CALVERT CLIFFS

UNIT 1

STEAM GENERATORS 11 AND 12

EDDY CURRENT INSPECTION

FINAL REPORT

MARCH 1994

TABLE OF CONTENTS

I. INTRODUCTION

This report summarizes the March 1994 eddy current inspection results of the Calvert Cliffs Unit 1 Steam Generators. The report contains a brief description of the inspection plan, tabular summaries of the inspection results and detailed lists of the indications identified by the inspection.

II. DISCUSSION

The Zetec, Inc. MIZ-18A digital data acquisition system was used to examine the tubes of the Unit 1 Steam Generators. The primary analysis frequency selected was 400 KHz. Frequencies of 800, 100 and 30 KHz were also selected to enhance the data analysis. All eddy current data collected received both a primary and a secondary analysis, in addition to an independent third party review. Zetec was contracted to perform the primary analysis. The secondary analysis was performed by Computer Data Screening (CDS). Prior to conducting data analysis, all of the analysts, including the CDS system, were required to pass a site specific examination.

The scope of the inspection plan was a full length bobbin coil examination of all the in-service tubes in both steam generators. In addition to the 100% bobbin coil inspection, a motorized rotating pancake coil (MRPC) was used to perform a more detailed examination at selected areas of interest throughout both steam generators.

100% of the tubes in both steam generators were examined by MRPC at the hot leg tube sheet expansion transition zone. As a result, three tubes in the 11 Steam Generator were identified with circumferential indications at the hot leg tube sheet expansion transition zone. No tubes in the 12 Steam Generator were identified with circumferential indications.

As a result of eddy current inspection, 32 tubes in the 11 Steam Generator and 30 tubes in the 12 Steam Generator were removed from service with mechanical tube plugs. The three tubes in the 11 Steam Generator identified with circumferential indications were stabilized prior to being plugged.

Table II-1 summarizes the Unit 1 March 1994 Eddy Current Examination results. Appendices I and II contain detailed lists of all eddy current bobbin coil indications found during this examination. The examination results were consistent with the known, active corrosion mechanisms present in the both steam generators.

TABLE II - I

Unit One Eddy Current Inspection Results

	SG 11	SG 12
Number of In-service Tubes	8401	8442
Percent of In-service Tubes Inspected	100%	100%
Number of Indications <20% (Imperfections)	97	103
Number of Tubes with <20% Indications	92	100
Percent of Tubes with <20% Indications	1.10%	1.18%
Number of Indications 20-39% (Degraded)	59	103
Number of Tubes with 20-39% Indications	56	94
Percent of Tubes with 20-39% Indications	0.67%	1.11%
Number of Indications >39% (Defective)	8	12
Number of Tubes with >39% Indications	5	10
Percent of Tubes with >39% Indications	0.06%	0.12%
Number of Tubes Plugged this Outage	32	30
Total Tubes Plugged	150	107
Percent of Tubes Plugged	1.76%	1.26%

NOTE: Tubes which contained more than one indication in more than one category (<20%, 20-39%, and >39%) are listed in all appropriate categories.

