a result of this inspection.

Very truly yours,

M. S. Tuckman

Attachments

CRL/U2EOC4SG.ISP 240055

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xc: S. D. Ebnetter
Regional Administrator, Region II

R. E. Martin, ONRR

W. T. Orders
Senior Resident Inspector

ATTACHMENT 1

Plant: CATAWBA UNIT 2 Steam Generator: A
Outages: 10/91 RFO 10/91 TS 10/91 SI

QUERY: ATTACHMENT 1 INDICATIONS OF IMPERFECTIONS

ROW	COL	OUTAGE	INDICATION	VALUE	VOLTS-LOCATION	INCHES
1	1	10/91 RFO	OD (general)	5 % TW	1.03 7	+14.42
2	101	10/91 RFO	OD (general)	S/N	0.54 10	+ 7.27
3	83	10/91 RFO	OD (general)	8 % TW	0.85 10	+36.74
4	85	10/91 RFO	OD (general)	21 % TW	0.64 7	+14.88
		10/91 SI	OD (general)	S/N	1.26 7	+14.88
5	37	10/91 RFO	OD (general)	S	1.16 12	+11.45
6	2	10/91 RFO	OD (general)	.. % TW	0.01 16	+ 8.74
		10/91 SI	OD (general)	S/N	0.58 16	+ 8.91
6	5	10/91 RFO	OD (general)	5 % TW	0.76 15	+ 4.32
		10/91 SI	OD (general)	S/N	0.40 15	+ 4.43
6	40	10/91 RFO	OD (general)	6 % TW	0.77 10	+14.01
		10/91 SI	OD (general)	S/N	0.91 10	+15.83
7	90	10/91 RFO	OD (general)	S/N	0.27 7	+32.08
		10/91 RFO	OD (general)	S/N	0.23 10	+30.31
7	97	10/91 RFO	OD (general)	S/N	0.16 11	+ 9.29
8	24	10/91 RFO	OD (general)	S/N	0.44 7	+33.24
8	46	10/91 RFO	OD (general)	S/N	0.55 18	+ 4.15
8	47	10/91 RFO	OD (general)	S/N	0.76 8	+17.32
		10/91 RFO	OD (general)	S/N	0.58 6	+ 2.93
9	15	10/91 RFO	OD (general)	S/N	0.60 17	+11.25
9	106	10/91 RFO	OD (general)	22 % TW	0.74 11	+15.57
		10/91 SI	OD (general)	S/N	0.81 11	+15.85
10	59	10/91 RFO	OD (general)	13 % TW	0.71 13	+32.25
		10/91 SI	OD (general)	S/N	0.72 13	+33.05
12	23	10/91 RFO	OD (general)	21 % TW	0.26 10	+22.17
		10/91 SI	OD (general)	S/N	0.33 10	+22.76
		10/91 SI	OD (general)	S/N	0.29 10	+24.91
13	29	10/91 RFO	OD (general)	S/N	0.15 7	+ 9.76
13	34	10/91 RFO	OD (general)	25 % TW	0.24 13	+ 5.58
		10/91 SI	OD (general)	S/N	0.29 13	+ 6.07
13	43	10/91 RFO	OD (general)	S/N	0.30 5	+33.60
14	25	10/91 RFO	OD (general)	S/N	0.35 13	+11.51
17	5	10/91 RFO	OD (general)	S/N	0.74 19	+ 3.67
17	7	10/91 RFO	OD (general)	5 % TW	0.93 6	+24.34
18	36	10/91 RFO	OD (general)	3 % TW	0.68 13	+28.96
19	43	10/91 RFO	OD (general)	7 % TW	0.88 13	+ 6.70
20	22	10/91 RFO	OD (general)	S/N	0.42 9	- 1.06
21	105	10/91 RFO	OD (general)	S/N	0.35 9	- 1.91
22	11	10/91 RFO	OD (general)	S/N	0.41 5	+30.06
		10/91 RFO	OD (general)	S/N	0.39 13	+24.47
25	19	10/91 RFO	OD (general)	21 % TW	0.42 5	+11.79
25	37	10/91 RFO	OD (general)	20 % TW	1.30 AVB3	+ 1.64
26	32	10/91 RFO	OD (general)	18 % TW	1.38 AVB4	+ 4.73
27	18	10/91 RFO	OD (general)	S/N	0.43 1	+25.10
		10/91 RFO	OD (general)	S/N	0.32 6	+ 9.92
		10/91 RFO	OD (general)	S/N	0.39 AVB4	- 3.91
		10/91 RFO	OD (general)	7 % TW	0.43 13	+15.38
27	40	10/91 RFO	OD (general)	S/N	1.22 8	+ 1.59
27	42	10/91 RFO	OD (general)	2 % TW	0.37 12	+20.77
27	48	10/91 RFO	OD (general)	S/N	0.21 10	+32.40
27	49	10/91 RFO	OD (general)	S/N	0.30 7	+ 7.70
27	53	10/91 RFO	OD (general)	S/N	0.26 10	+26.26
27	102	10/91 RFO	OD (general)	S/N	0.64 7	+28.02
28	9	10/91 RFO	OD (general)	S/N	0.64 15	+ 8.30
28	15	10/91 RFO	OD (general)	4 % TW	0.53 6	+30.18
		10/91 RFO	OD (general)	18 % TW	0.48 6	+32.95
28	45	10/91 RFO	OD (general)	S/N	0.46 5	+ 8.14
		10/91 RFO	OD (general)	21 % TW	0.37 5	+25.07
28	48	10/91 RFO	OD (general)	S/N	0.51 5	+ 6.70
		10/91 RFO	OD (general)	S/N	0.43 12	+37.61
		10/91 RFO	OD (general)	S/N	0.38 13	+36.08
		10/91 RFO	OD (general)	S/N	0.41 13	+35.18
		10/91 RFO	OD (general)	S/N	0.41 17	+15.11
		10/91 RFO	OD (general)	S/N	0.23 7	+12.63
		10/91 RFO	OD (general)	S/N	0.62 8	+19.39
29	52	10/91 RFO	OD (general)	S/N	0.41 1	+16.55
29	96	10/91 RFO	OD (general)	S/N	0.73 10	+10.22