APPENDIX I

Eddy Current Test Results for 11 Steam Generator

A. Plot with List of All Indications March 1994

B. Plot with List of <20% Indications March 1994

C. Plot with List of 20% - 39% Indications March 1994

D. Plot with List of >39% Indications March 1994

E. Plot with List of Tubes Plugged March 1994

F. Plot with List of All Tubes Plugged All Outages

STEAM GENERATOR 11

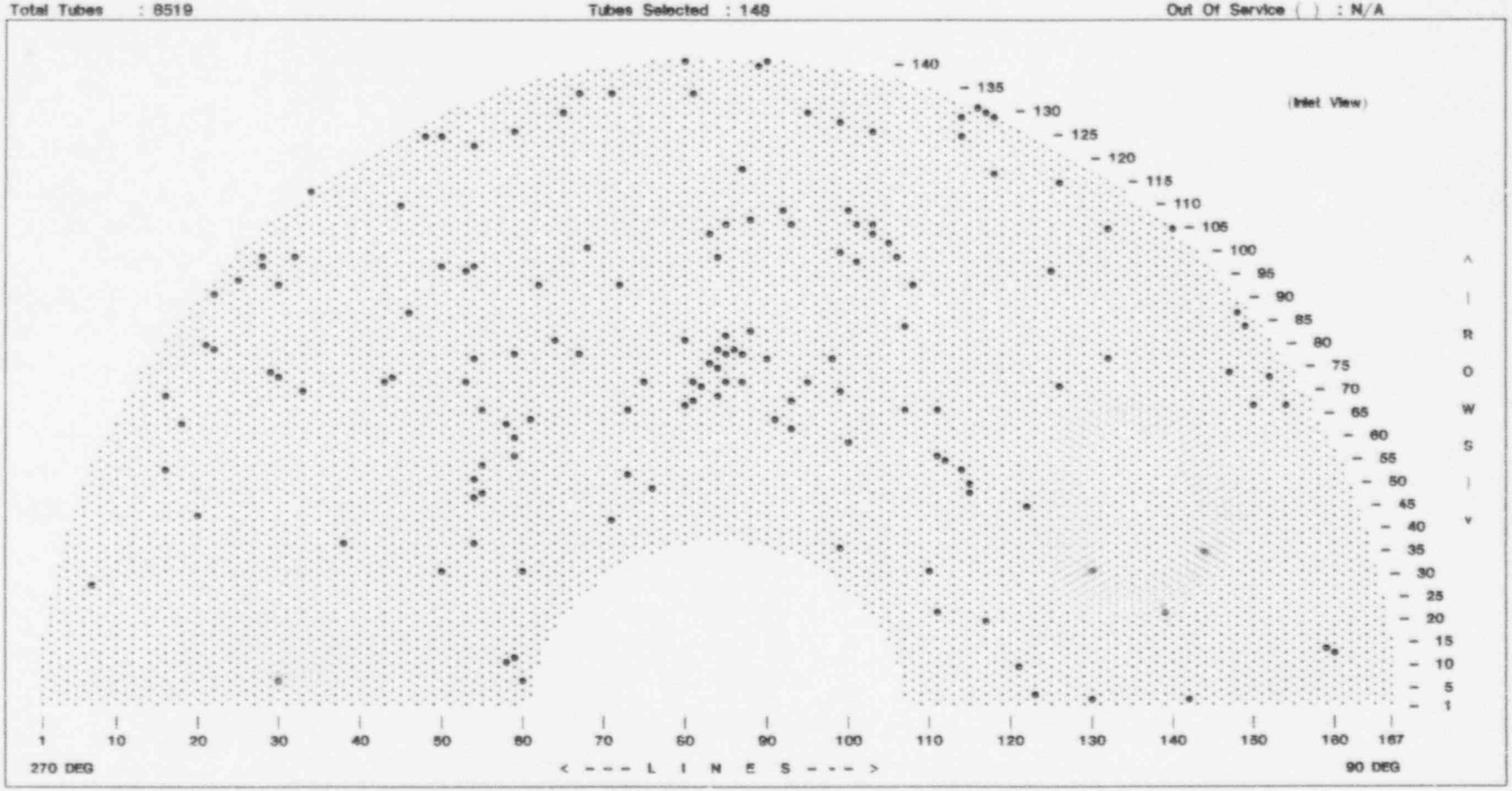
A. Plot with List of All Indications March 1994

THESE ARE ALL OF THE ODi INDICATIONS FOUND IN THE 1994 INSPECTION

Calvert Cliffs - Unit 1
Total Tubes : 8519

Tubes Selected : 148

S/G 11
Out Of Service ( ) : N/A



● IDI - 0

● ODI - 148

THESE ARE ALL OF THE ODI INDICATIONS
FOUND IN THE 1994 INSPECTION

COUNT	ROW	LINE	IND	%TW	VOLTS	LOCATION	
1.	2	130	ODI	5	0.23	H5	+33.36
2.	2	142	ODI	3	0.80	H6	+4.25
3.	3	123	ODI	31	0.49	TSC	+0.84
4.	6	30	ODI	15	0.68	C2	+16.28
5.	6	60	ODI	11	0.60	TSC	+2.20
6.	9	121	ODI	70	2.56	VM	+0.00
7.			ODI	80	3.05	VM	+0.00
8.	10	58	ODI	11	0.75	TSH	+2.28
9.	11	59	ODI	18	0.62	TSC	+1.30
10.	12	160	ODI	33	0.91	H2	+4.14
11.	13	159	ODI	6	0.78	C2	+29.03
12.	19	117	ODI	1	0.79	H2	+17.69
13.	21	111	ODI	18	0.52	TSH	+1.00
14.	21	139	ODI	20	0.99	TSH	+0.96
15.	27	7	ODI	31	0.41	TSH	+3.53
16.	30	50	ODI	4	0.68	C1	+24.98
17.	30	60	ODI	17	1.06	C5	+2.56
18.	30	110	ODI	15	0.48	TSH	+0.81
19.	30	130	ODI	25	1.24	H5	+5.89
20.			ODI	35	0.94	H6	+3.71
21.	34	144	ODI	4	1.16	C4	+27.25
22	35	99	ODI	22	0.54	H4	+0.45
23.			ODI	27	0.65	H4	+0.91
24.	36	38	ODI	7	0.72	H2	+28.82
25.	36	54	ODI	13	1.02	H5	+25.15
26.	41	71	ODI	14	1.00	H2	+36.96
27.	42	20	ODI	24	1.28	H2	+21.91
28.	44	122	ODI	13	0.57	TSH	+1.27
29.	46	54	ODI	27	0.77	TSH	+1.17
30.	47	55	ODI	37	0.53	TSH	+1.88
31.	47	115	ODI	27	0.45	TSH	+1.22
32.	48	76	ODI	5	0.75	C5	+31.98
33.	49	115	ODI	27	0.54	H1	-1.38
34.	50	54	ODI	24	1.75	TSH	+1.07
35.	51	73	ODI	6	1.01	H4	+8.00
36.	52	16	ODI	14	1.40	C4	+2.68
37.	52	114	ODI	20	1.64	TSH	+0.85
38.	53	55	ODI	18	3.25	TSH	+0.85
39.	54	112	ODI	18	0.71	TSH	+1.18
40.	55	59	ODI	18	1.47	TSH	+0.93
41.	55	111	ODI	15	0.85	TSH	+2.19
42.	58	100	ODI	36	0.40	TSH	+1.06
43.	59	59	ODI	29	0.69	TSH	+2.40
44.	61	93	ODI	19	1.18	H3	+30.59
45.	62	18	ODI	29	1.55	C5	+1.37
46.	62	58	ODI	6	1.51	H2	+22.04
47.	63	61	ODI	6	0.82	H3	+10.59
48.	63	91	ODI	15	0.97	TSH	+3.15
49.	65	55	ODI	30	2.14	H3	+1.25
50.	65	73	ODI	13	0.44	TSH	+1.74
51.	65	107	ODI	32	0.53	TSH	+1.45
52.	65	111	ODI	30	1.15	H7	+13.46
53.	66	80	ODI	17	1.37	H3	+5.13
54.	66	150	ODI	5	1.39	C8	+52.71
55.	66	154	ODI	5	0.74	H3	+20.05
56.	67	81	ODI	14	1.58	C5	+10.19
57.	67	93	ODI	35	0.72	TSH	+0.87
58.	68	16	ODI	11	0.62	C3	+0.26
59.	68	84	ODI	15	0.41	C3	+33.48
60.	69	33	ODI	16	0.72	H3	+14.34
61.	69	99	ODI	29	0.75	TSH	+0.86
62.	70	82	ODI	16	0.71	TSH	+1.99
63.	70	126	ODI	2	1.20	C1	+25.48
64.	71	43	ODI	14	0.98	H3	+18.34
65.	71	53	ODI	21	0.53	TSH	-0.45