Plant: CATAWBA UNIT 2 Steam Generator: A
Outages: 10/91 RFO 10/91 TS 10/91 SI

QUERY: ATTACHMENT 1 INDICATIONS OF IMPERFECTIONS

ROW	COL	OUTAGE	INDICATION	VALUE	VOLTS	LOCATION	INCHES
29	100	10/91 RFO	OD (general)	S/N	0.64	6	+ 6.19
30	41	10/91 RFO	OD (general)	S/N	0.47	1	+19.76
30	83	10/91 RFO	OD (general)	26 % TW	0.69	5	+27.96
		10/91 RFO	OD (general)	25 % TW	0.80	5	+33.43
31	35	10/91 RFO	OD (general)	S/N	0.82	19	+ 4.88
31	73	10/91 RFO	OD (general)	S/N	0.41	15	+12.97
31	75	10/91 RFO	OD (general)	S/N	0.59	11	+14.86
31	81	10/91 RFO	OD (general)	S/N	0.52	11	+25.93
31	92	10/91 RFO	OD (general)	S/N	0.93	9	- 0.64
31	99	10/91 RFO	OD (general)	7 % TW	1.50	10	+ 9.32
		10/91 RFO	OD (general)	S/N	1.52	13	+26.37
32	25	10/91 RFO	OD (general)	S/N	0.39	8	+ 1.13
32	67	10/91 RFO	OD (general)	S/N	0.64	9	- 0.57
32	97	10/91 RFO	OD (general)	S/N	0.37	7	+35.46
32	103	10/91 RFO	OD (general)	S/N	0.32	7	+34.66
33	12	10/91 RFO	OD (general)	S/N	0.45	11	+ 7.13
33	17	10/91 RFO	OD (general)	S/N	0.45	15	+ 2.17
33	36	10/91 RFO	OD (general)	S/N	0.24	10	+34.50
33	41	10/91 RFO	OD (general)	S/N	0.46	10	+13.60
34	17	10/91 RFO	OD (general)	S/N	0.24	10	+32.71
34	39	10/91 RFO	OD (general)	S/N	0.47	9	+ 1.42
		10/91 SI	OD (general)	S/N	0.23	9	+ 1.50
34	42	10/91 RFO	OD (general)	S/N	0.58	1	+16.06
34	47	10/91 RFO	OD (general)	24 % TW	0.85	9	- 0.56
34	63	10/91 RFO	OD (general)	S/N	0.37	2	+ 9.43
34	69	10/91 RFO	OD (general)	S/N	0.42	AVB2	
34	96	10/91 RFO	OD (general)	16 % TW	0.81	17	+ 8.31
35	14	10/91 RFO	OD WEAR	16 % TW	0.59	AVB2	
		10/91 RFO	OD WEAR	37 % TW	2.75	AVB3	
35	16	10/91 RFO	OD (general)	S/N	0.29	7	+34.15
35	32	10/91 RFO	OD (general)	S/N	0.71	11	+36.48
35	55	10/91 RFO	OD (general)	1 % TW	1.50	9	+ 1.74
35	92	10/91 RFO	OD (general)	S/N	0.63	9	- 0.64
36	23	10/91 RFO	OD (general)	S/N	0.35	8	+11.09
37	23	10/91 RFO	OD (general)	18 % TW	1.01	12	+17.22
37	49	10/91 RFO	OD (general)	S/N	0.70	AVB4	-10.20
38	25	10/91 RFO	OD WEAR	17 % TW	0.81	AVB3	
38	44	10/91 RFO	OD (general)	S/N	0.44	2	+20.31
38	96	10/91 RFO	OD WEAR	22 % TW	0.63	AVB2	
38	97	10/91 RFO	OD WEAR	21 % TW	1.10	AVB3	
		10/91 RFO	OD WEAR	33 % TW	2.21	AVB2	
38	99	10/91 RFO	OD WEAR	31 % TW	1.96	AVB4	
		10/91 RFO	OD WEAR	42 % TW	3.78	AVB3	
		10/91 RFO	OD WEAR	30 % TW	1.87	AVB2	
39	93	10/91 RFO	OD (general)	S/N	0.35	10	+41.08
40	18	10/91 RFO	OD WEAR	33 % TW	2.20	AVB3	
40	19	10/91 RFO	OD (general)	S/N	0.59	7	+23.39
		10/91 RFO	OD (general)	S/N	0.43	10	+20.28
40	44	10/91 RFO	OD (general)	S/N	0.32	10	+37.96
40	91	10/91 RFO	OD (general)	S/N	0.45	6	+ 8.17
40	94	10/91 RFO	OD WEAR	26 % TW	1.52	AVB2	
40	95	10/91 RFO	OD WEAR	10 % TW	0.76	AVB4	
		10/91 RFO	OD WEAR	28 % TW	1.66	AVB2	
40	97	10/91 RFO	OD WEAR	21 % TW	1.10	AVB4	
		10/91 RFO	OD WEAR	42 % TW	3.58	AVB3	
		10/91 RFO	OD WEAR	31 % TW	2.00	AVB2	
41	21	10/91 RFO	OD (general)	S/N	0.28	8	+ 1.36
41	27	10/91 RFO	OD (general)	S/N	0.19	9	+ 0.96
41	28	10/91 RFO	OD (general)	S/N	0.49	9	+ 1.09
41	85	10/91 RFO	OD WEAR	19 % TW	0.93	AVB3	
41	94	10/91 RFO	OD WEAR	19 % TW	0.96	AVB2	
		10/91 RFO	OD WEAR	27 % TW	1.63	AVB3	
41	95	10/91 RFO	OD WEAR	40 % TW	3.26	AVB2	
		10/91 RFO	OD WEAR	20 % TW	1.03	AVB3	
		10/91 RFO	OD WEAR	18 % TW	0.90	AVB4	
42	22	10/91 RFO	OD (general)	S/N	0.24	10	+29.96
42	54	10/91 RFO	OD (general)	S/N	0.56	15	+ 7.84

Plant: CATAWBA UNIT 2 Steam Generator: A
Outages: 10/91 RFO 10/91 TS 10/91 SI

QUERY: ATTACHMENT 1 INDICATIONS OF IMPERFECTIONS

ROW	COL	OUTAGE	INDICATION	VALUE	VOLTS	LOCATION	INCHES
		10/91 SI	OD (general)	S/N	0.63	15	+ 7.96
42	85	10/91 RFO	OD WEAR	30 % TW	1.93	AVB2	
		10/91 RFO	OD WEAR	21 % TW	1.08	AVB3	
42	91	10/91 RFO	OD WEAR	15 % TW	0.71	AVB3	
42	93	10/91 RFO	OD WEAR	23 % TW	1.21	AVB2	
		10/91 RFO	OD WEAR	35 % TW	2.52	AVB3	
43	28	10/91 RFO	OD (general)	S/N	0.65	8	- 0.56
43	29	10/91 RFO	OD (general)	S/N	0.61	8	- 0.48
43	49	10/91 RFO	OD (general)	7 % TW	0.72	11	+24.69
43	91	10/91 RFO	OD WEAR	13 % TW	0.62	AVB4	
43	92	10/91 RFO	OD WEAR	41 % TW	3.40	AVB3	
44	23	10/91 RFO	OD WEAR	20 % TW	1.02	AVB2	
		10/91 RFO	OD WEAR	38 % TW	2.99	AVB3	
44	61	10/91 RFO	OD (general)	S/N	0.48	11	+ 2.48
45	26	10/91 RFO	OD WEAR	17 % TW	0.62	AVB3	
45	34	10/91 RFO	OD (general)	17 % TW	0.87	3	+11.58
45	90	10/91 RFO	OD (general)	S/N	0.39	9	+ 5.03
45	91	10/91 RFO	OD WEAR	19 % TW	0.98	AVB4	
46	30	10/91 RFO	OD (general)	S/N	0.55	6	+16.14
46	37	10/91 RFO	OD (general)	S/N	0.89	3	+ 7.92
		10/91 RFO	OD (general)	S/N	0.71	12	+ 8.97
47	28	10/91 RFO	OD (general)	S/N	0.51	AVB4	+24.97
47	48	10/91 RFO	OD (general)	1 % TW	0.30	11	+26.84
47	49	10/91 RFO	OD (general)	S/N	0.33	9	+ 1.41
47	56	10/91 RFO	OD WEAR	19 % TW	0.92	AVB2	
		10/91 RFO	OD WEAR	24 % TW	0.97	AVB3	
48	50	10/91 RFO	OD (general)	10 % TW	1.40	9	+ 2.29
49	41	10/91 RFO	OD (general)	S/N	0.49	7	+ 0.66
		10/91 SI	OD (general)	S/N	0.21	7	+ 0.61
49	42	10/91 RFO	OD (general)	5 % TW	0.76	7	
		10/91 SI	OD (general)	S/N	0.29	7	+ 0.57
49	64	10/91 RFO	OD (general)	41 % TW	1.37	7	
		10/91 SI	OD (general)	S/N	0.49	7	+ 0.60
49	65	10/91 RFO	OD (general)	56 % TW	0.72	7	
		10/91 SI	OD (general)	S/N	0.30	7	+ 0.68

TOTAL TUBES FOUND = 122
TOTAL INDICATIONS FOUND = 169

ATTACHMENT 2

Plant: CATAWBA UNIT 2 Steam Generator: B
Outages: 10/91 RFO 10/91 TS 10/91 SI

QUERY: ATTACHMENT 2 INDICATIONS OF IMPERFECTIONS

ROW	COL	OUTAGE	INDICATION	VALUE	VOLTS	LOCATION	INCHES
1	41	10/91 RFO	00 (general)	S/N	0.61	6	+ 9.82
1	52	10/91 RFO	00 (general)	5 % TW	0.49	2	+ 4.99
1	63	10/91 RFO	00 (general)	S/N	0.15	4	+ 8.15
1	84	10/91 RFO	00 (general)	S/N	0.67	12	+12.06
2	3	10/91 RFO	00 (general)	S/N	0.47	1	+11.97
2	27	10/91 RFO	00 (general)	S/N	0.57	3	+28.62
3	74	10/91 SI	00 (general)	S/N	1.68	5	+ 3.04
3	75	10/91 RFO	00 (general)	9 % TW	1.21	2	+16.78
4	75	10/91 RFO	00 (general)	2 % TW	0.79	6	+10.74
6	7	10/91 RFO	00 (general)	S/N	0.71	7	+33.61
7	62	10/91 RFO	00 (general)	S/N	0.40	15	+ 9.35
7	82	10/91 RFO	00 (general)	11 % TW	0.80	CTS-S	+ 5.79
7	101	10/91 RFO	00 (general)	5 % TW	0.64	16	+13.72
10	6	10/91 RFO	00 (general)	S/N	0.68	10	+20.39
11	4	10/91 RFO	00 (general)	S/N	0.60	7	+10.53
12	32	10/91 RFO	00 (general)	S/N	0.44	4	+ 5.23
12	52	10/91 RFO	00 (general)	27 % TW	0.24	10	+26.20
		10/91 RFO	00 (general)	16 % TW	0.34	12	+33.37
13	10	10/91 RFO	00 (general)	10 % TW	0.76	4	+22.08
13	18	10/91 RFO	00 (general)	S/N	0.34	4	+ 3.10
		10/91 RFO	00 (general)	S/N	0.25	11	+19.89
13	44	10/91 RFO	00 (general)	6 % TW	0.78	7	+ 5.62
14	105	10/91 RFO	00 (general)	5 % TW	0.69	1	+ 1.84
		10/91 RFO	00 (general)	4 % TW	0.60	2	+14.97
14	112	10/91 RFO	00 (general)	12 % TW	0.79	9	- 1.25
15	79	10/91 RFO	00 (general)	15 % TW	0.59	15	+ 2.43
16	59	10/91 RFO	00 (general)	10 % TW	0.62	1	+23.84
16	104	10/91 RFO	00 (general)	8 % TW	0.63	4	+20.46
17	105	10/91 RFO	00 (general)	S/N	0.84	AVB1	
18	49	10/91 RFO	00 (general)	6 % TW	1.01	13	+ 5.97
18	65	10/91 RFO	00 (general)	4 % TW	0.64	2	+ 4.78
18	87	10/91 RFO	00 (general)	S/N	0.65	13	+12.37
19	42	10/91 RFO	00 (general)	13 % TW	0.63	10	+34.36
19	90	10/91 RFO	00 (general)	2 % TW	0.7	AVB1	+25.60
19	105	10/91 RFO	00 (general)	S/N	0.67	AVB1	+21.21
20	62	10/91 RFO	00 (general)	S/N	0.94	16	+ 2.43
20	86	10/91 RFO	00 (general)	S/N	0.80	1	+ 1.22
21	56	10/91 RFO	00 (general)	7 % TW	1.00	12	+23.49
22	30	10/91 RFO	00 (general)	S/N	0.65	2	+22.62
22	97	10/91 RFO	00 (general)	26 % TW	1.33	3	+ 6.02
		10/91 SI	00 (general)	S/N	1.4		+ 5.73
22	107	10/91 RFO	00 (general)	10 % TW	0.9	CTS-S	+ 6.70
		10/91 RFO	00 (general)	17 % TW	0.7		+ 3.12
23	86	10/91 RFO	00 (general)	S/N	0.69	1	+18.53
24	71	10/91 RFO	00 (general)	S/N	1.07	8	+ 7.42
24	93	10/91 RFO	00 (general)	S/N	0.71	AVB4	- 0.02
25	67	10/91 RFO	00 (general)	S/N	0.72	AVB4	- 3.14
26	34	10/91 RFO	00 (general)	6 % TW	0.62	8	+ 8.12
26	66	10/91 RFO	00 (general)	S/N	0.49	2	+15.70
27	10	10/91 RFO	00 (general)	18 % TW	0.76	9	- 2.74
27	27	10/91 RFO	00 (general)	28 % TW	0.75	10	+41.48
27	55	10/91 RFO	00 (general)	S/N	0.32	7	+32.06
27	75	10/91 RFO	00 (general)	S/N	0.78	8	+ 4.39
28	35	10/91 RFO	00 (general)	11 % TW	0.52	17	+ 1.71
28	85	10/91 RFO	00 (general)	S/N	0.41	8	+ 0.82
28	106	10/91 RFO	00 (general)	S/N	0.50	HTS-S	+ 2.57
		10/91 SI	00 (general)	S/N	0.33	HTS-S	+ 2.79
29	23	10/91 RFO	00 (general)	S/N	0.46	11	+35.35
29	105	10/91 RFO	00 (general)	35 % TW	0.85	HTS-S	+ 2.51
		10/91 SI	00 (general)	S/N	0.32	HTS-S	+ 2.72
30	45	10/91 RFO	00 (general)	S/N	0.63	3	+19.51
30	64	10/91 RFO	00 (general)	10 % TW	1.17	2	+13.36
30	73	10/91 RFO	00 (general)	28 % TW	0.75	4	+19.72
30	90	10/91 RFO	00 (general)	9 % TW	0.67	4	+18.58
31	19	10/91 RFO	00 (general)	S/N	0.73	17	- 0.51
		10/91 SI	00 (general)	S/N	0.16	17	- 0.53
31	78	10/91 RFO	00 (general)	2 % TW	0.67	7	+ 2.82