THESE ARE ALL OF THE ODI INDICATIONS
FOUND IN THE 1994 INSPECTION

COUNT	ROW	LINE	IND	%TW	VOLTS	LOCATION	
66.	71	75	ODI	19	0.71	TSH	+1.10
67.	71	81	ODI	23	0.42	TSH	+1.03
68.	71	85	ODI	35	0.90	TSH	+0.84
69.	71	87	ODI	34	1.04	TSH	+0.73
70.	71	95	ODI	11	0.57	TSH	+1.60
71.	72	30	ODI	16	1.04	C1	+26.33
72.	72	44	ODI	10	1.63	H5	+9.92
73.	72	152	ODI	3	0.94	H3	+32.32
74.	73	29	ODI	1	1.51	C8	+15.15
75.	73	147	ODI	20	0.60	TSH	+24.45
76.	74	84	ODI	33	0.73	TSH	+10.28
77.	75	83	ODI	28	0.73	TSH	+1.16
78.	76	54	ODI	36	0.42	H8	+5.58
79.	76	90	ODI	25	1.72	TSH	+2.24
80.	76	98	ODI	10	1.42	H5	+4.90
81.	76	132	ODI	9	0.70	H4	+24.76
82.			ODI	17	1.34	H4	+13.25
83.	77	59	ODI	14	1.40	H6	+13.78
84.	77	67	ODI	17	0.90	VH	+23.73
85.	77	85	ODI	20	0.93	TSH	+1.69
86.			ODI	53	0.64	TSH	+1.16
87.	77	87	ODI	36	0.89	TSH	+1.00
88.	78	22	ODI	15	0.91	C6	+22.69
89.			ODI	23	1.18	C7	+8.91
90.	78	84	ODI	25	0.94	TSH	+0.83
91.	78	86	ODI	14	0.46	TSH	+1.18
92.	79	21	ODI	3	1.56	C1	+17.24
93.	80	64	ODI	19	0.84	VH	+13.22
94.	80	80	ODI	31	0.75	H1	+29.37
95.	81	85	ODI	9	1.12	H5	+17.03
96.	82	88	ODI	7	1.01	C3	+29.41
97.	83	107	ODI	2	0.84	C2	+5.47
98.	83	149	ODI	16	0.74	H2	+8.03
99.	86	46	ODI	13	1.80	C2	+10.26
100.	86	148	ODI	12	0.69	VM	+11.09
101.	90	22	ODI	3	0.31	C2	+30.59
102.	92	30	ODI	18	1.67	H5	+7.41
103.	92	62	ODI	9	0.82	TSC	+19.28
104.	92	72	ODI	9	1.24	C2	+15.80
105.	92	108	ODI	2	1.08	H8	+13.81
106.	93	25	ODI	33	1.07	VM	+28.72
107.	95	53	ODI	20	1.27	C4	+27.79
108.	95	125	ODI	30	0.75	H5	-0.01
109.	96	28	ODI	10	0.65	H1	+0.00
110.	96	50	ODI	6	1.22	C7	+12.67
111.	96	54	ODI	25	0.61	VH	+2.70
112.	97	101	ODI	11	1.77	TSH	+1.39
113.	98	28	ODI	25	1.69	DH	+6.97
114.	98	32	ODI	10	1.39	H4	+20.23
115.	98	84	ODI	1	0.77	TSC	+21.84
116.	98	106	ODI	14	0.77	TSH	+1.28
117.	99	99	ODI	13	1.02	TSH	+0.96
118.	100	68	ODI	6	1.41	C1	+20.99
119.	101	105	ODI	10	0.93	TSH	+1.19
120.	103	83	ODI	18	1.25	H5	+8.25
121.			ODI	22	0.93	H5	+4.57
122.	103	103	ODI	31	0.43	TSH	+1.46
123.	104	132	ODI	28	1.69	H3	+6.41
124.	104	140	ODI	13	0.80	C3	+20.69
125.	105	85	ODI	2	0.32	DH	+7.98
126.	105	93	ODI	6	0.89	C2	+12.93
127.			ODI	16	0.91	C2	+35.77
128.	105	101	ODI	11	1.19	C4	+20.07
129.	105	103	ODI	33	0.83	H7	+10.69
130.	106	88	ODI	53	1.55	VM	+0.00

THESE ARE ALL OF THE ODI INDICATIONS
FOUND IN THE 1994 INSPECTION

COUNT	ROW	LINE	IND	%TW	VOLTS	LOCATION	
131.	108	92	ODI	6	1.26	H8	+5.40
132.	108	100	ODI	21	1.50	H2	+27.58
133.	109	45	ODI	27	0.99	VM	+10.18
134.	112	34	ODI	37	0.53	C4	+34.33
135.	114	126	ODI	17	1.00	DH	+12.16
136.	116	118	ODI	2	1.10	C9	+10.42
137.	117	87	ODI	26	1.11	VC	+11.59
138.	122	54	ODI	32	1.10	H9	+18.66
139.	124	48	ODI	10	1.53	H9	+5.17
140.			ODI	27	1.71	H3	+4.18
141.	124	50	ODI	13	1.08	DH	+16.94
142.			ODI	32	0.83	DH	+13.40
143.			ODI	36	1.37	DH	+9.71
144.	124	114	ODI	7	0.87	C3	+37.26
145.			ODI	16	0.94	C3	+33.63
146.	125	59	ODI	6	1.23	C3	+16.44
147.			ODI	16	1.61	C4	+3.37
148.	125	103	ODI	2	0.66	C8	+15.65
149.	127	99	ODI	4	1.38	C1	+33.87
150.	128	114	ODI	19	0.87	TSH	+0.62
151.	128	118	ODI	1	1.31	C6	+7.90
152.			ODI	2	1.31	C6	+7.70
153.	129	65	ODI	29	1.60	H6	+23.49
154.	129	95	ODI	2	0.93	C1	+10.47
155.	129	117	ODI	7	0.60	C7	+22.32
156.	130	116	ODI	43	0.58	H2	+1.16
157.			ODI	51	0.88	H2	+1.16
158.			ODI	93	1.66	H2	+1.16
159.	133	67	ODI	27	0.42	TSC	+0.85
160.	133	71	ODI	31	1.01	H3	+7.78
161.	133	81	ODI	7	1.34	C6	+10.71
162.	135	89	ODI	54	1.31	TSC	+18.25
163.	140	80	ODI	23	0.71	TSC	+19.62
164.	140	90	ODI	24	0.91	TSC	+18.53

Total Indications Found = 164
Total Tubes Found = 148

STEAM GENERATOR 11

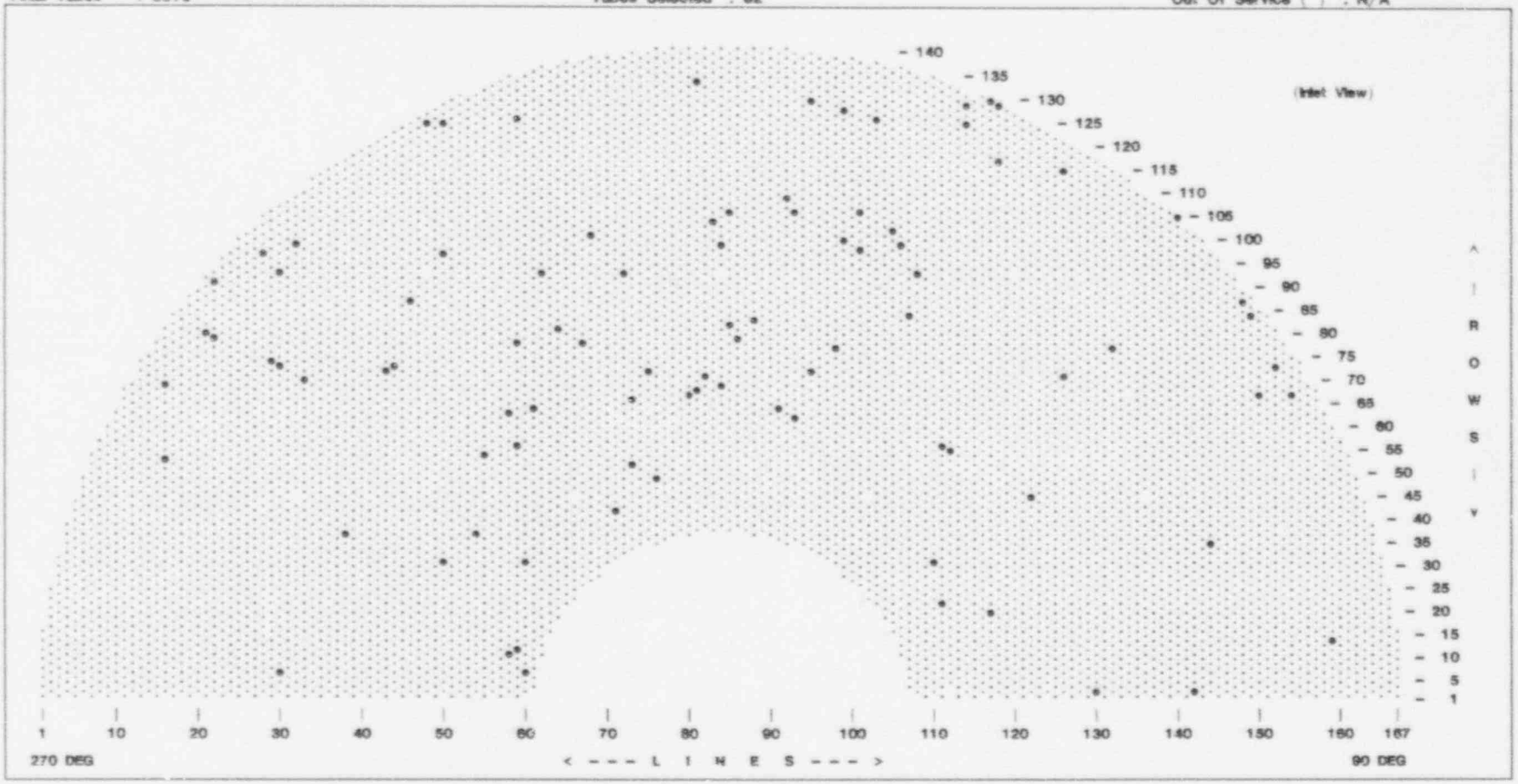
B. Plot with List of <20% Indications March 1994