Plant: CATAWBA UNIT 2 Steam Generator: B
Outages: 10/91 Rfu 10/91 TS 10/91 SI

QUERY: ATTACHMENT 2 INDICATIONS OF IMPERFECTIONS

ROW	COL	OUTAGE	INDICATION	VALUE	VOLTS	LOCATION	INCHES
32	14	10/91 RFO	OD (general)	S/N	0.61	13	+10.75
33	23	10/91 RFO	OD (general)	12 % TW	0.79	16	+ 1.60
33	65	10/91 RFO	OD (general)	17 % TW	0.71	18	+15.73
		10/91 RFO	OD (general)	25 % TW	0.65	18	+15.08
33	68	10/91 RFO	OD (general)	S/N	0.77	8	+ 1.75
33	69	10/91 RFO	OD (general)	S/N	0.30	8	+ 1.17
33	70	10/91 Rfu	OD (general)	S/N	2.65	1	+21.90
33	71	10/91 RFO	OD (general)	14 % TW	1.00	8	+ 1.50
33	72	10/91 RFO	OD (general)	7 % TW	1.06	8	+ 1.64
33	74	10/91 RFO	OD (general)	S/N	0.54	8	+ 2.50
33	78	10/91 RFO	OD (general)	S/N	0.39	8	+ 1.50
34	18	10/91 RFO	OD (general)	S/N	0.57	9	- 0.89
34	62	10/91 RFO	OD (general)	12 % TW	0.83	10	+24.50
35	34	10/91 RFO	OD (general)	S/N	0.54	1	+ 5.80
35	38	10/91 RFO	OD (general)	S/N	0.30	11	+19.46
35	47	10/91 RFO	OD (general)	S/N	0.72	AVB2	+ 7.71
35	49	10/91 RFO	OD (general)	S/N	1.36	AVB1	+ 9.39
35	56	10/91 RFO	OD (general)	S/N	0.97	AVB4	+10.94
35	101	10/91 RFO	OD WEAR	17 % TW	0.57	AVB1	
36	36	10/91 RFO	OD (general)	S/N	0.44	10	+42.02
37	35	10/91 RFO	OD (general)	S/N	0.32	9	- 3.43
		10/91 RFO	OD (general)	S/N	0.39	9	- 2.37
37	40	10/91 RFO	OD (general)	14 % TW	0.66	3	- 3.52
		10/91 RFO	OD (general)	19 % TW	0.48	5	+25.70
		10/91 RFO	OD (general)	11 % TW	1.01	10	+13.55
		10/91 RFO	OD (general)	10 % TW	0.54	19	+ 5.07
37	88	10/91 RFO	OD (general)	4 % TW	0.85	5	+10.22
37	89	10/91 RFO	OD (general)	7 % TW	0.61	14	+11.59
38	18	10/91 RFO	OD (general)	S/N	0.32	8	- 0.51
38	24	10/91 RFO	OD (general)	4 % TW	0.53	11	+30.76
38	50	10/91 RFO	OD (general)	S/N	0.96	HTS-5	+ 6.01
		10/91 RFO	OD (general)	S/N	1.14	1	+ 1.91
38	52	10/91 RFO	OD (general)	S/N	0.75	13	+ 5.78
38	60	10/91 RFO	OD (general)	9 % TW	0.93	1	+15.22
38	61	10/91 RFO	OD (general)	2 % TW	0.61	8	+25.48
38	65	10/91 RFO	OD (general)	13 % TW	0.87	18	+12.29
38	80	10/91 RFO	OD WEAR	16 % TW	0.56	AVB1	
		10/91 RFO	OD WEAR	18 % TW	0.63	AVB2	
		10/91 RFO	OD WEAR	18 % TW	0.63	AVB3	
38	82	10/91 RFO	OD (general)	19 % TW	0.72	3	+21.18
		10/91 RFO	OD WEAR	15 % TW	0.48	AVB2	
		10/91 RFO	OD WEAR	26 % TW	0.97	AVB3	
39	55	10/91 RFO	OD (general)	12 % TW	1.09	16	+ 2.42
39	97	10/91 RFO	OD (general)	19 % TW	1.21	14	+13.69
40	25	10/91 RFO	OD (general)	S/N	0.62	9	+39.92
40	51	10/91 RFO	OD (general)	S/N	0.61	5	+24.61
41	29	10/91 RFO	OD (general)	S/N	0.42	3	+ 6.81
41	53	10/91 RFO	OD (general)	15 % TW	0.81	1	+17.72
42	23	10/91 RFO	OD (general)	S/N	0.60	16	+ 8.33
42	59	10/91 RFO	OD (general)	10 % TW	0.87	12	+39.03
42	68	10/91 RFO	OD (general)	3 % TW	0.65	5	+31.11
42	93	10/91 RFO	OD (general)	1 % TW	1.04	AVB1	+16.24
43	47	10/91 RFO	OD (general)	S/N	0.77	AVB3	- 2.70
		10/91 RFO	OD (general)	S/N	0.56	12	+15.27
43	50	10/91 RFO	OD (general)	27 % TW	1.32	13	+32.98
44	33	10/91 RFO	OD (general)	S/N	0.61	17	+ 7.45
44	35	10/91 RFO	OD (general)	24 % TW	1.00	10	+43.12
44	45	10/91 RFO	OD (general)	S/N	0.81	2	+15.25
44	50	10/91 RFO	OD (general)	S/N	0.48	2	+ 3.83
44	54	10/91 RFO	OD (general)	S/N	1.29	2	+10.10
45	38	10/91 RFO	OD (general)	S/N	1.08	13	+38.24
		10/91 RFO	OD (general)	S/N	1.54	11	+35.99
45	39	10/91 RFO	OD (general)	S/N	0.34	AVB3	+ 1.16
45	47	10/91 RFO	OD (general)	21 % TW	0.99	13	+10.72
		10/91 RFO	OD (general)	23 % TW	0.45	17	+27.85
45	55	10/91 RFO	OD (general)	12 % TW	1.01	11	+32.09
45	64	10/91 RFO	OD (general)	15 % TW	1.23	AVB4	- 5.45

Plant: CATAWBA UNIT 2 Steam Generator: B
 Outages: 10/91 RFO 10/91 TS 10/91 SI

QUERY: ATTACH AT 2 INDICATIONS OF IMPERFECTIONS

ROW	COL	OUTAGE	INDICATION	VALUE	VOLTS	LOCATION	INCHES
		10/91 RFO	OD (general)	S/N	0.86	9	- 0.72
46	77	10/91 RFO	OD (general)	S/N	0.85	15	+19.77
47	62	10/91 RFO	OD (general)	10 % TW	1.04	3	+28.38
47	72	10/91 RFO	OD (general)	S/N	0.63	3	+ 6.02
48	50	10/91 RFO	OD (general)	S/N	0.43	9	- 2.35
48	74	10/91 RFO	OD (general)	S/N	0.64	11	+19.01
49	46	10/91 RFO	OD (general)	15 % TW	0.75	13	+19.77

TOTAL TUBES FOUND = 119
 TOTAL INDICATIONS FOUND = 141

ATTACHMENT 3

Plant: CATAWBA UNIT 2 Steam Generator: C
Outages: 10/91 RFO 10/91 TS 10/91 SI

QUERY: ATTACHMENT 3 INDICATIONS OF IMPERFECTIONS

ROW	COL	OUTAGE	INDICATION	VALUE	VOLTS	LOCATION	INCHES
1	13	10/91 RFO	LO (general)	S/N	0.30	18	+21.24
1	19	10/91 RFO	OD (general)	S/N	0.26	1	+22.21
1	30	10/91 RFO	OD (general)	S/N	0.47	5	+ 5.58
		10/91 RFO	OD (general)	S/N	0.48	5	+ 0.13
2	74	10/91 RFO	OD (general)	S/N	0.71	12	+29.40
2	86	10/91 RFO	OD (general)	S/N	0.89	5	+22.24
3	17	10/91 RFO	OD (general)	S/N	0.70	7	+28.82
3	23	10/91 RFO	OD (general)	5 % TW	1.62	19	- 0.83
3	85	10/91 RFO	OD (general)	S/N	0.69	13	+ 6.09
3	90	10/91 RFO	OD (general)	S/N	0.88	4	+19.42
4	27	10/91 RFO	OD (general)	17 % TW	0.62	5	+18.58
4	80	10/91 RFO	OD (general)	S/N	0.75	2	+ 4.84
5	65	10/91 RFO	OD (general)	S/N	0.62	8	+15.62
6	74	10/91 RFO	OD (general)	S/N	1.20	9	+ 1.34
		10/91 SI	OD (general)	S/N	0.40	9	+ 0.46
7	39	10/91 RFO	OD (general)	16 % TW	1.38	4	+ 4.21
7	76	10/91 RFO	OD (general)	S/N	0.68	9	+ 0.08
		10/91 SI	OD (general)	S/N	0.63	9	+ 2.05
8	76	10/91 RFO	OD (general)	S/N	0.72	5	+33.11
10	11	10/91 RFO	OD (general)	29 % TW	0.62	2	+10.52
		10/91 SI	OD (general)	S/N	0.25	2	+ 9.71
11	107	10/91 RFO	OD (general)	S/N	0.75	2	+31.36
11	110	10/91 RFO	OD (general)	S/N	0.76	4	+14.73
14	17	10/91 RFO	OD (general)	S/N	0.28	11	+ 7.53
		10/91 SI	OD (general)	S/N	0.66	11	+ 7.18
14	30	10/91 RFO	OD (general)	S/N	0.27	11	+15.70
		10/91 RFO	OD (general)	10 % TW	0.61	7	+10.85
15	99	10/91 RFO	OD (general)	S/N	0.58	8	+25.20
16	78	10/91 RFO	OD (general)	S/N	1.53	7	+25.31
		10/91 RFO	OD (general)	S/N	0.35	12	+16.07
		10/91 RFO	OD (general)	S/N	0.57	7	+28.01
		10/91 RFO	OD (general)	S/N	1.58	10	+35.91
18	29	10/91 RFO	OD (general)	19 % TW	0.55	19	- 1.32
18	45	10/91 RFO	OD (general)	10 % TW	0.67	HTS-S	+ 2.60
19	42	10/91 RFO	OD (general)	17 % TW	0.63	4	+ 0.88
19	64	10/91 RFO	OD (general)	S/N	0.92	4	+37.85
19	107	10/91 RFO	OD (general)	30 % TW	0.84	7	+28.43
20	29	10/91 RFO	OD (general)	S/N	0.77	10	+ 6.61
20	47	10/91 RFO	OD (general)	23 % TW	1.04	11	+27.97
21	24	10/91 RFO	OD (general)	9 % TW	0.66	12	+40.05
22	17	10/91 RFO	OD (general)	23 % TW	0.88	13	+ 1.75
22	90	10/91 RFO	OD (general)	S/N	0.55	6	+ 2.58
24	65	10/91 RFO	OD (general)	S/N	0.46	18	+ 3.88
25	45	10/91 RFO	OD (general)	S/N	0.56	7	+15.24
25	79	10/91 RFO	OD (general)	S/N	0.60	1	+27.73
26	72	10/91 RFO	OD (general)	S/N	0.52	13	+12.37
27	9	10/91 RFO	OD WEAR	23 % TW	0.82	AVB2	
27	16	10/91 RFO	OD (general)	S/N	0.28	1	+17.49
28	60	10/91 RFO	LO (general)	S/N	1.01	18	+15.21
28	75	10/91 RFO	OD (general)	S/N	1.42	10	+39.02
		10/91 RFO	OD (general)	S/N	1.00	7	+16.33
28	92	10/91 RFO	OD (general)	S/N	0.75	14	+12.55
30	29	10/91 RFO	OD (general)	S/N	1.01	12	+12.89
30	39	10/91 RFO	OD (general)	S/N	0.54	10	+26.42
30	47	10/91 RFO	OD (general)	S/N	0.33	9	+ 1.10
30	54	10/91 RFO	OD (general)	S/N	0.40	5	+ 4.38
31	11	10/91 RFO	OD WEAR	20 % TW	0.65	AVB1	
31	12	10/91 RFO	OD WEAR	21 % TW	0.70	AVB3	
31	46	10/91 RFO	OD (general)	S/N	0.28	8	- 1.06
32	12	10/91 RFO	OD WEAR	28 % TW	1.22	AVB3	
		10/91 RFO	OD WEAR	26 % TW	1.07	AVR4	
32	47	10/91 RFO	OD (general)	S/N	0.63	AVB1	+13.43
32	71	10/91 RFO	OD (general)	S/N	0.50	AVB2	+10.33
32	86	10/91 RFO	OD (general)	S/N	0.73	AVB3	-14.90
33	12	10/91 RFO	OD WEAR	17 % TW	0.53	AVB1	
		10/91 RFO	OD WEAR	16 % TW	0.47	AVB2	
33	14	10/91 RFO	OD WEAR	18 % TW	0.57	AVB2	

Plant: CATAWBA UNIT 2 Steam Generator: C
Outages: 10/91 RFO 10/91 TS 10/91 SI

QUERY: ATTACHMENT 3 INDICATIONS OF IMPEFECTIONS

ROW	COL	OUTAGE	INDICATION	VA. IE	VOLTS LOCATION	INCHES
33	49	10/91 RFO	OD (general)	21 % TW	0.88 1	+12.68
33	54	10/91 RFO	OD (general)	4 % TW	1.23 9	+ 1.32
33	55	10/91 RFO	OD WEAR	25 % TW	0.97 AVB3	
34	20	10/91 RFO	OD (general)	S/N	0.35 10	+ 5.78
34	24	10/91 RFO	OD (general)	20 % TW	0.49 9	+ 1.48
34	53	10/91 RFO	OD (general)	28 % TW	0.57 9	+ 1.59
34	68	10/91 RFO	OD (general)	S/N	0.39 11	+ 5.61
34	83	10/91 RFO	OD (general)	7 % TW	0.55 12	+32.99
34	86	10/91 RFO	OD (general)	5 % TW	1.02 2	+16.48
34	87	10/91 RFO	OD (general)	3 % TW	0.86 12	+19.47
35	24	10/91 RFO	OD (general)	S/N	0.44 10	+ 5.60
35	40	10/91 RFO	OD WEAR	35 % TW	2.10 AVB2	
		10/91 RFO	OD WEAR	32 % TW	1.59 AVB3	
35	89	10/91 RFO	OD (general)	8 % TW	0.75 7	+ 6.22
35	91	10/91 RFO	OD (general)	2 % TW	1.01 1	+23.32
37	27	10/91 RFO	OD (general)	S/N	0.50 9	+ 1.28
37	39	10/91 RFO	OD (general)	S/N	0.45 9	+ 1.38
37	41	10/91 RFO	OD (general)	S/N	0.46 9	+24.29
37	77	10/91 RFO	OD (general)	7 % TW	1.04 2	+10.80
		10/91 RFO	OD (general)	1 % TW	0.77 2	+30.71
37	90	10/91 RFO	OD (general)	7 % TW	1.17 4	+21.56
		10/91 RFO	OD (general)	3 % TW	0.74 6	+13.27
		10/91 RFO	OD (general)	8 % TW	0.50 HTS-5	+ 5.73
37	95	10/91 RFO	OD (general)	4 % TW	0.85 5	+24.62
37	99	10/91 RFO	OD (general)	5 % TW	1.09 AVB2	+ 6.21
38	63	10/91 RFO	OD (general)	S/N	0.29 2	+11.54
38	74	10/91 RFO	OD (general)	9 % TW	0.85 AVB4	- 6.54
		10/91 RFO	OD (general)	4 % TW	0.57 10	+33.19
38	88	10/91 RFO	OD (general)	S/N	0.50 AVB4	-12.75
		10/91 RFO	OD (general)	10 % TW	0.62 11	+41.44
38	90	10/91 RFO	OD (general)	14 % TW	1.27 19	+ 4.96
38	93	10/91 RFO	OD (general)	4 % TW	0.91 16	+ 3.43
38	97	10/91 RFO	OD (general)	8 % TW	0.51 11	+30.08
		10/91 RFO	OD (general)	5 % TW	0.54 13	+29.66
38	98	10/91 RFO	OD WEAR	44 % TW	2.71 AVB4	
		10/91 RFO	OD WEAR	22 % TW	0.86 AVB2	
38	99	10/91 RFO	OD WEAR	16 % TW	0.56 AVB4	
		10/91 RFO	OD WEAR	16 % TW	1.16 AVB3	
39	27	10/91 RFO	OD WEAR	19 % TW	0.61 AVB3	
39	62	10/91 RFO	OD (general)	S/N	0.45 13	+14.78
39	66	10/91 RFO	OD (general)	9 % TW	0.53 4	+26.54
39	74	10/91 RFO	OD (general)	1 % TW	1.03 4	+41.13
39	75	10/91 RFO	OD (general)	6 % TW	0.68 12	+10.57
39	79	10/91 RFO	OD (general)	5 % TW	0.88 1	+22.89
39	81	10/91 RFO	OD (general)	4 % TW	0.69 6	+ 8.26
39	87	10/91 RFO	OD (general)	S/N	0.86 1	+12.00
		10/91 RFO	OD (general)	S/N	1.02 18	+ 0.42
39	96	10/91 RFO	OD (general)	S/N	1.53 12	+40.34
40	90	10/91 RFO	OD (general)	S/N	1.03 11	+25.93
41	44	10/91 RFO	OD (general)	19 % TW	0.76 9	+ 1.87
41	46	10/91 RFO	OD (general)	18 % TW	0.65 9	+ 1.99
41	56	10/91 RFO	OD WEAR	37 % TW	2.22 AL1	
		10/91 RFO	OD WEAR	32 % TW	1.61 AVB3	
		10/91 RFO	OD WEAR	29 % TW	1.40 AVB4	
41	83	10/91 RFO	OD (general)	S/N	0.31 5	+33.77
41	95	10/91 RFO	OD WEAR	14 % TW	0.46 AVB2	
42	61	10/91 RFO	OD (general)	S/N	0.44 9	+ 1.44
43	86	10/91 RFO	OD (general)	21 % TW	1.00 12	+11.15
		10/91 RFO	OD (general)	20 % TW	1.04 12	+ 9.72
44	81	10/91 RFO	OD WEAR	24 % TW	0.80 AVR2	
		10/91 RFO	OD WEAR	24 % TW	0.79 AVB3	
44	87	10/91 RFO	OD (general)	S/N	1.00 18	+11.22
44	92	10/91 RFO	OD WEAR	17 % TW	0.60 AVB1	
45	59	10/91 RFO	OD (general)	32 % TW	0.96 13	+ 6.61
45	86	10/91 RFO	OD (general)	9 % TW	1.39 AVB3	+ 3.16
47	42	10/91 RFO	OD (general)	28 % TW	1.66 9	+26.01
47	76	10/91 RFO	OD (general)	S/N	0.25 9	- 0.68