THESE ARE ALL OF THE 1% TO 19% INDICATIONS FOUND IN THE 1994 INSPECTION

Calvert Cliffs – Unit 1
Total Tubes : 8519

Tubes Selected : 92

S/G 11
Out Of Service ( ) : N/A



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1 - 19% ODI, IDI INDICATIONS
THESE TUBES ARE IMPERFECTIONS PER TECH. SPEC.

COUNT	ROW	LINE	IND	%TW	VOLTS	LOCATION	
1.	2	130	ODI	5	0.23	H5	+33.36
2.	2	142	ODI	3	0.80	H6	+4.25
3.	6	30	ODI	15	0.68	C2	+16.28
4.	6	60	ODI	11	0.60	TSC	+2.20
5.	10	58	ODI	11	0.75	TSH	+2.28
6.	11	59	ODI	18	0.62	TSC	+1.30
7.	13	159	ODI	6	0.78	C2	+29.03
8.	19	117	ODI	1	0.79	H2	+17.69
9.	21	111	ODI	18	0.52	TSH	+1.00
10.	30	50	ODI	4	0.68	C1	+24.98
11.	30	60	ODI	17	1.06	C5	+2.56
12.	30	110	ODI	15	0.48	TSH	+0.81
13.	34	144	ODI	4	1.16	C4	+27.25
14.	36	38	ODI	7	0.72	H2	+28.82
15.	36	54	ODI	13	1.02	H5	+25.15
16.	41	71	ODI	14	1.00	H2	+36.96
17.	44	122	ODI	13	0.57	TSH	+1.27
18.	48	76	ODI	5	0.75	C5	+31.98
19.	51	73	ODI	6	1.01	H4	+8.00
20.	52	16	ODI	14	1.40	C4	+2.68
21.	53	55	ODI	18	3.25	TSH	+0.85
22.	54	112	ODI	18	0.71	TSH	+1.18
23.	55	59	ODI	18	1.47	TSH	+0.93
24.	55	111	ODI	15	0.85	TSH	+2.19
25.	61	93	ODI	19	1.18	H3	+30.59
26.	62	58	ODI	6	1.51	H2	+22.04
27.	63	61	ODI	6	0.82	H3	+10.59
28.	63	91	ODI	15	0.97	TSH	+3.15
29.	65	73	ODI	13	0.44	TSH	+1.74
30.	66	80	ODI	17	1.37	H3	+5.13
31.	66	150	ODI	5	1.39	C8	+52.71
32.	66	154	ODI	5	0.74	H3	+20.05
33.	67	81	ODI	14	1.58	C5	+10.19
34.	68	16	ODI	11	0.62	C3	+0.26
35.	68	84	ODI	15	0.41	C3	+33.48
36.	69	33	ODI	16	0.72	H3	+14.34
37.	70	82	ODI	16	0.71	TSH	+1.99
38.	70	126	ODI	2	1.20	C1	+25.48
39.	71	43	ODI	14	0.98	H3	+18.34
40.	71	75	ODI	19	0.71	TSH	+1.10
41.	71	95	ODI	11	0.57	TSH	+1.60
42.	72	30	ODI	16	1.04	C1	+26.33
43.	72	44	ODI	10	1.63	H5	+9.92
44.	72	152	ODI	3	0.94	H3	+32.32
45.	73	29	ODI	1	1.51	C8	+15.15
46.	76	98	ODI	10	1.42	H5	+4.90
47.	76	132	ODI	9	0.70	H4	+24.76
48.			ODI	17	1.34	H4	+13.25
49.	77	59	ODI	14	1.40	H6	+13.78
50.	77	67	ODI	17	0.90	VH	+23.73
51.	78	22	ODI	15	0.91	C6	+22.69
52.	78	86	ODI	14	0.46	TSH	+1.18
53.	79	21	ODI	3	1.56	C1	+17.24
54.	80	64	ODI	19	0.84	VH	+13.22
55.	81	85	ODI	9	1.12	H5	+17.03
56.	82	88	ODI	7	1.01	C3	+29.41
57.	83	107	ODI	2	0.84	C2	+5.47
58.	83	149	ODI	16	0.74	H2	+8.03
59.	86	46	ODI	13	1.80	C2	+10.26
60.	86	148	ODI	12	0.69	VM	+11.09
61.	90	22	ODI	3	0.31	C2	+30.59
62.	92	30	ODI	18	1.67	H5	+7.41
63.	92	62	ODI	9	0.82	TSC	+19.28
64.	92	72	ODI	9	1.24	C2	+15.80
65.	92	108	ODI	2	1.08	H8	+13.81