Plant: CATAWBA UNIT 2 Steam Generator: C
 Outages: 10/91 RFO 10/91 IS 10/91 SI

QUERY: ATTACHMENT 3 INDICATIONS OF IMPERFECTIONS

ROW	COL	OUTAGE	INDICATION	VALUE	VOLTS	LOCATION	INCHES
		10/91 SI	OD (general)	S/N	0.18	9	+ 0.55
		10/91 SI	OD (general)	S/N	0.20	9	+ 0.41
48	29	10/91 RFO	OD (general)	22 % TW	0.35	13	+39.29
48	39	10/91 RFO	OD (general)	21 % TW	0.63	9	+ 7.71
48	76	10/91 RFO	OD (general)	16 % TW	1.34	10	+ 6.22
48	86	10/91 RFO	OD (general)	15 % TW	1.37	11	+15.60
49	61	10/91 RFO	OD (general)	42 % TW	0.69	5	+ 0.64
		10/91 SI	OD (general)	S/N	0.40	5	+ 0.68
49	62	10/91 RFO	OD (general)	52 % TW	0.77	5	+ 0.67
		10/91 SI	OD (general)	S/N	0.51	5	+ 0.64
49	76	10/91 RFO	OD WEAR	27 % TW	0.93	AVB1	
TOTAL TUBES FOUND				=	116		
TOTAL INDICATIONS FOUND				=	145		

ATTACHMENT 4

Plant: CATAWBA UNIT 2 Steam Generator: D
Outages: 10/91 RFO 10/91 TS 10/91 SI

QUERY: ATTACHMENT 4 INDICATIONS OF IMPERFECTIONS

ROW	COL	OUTAGE	INDICATION	VALUE	VOLTS	LOCATION	INCHES
1	66	10/91 RFO	00 (general)	10 % TW	0.76	10	+32.51
1	84	10/91 RFO	00 (general)	S/N	0.31	7	+ 9.13
1	94	10/91 RFO	00 (general)	S/N	0.24	7	+30.08
2	3	10/91 RFO	00 (general)	20 % TW	0.67	13	+25.51
2	84	10/91 RFO	00 (general)	S/N	0.42	4	+36.32
2	51	10/91 RFO	00 (general)	S/N	0.43	7	+23.91
3	9	10/91 RFO	00 (general)	6 % TW	1.02	11	+34.81
3	13	10/91 RFO	00 (general)	19 % TW	0.81	17	+13.10
4	1	10/91 RFO	00 (general)	S/N	0.27	7	+43.06
4	75	10/91 RFO	00 (general)	11 % TW	0.82	10	+21.25
6	100	10/91 RFO	00 (general)	25 % TW	0.51	3	+ 5.14
7	2	10/91 RFO	00 (general)	S/N	0.22	7	+36.82
		10/91 RFO	00 (general)	2 % TW	0.63	10	+26.92
7	28	10/91 RFO	00 (general)	S/N	0.80	8	+ 1.26
7	36	10/91 RFO	00 (general)	8 % TW	0.62	4	+ 8.73
		10/91 RFO	00 (general)	8 % TW	0.42	5	+27.53
7	99	10/91 RFO	00 (general)	S/N	1.00	11	+34.34
8	5	10/91 RFO	00 (general)	S/N	0.85	8	+ 1.12
8	7	10/91 RFO	00 (general)	6 % TW	1.09	7	+25.26
8	12	10/91 RFO	00 (general)	1 % TW	1.08	7	+25.57
8	60	10/91 RFO	00 (general)	S/N	0.63	2	+16.20
8	92	10/91 RFO	00 (general)	S/N	0.23	7	+23.91
		10/91 RFO	00 (general)	S/N	0.25	7	+24.43
		10/91 RFO	00 (general)	S/N	0.20	7	+27.49
9	2	10/91 RFO	00 (general)	S/N	0.24	7	+22.08
		10/91 RFO	00 (general)	S/N	0.69	9	+ 0.80
10	7	10/91 RFO	00 (general)	S/N	0.72	7	+35.05
12	13	10/91 RFO	00 (general)	S/N	0.59	13	+41.16
13	92	10/91 RFO	00 (general)	S/N	0.65	13	+25.98
		10/91 RFO	00 (general)	S/N	0.96	13	+ 2.86
14	4	10/91 RFO	00 (general)	S/N	0.40	10	+20.57
14	6	10/91 RFO	00 (general)	S/N	0.73	4	+41.16
14	104	10/91 RFO	00 (general)	15 % TW	0.57	HTS-S	+ 1.89
16	53	10/91 RFO	00 (general)	12 % TW	0.93	14	+ 9.49
16	62	10/91 RFO	00 (general)	22 % TW	0.64	10	+38.55
16	88	10/91 RFO	00 (general)	S/N	0.93	11	+15.38
17	37	10/91 RFO	00 (general)	2 % TW	0.76	14	+ 1.19
17	59	10/91 RFO	00 (general)	S/N	0.71	2	+26.80
17	87	10/91 RFO	00 (general)	S/N	0.85	3	+16.40
18	5	10/91 RFO	00 (general)	1 % TW	1.15	7	+24.82
18	80	10/91 RFO	00 (general)	5 % TW	1.18	13	+32.72
		10/91 RFO	00 (general)	S/N	0.92	11	+20.97
19	107	10/91 RFO	00 (general)	16 % TW	0.76	16	+14.56
20	20	10/91 RFO	00 (general)	S/N	0.36	AVB1	+ 5.68
20	21	10/91 RFO	00 (general)	S/N	0.40	9	+ 5.56
20	46	10/91 RFO	00 (general)	S/N	0.43	12	+23.20
20	78	10/91 RFO	00 (general)	9 % TW	0.45	10	+19.05
20	80	10/91 RFO	00 (general)	6 % TW	0.67	10	+ 7.01
20	96	10/91 RFO	00 (general)	S/N	0.29	18	+ 8.18
		10/91 SI	00 (general)	S/N	0.41	18	+ 6.52
20	103	10/91 RFO	00 (general)	S/N	0.23	18	+ 9.13
21	83	10/91 RFO	00 (general)	S/N	0.60	18	+12.07
		10/91 SI	00 (general)	S/N	0.29	18	+12.27
		10/91 SI	00 (general)	S/N	0.24	18	+12.13
21	94	10/91 RFO	00 (general)	S/N	0.44	18	+12.37
21	96	10/91 RFO	00 (general)	S/N	0.36	18	+12.82
		10/91 SI	00 (general)	S/N	1.70	18	+12.36
21	97	10/91 RFO	00 (general)	S/N	0.34	18	+ 2.70
21	101	10/91 RFO	00 (general)	S/N	0.50	18	+ 3.01
		10/91 SI	00 (general)	S/N	2.00	18	+ 3.03
24	7	10/91 RFO	00 (general)	S/N	0.41	7	+ 7.49
24	19	10/91 RFO	00 (general)	12 % TW	0.86	13	+29.19
24	28	10/91 RFO	00 (general)	S/N	0.27	13	+22.36
		10/91 RFO	00 (general)	S/N	0.73	7	+21.96
24	60	10/91 RFO	00 (general)	S/N	0.46	7	+22.78
24	84	10/91 RFO	00 (general)	S/N	0.65	AVB2	+ 2.20
24	86	10/91 RFO	00 (general)	S/N	0.43	AVB3	+ 0.57

Plant: CATAWBA UNIT 2 Steam Generator: D
Outages: 10/91 RFO 10/91 TS 10/91 SI

QUERY: ATTACHMENT 4 INDICATIONS OF IMPERFECTIONS

ROW	COL	OUTAGE	INDICATION	VALUE	VOLTS	LOCATION	INCHES
24	106	10/91 RFO	00 (general)	S/N	0.51	10	+37.32
25	8	10/91 RFO	00 (general)	S/N	0.35	4	+ 4.80
25	43	10/91 RFO	00 (general)	S/N	0.56	10	+35.71
25	105	10/91 RFO	00 (general)	S/N	0.40	12	+ 8.16
25	107	10/91 RFO	00 (general)	S/N	0.28	18	+15.16
26	37	10/91 RFO	00 WEAR	14 % TW	0.45	AVB2	
26	46	10/91 RFO	00 (general)	10 % TW	0.45	10	+37.18
		10/91 RFO	00 (general)	8 % TW	1.19	4	+ 5.91
		10/91 RFO	00 (general)	5 % TW	0.80	9	+ 0.76
		10/91 RFO	00 (general)	2 % TW	0.97	12	+28.86
26	72	10/91 RFO	00 (general)	5 % TW	0.75	10	+26.63
26	95	10/91 RFO	00 (general)	S/N	0.39	11	+26.14
28	19	10/91 RFO	00 (general)	S/N	0.40	7	+37.89
28	71	10/91 RFO	00 WEAR	11 % TW	0.31	AVB2	
28	94	10/91 RFO	00 (general)	S/N	0.60	2	+22.53
		10/91 RFO	00 (general)	S/N	0.60	17	+ 2.03
28	105	10/91 RFO	00 WEAR	19 % TW	0.67	AVB2	
29	17	10/91 RFO	00 (general)	10 % TW	0.73	10	+22.18
29	37	10/91 RFO	00 (general)	18 % TW	0.77	10	+21.52
29	51	10/91 RFO	00 (general)	5 % TW	0.61	7	+17.55
30	10	10/91 RFO	00 (general)	S/N	1.61	1	+23.29
30	22	10/91 RFO	00 (general)	S/N	0.90	8	-11.53
30	41	10/91 RFO	00 (general)	5 % TW	1.06	14	+ 1.43
30	59	10/91 RFO	00 (general)	4 % TW	0.61	7	+34.34
		10/91 RFO	00 (general)	S/N	0.38	9	- 0.63
30	79	10/91 RFO	00 (general)	S/N	0.60	16	+ 1.08
31	47	10/91 RFO	00 (general)	3 % TW	1.44	11	+30.04
31	63	10/91 RFO	00 (general)	S/N	0.51	12	+24.04
		10/91 RFO	00 (general)	S/N	0.47	12	+22.11
32	65	10/91 RFO	00 (general)	S/N	0.85	13	+25.75
32	76	10/91 RFO	00 (general)	9 % TW	1.26	8	+16.31
32	85	10/91 RFO	00 (general)	S/N	0.56	AVB3	
32	86	10/91 RFO	00 (general)	S/N	0.97	AVB3	
		10/91 RFO	00 (general)	S/N	1.39	12	+27.93
33	13	10/91 RFO	00 WEAR	22 % TW	0.83	AVB2	
33	95	10/91 RFO	00 (general)	S/N	0.32	8	+ 1.87
34	69	10/91 RFO	00 (general)	S/N	0.22	7	+37.18
34	75	10/91 RFO	00 (general)	S/N	0.82	8	+11.90
35	14	10/91 RFO	00 WEAR	32 % TW	1.49	AVB2	
35	52	10/91 RFO	00 (general)	S/N	0.22	9	+ 0.03
36	16	10/91 RFO	00 WEAR	31 % TW	1.45	AVB2	
36	65	10/91 RFO	00 (general)	S/N	0.49	AVB3	+ 0.65
36	96	10/91 RFO	00 WEAR	17 % TW	0.54	AVB2	
36	98	10/91 RFO	00 (general)	S/N	0.63	4	+32.57
38	17	10/91 RFO	00 WEAR	30 % TW	1.37	AVB2	
		10/91 RFO	00 WEAR	22 % TW	0.83	AVB4	
38	18	10/91 RFO	00 WEAR	24 % TW	0.91	AVB2	
		10/91 RFO	00 WEAR	17 % TW	0.51	AVB4	
38	49	10/91 RFO	00 (general)	11 % TW	1.01	10	+ 6.53
38	73	10/91 RFO	00 (general)	9 % TW	0.89	6	+32.69
38	93	10/91 RFO	00 WEAR	25 % TW	1.02	AVB2	
39	18	10/91 RFO	00 WEAR	38 % TW	2.12	AVB3	
		10/91 RFO	00 WEAR	15 % TW	0.44	AVB4	
39	63	10/91 RFO	00 (general)	S/N	0.54	8	+ 1.99
41	63	10/91 RFO	00 (general)	S/N	0.69	8	+42.88
41	87	10/91 RFO	00 (general)	S/N	0.22	1	+18.07
41	90	10/91 RFO	00 (general)	S/N	0.58	8	+ 2.32
		10/91 RFO	00 (general)	S/N	0.49	14	+11.36
41	93	10/91 RFO	00 (general)	S/N	0.35	7	+35.86
41	95	10/91 RFO	00 WEAR	21 % TW	0.78	AVB4	
42	68	10/91 RFO	00 (general)	S/N	0.71	3	+22.11
42	69	10/91 RFO	00 (general)	S/N	0.25	7	+36.11
42	70	10/91 RFO	00 (general)	S/N	0.39	3	+ 8.22
42	71	10/91 RFO	00 (general)	S/N	0.31	7	+18.51
42	82	10/91 RFO	00 (general)	S/N	0.53	7	+38.69
43	22	10/91 RFO	00 WEAR	24 % TW	0.96	AVB3	
		10/91 RFO	00 WEAR	20 % TW	0.71	AVB4	