1 - 19% ODI, IDI INDICATIONS
THESE TUBES ARE IMPERFECTIONS PER TECH. SPEC.

COUNT	ROW	LINE	IND	%TW	VOLTS	LOCATION	
66.	96	28	ODI	10	0.65	H1	+0.00
67.	96	50	ODI	6	1.22	C7	+12.67
68.	97	101	ODI	11	1.77	TSH	+1.39
69.	98	32	ODI	10	1.39	H4	+20.23
70.	98	84	ODI	1	0.77	TSC	+21.84
71.	98	106	ODI	14	0.77	TSH	+1.28
72.	99	99	ODI	13	1.02	TSH	+0.96
73.	100	68	ODI	6	1.41	C1	+20.99
74.	101	105	ODI	10	0.93	TSH	+1.19
75.	103	83	ODI	18	1.25	H5	+8.25
76.	104	140	ODI	13	0.80	C3	+20.69
77.	105	85	ODI	2	0.32	DH	+7.98
78.	105	93	ODI	6	0.89	C2	+12.93
79.			ODI	16	0.91	C2	+35.77
80.	105	101	ODI	11	1.19	C4	+20.07
81.	108	92	ODI	6	1.26	H8	+5.40
82.	114	126	ODI	17	1.00	DH	+12.16
83.	116	118	ODI	2	1.10	C9	+10.42
84.	124	48	ODI	10	1.53	H9	+5.17
85.	124	50	ODI	13	1.08	DH	+16.94
86.	124	114	ODI	7	0.87	C3	+37.26
87.			ODI	16	0.94	C3	+33.63
88.	125	59	ODI	6	1.23	C3	+16.44
89.			ODI	16	1.61	C4	+3.37
90.	125	103	ODI	2	0.66	C8	+15.65
91.	127	99	ODI	4	1.38	C1	+33.87
92.	128	114	ODI	19	0.87	TSH	+0.62
93.	128	118	ODI	1	1.31	C6	+7.90
94.			ODI	2	1.31	C6	+7.70
95.	129	95	ODI	2	0.93	C1	+10.47
96.	129	117	ODI	7	0.60	C7	+22.32
97.	133	81	ODI	7	1.34	C6	+10.71