Plant: CATAWBA UNIT 2 Steam Generator: D
Outages: 10/91 RFO 10/91 TS 10/91 SI

QUERY: ATTACHMENT 4 INDICATIONS OF IMPERFECTIONS

ROW	COL	OUTAGE	INDICATION	VALUE	VOLTS	LOCATION	INCHES
43	74	10/91 RFO	OD (general)	S/N	0.36	4	+13.73
43	78	10/91 RFO	OD WEAR	21 % TW	0.77	AVB2	
		10/91 RFO	OD WEAR	24 % TW	0.77	AVB3	
43	81	10/91 RFO	OD WEAR	24 % TW	0.97	AVB3	
		10/91 RFO	OD WEAR	13 % TW	0.36	AVB2	
43	91	10/91 RFO	OD (general)	1 % TW	0.62	8	+79.53
44	23	10/91 RFO	OD WEAR	41 % TW	2.42	AVB4	
		10/91 RFO	OD WEAR	27 % TW	1.16	AVB2	
44	85	10/91 RFO	OD (general)	12 % TW	0.66	1	+13.70
45	24	10/91 RFO	OD (general)	S/N	0.53	15	+25.48
45	73	10/91 RFO	OD (general)	22 % TW	0.56	13	+27.71
46	48	10/91 RFO	OD (general)	S/N	0.68	AVB1	+29.69
		10/91 RFO	OD (general)	S/N	0.78	AVB2	+ 9.16
		10/91 RFO	OD (general)	S/N	0.74	AVB3	+ 0.75
46	63	10/91 RFO	OD (general)	3 % TW	0.75	AVB1	+26.17
		10/91 RFO	OD (general)	8 % TW	1.04	AVB2	+ 8.34
47	38	10/91 RFO	OD (general)	S/N	0.40	9	- 0.67
		10/91 SI	OD (general)	S/N	1.77	9	- 0.75
47	81	10/91 RFO	OD (general)	S/N	0.61	AVB2	+ 5.27
47	88	10/91 RFO	OD WEAR	20 % TW	0.71	AVB3	
48	68	10/91 RFO	OD (general)	S/N	0.81	AVB2	- 6.35
48	72	10/91 RFO	OD (general)	S/N	1.20	6	+30.55
48	78	10/91 RFO	OD WEAR	33 % TW	1.62	AVB4	
48	80	10/91 RFO	OD (general)	S/N	0.32	9	+ 1.46

TOTAL TUBES FOUND = 126
TOTAL INDICATIONS FOUND = 158

ATTACHMENT 5

Plant: CATAWBA UNIT 2 Steam Generator: A
Outages: 10/91 RFO 10/91 TS 10/91 SI

QUERY: ATTACHMENT 5 TUBES PLUGGED OR REPAIRED

ROW	COL	OUTAGE	INDICATION	VALUE	VOLTS	LOCATION	INCHES
38	99	10/91 RFO	PLUGGED	MECH		HTS-P	
		10/91 RFO	PLUGGED	MECH		CTS-P	
		10/91 TS	PLUGGED	MECH		HTS-P	
		10/91 TS	PLUGGED	MECH		CTS-P	
40	97	10/91 RFO	PLUGGED	MECH		HTS-P	
		10/91 RFO	PLUGGED	MECH		CTS-P	
		10/91 TS	PLUGGED	MECH		HTS-P	
		10/91 TS	PLUGGED	MECH		CTS-P	
41	95	10/91 RFO	PLUGGED	MECH		HTS-P	
		10/91 RFO	PLUGGED	MECH		CTS-P	
		10/91 TS	PLUGGED	MECH		HTS-P	
		10/91 TS	PLUGGED	MECH		CTS-P	
43	92	10/91 RFO	PLUGGED	MECH		HTS-P	
		10/91 RFO	PLUGGED	MECH		CTS-P	
		10/91 TS	PLUGGED	EXPL		HTS-P	
		10/91 TS	PLUGGED	MECH		CTS-P	
49	42	10/91 RFO	PLUGGED	MECH		HTS-P	
		10/91 RFO	PLUGGED	MECH		CTS-P	
		10/91 TS	PLUGGED	MECH		HTS-P	
		10/91 TS	PLUGGED	MECH		CTS-P	
		10/91 SI	PLUGGED	MECH		HTS-P	
		10/91 SI	PLUGGED	MECH		CTS-P	
49	64	10/91 RFO	PLUGGED	MECH		HTS-P	
		10/91 RFO	PLUGGED	MECH		CTS-P	
		10/91 TS	PLUGGED	MECH		HTS-P	
		10/91 TS	PLUGGED	MECH		CTS-P	
		10/91 SI	PLUGGED	MECH		HTS-P	
		10/91 SI	PLUGGED	MECH		CTS-P	
49	65	10/91 RFO	PLUGGED	MECH		HTS-P	
		10/91 RFO	PLUGGED	MECH		CTS-P	
		10/91 TS	PLUGGED	MECH		HTS-P	
		10/91 TS	PLUGGED	MECH		CTS-P	
		10/91 SI	PLUGGED	MECH		HTS-P	
		10/91 SI	PLUGGED	MECH		CTS-P	

TOTAL TUBES FOUND = 7
TOTAL INDICATIONS FOUND = 31

ATTACHMENT 6

Plant: CATAWBA UNIT 2 Steam Generator: B
Outages: 10/91 RFD 10/91 TS 10/91 SI

QUERY: ATTACHMENT 6 TUBES PLUGGED OR REPAIRED

TOTAL TUBES FOUND	=	0
TOTAL INDICATIONS FOUND	=	0

ATTACHMENT 7

Plant: CATAWBA U. / 2 Steam Generator: C
Outages: 10/91 RFO 10/91 TS 10/91 SI

QUERY: ATTACHMENT 7 TUBES PLUGGED OR REPAIRED

ROW	COL	OUTAGE	INDICATION	VALUE	VOLTS	LOCATION	INCHES
38	98	10/91 RFO	PLUGGED	MECH		HTS-P	
		10/91 RFO	PLUGGED	MECH		CTS-P	
		10/91 TS	PLUGGED	MECH		HTS-P	
		10/91 TS	PLUGGED	MECH		CTS-P	
39	87	10/91 RFO	PLUGGED	MECH		HTS-P	
		10/91 RFO	PLUGGED	MECH		CTS-P	
		10/91 TS	PLUGGED	MECH		HTS-P	
		10/91 TS	PLUGGED	MECH		CTS-P	
49	61	10/91 RFO	PLUGGED	MECH		HTS-P	
		10/91 RFO	PLUGGED	MECH		CTS-P	
		10/91 TS	PLUGGED	MECH		HTS-P	
		10/91 TS	PLUGGED	MECH		CTS-P	
		10/91 SI	PLUGGED	MECH		HTS-P	
		10/91 SI	PLUGGED	MECH		CTS-P	
49	62	10/91 RFO	PLUGGED	MECH		HTS-P	
		10/91 RFO	PLUGGED	MECH		CTS-P	
		10/91 TS	PLUGGED	MECH		HTS-P	
		10/91 TS	PLUGGED	MECH		CTS-P	
		10/91 SI	PLUGGED	MECH		HTS-P	
		10/91 SI	PLUGGED	MECH		CTS-P	

TOTAL TUBES FOUND = 4
TOTAL INDICATIONS FOUND = 20

ATTACHMENT 8

Plant: CATAWBA UN'T 2 Steam Generator: D
Outages: 10/91 RFO 10/91 1S 10/91 S1

QUERY: ATTACHMENT B TUBES PLUGGED OR REPAIRED

ROW	COL	OUTAGE	INDICATION	VALUE	VOI 'S LOCATION	INCHES
44	23	10/91 RFO	PLUGGED	MECH	HTS-P	
		10/91 RFO	PLUGGED	MECH	CTS-P	
		10/91 TS	PLUGGED	MECH	HTS-P	
		10/91 TS	PLUGGED	MECH	CTS-P	
TOTAL TUBES FOUND				=	1	
TOTAL INDICATIONS FOUND				=	4	