Total Indications Found = 97
Total Tubes Found = 92

STEAM GENERATOR 11

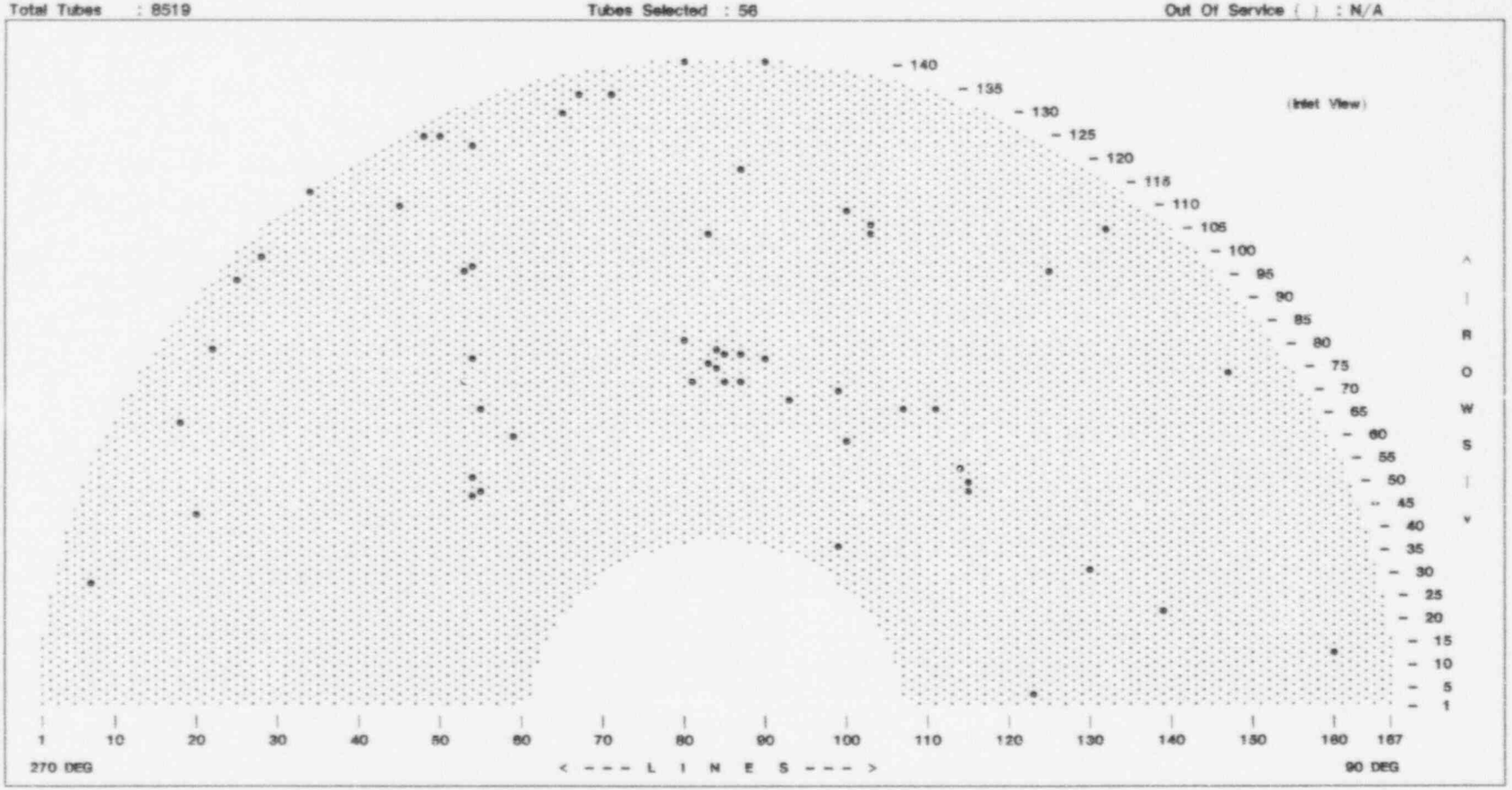
C. Plot with List of 20% - 39% Indications March 1994

THESE ARE ALL OF THE 20% TO 39% INDICATIONS FOUND IN THE 1994 INSPECTION

Calvert Cliffs – Unit 1
Total Tubes : 8519

Tubes Selected : 56

S/G 11
Out Of Service ( ) : N/A



● 001 – 0

● 000 – 56

20% TO 39% ODI, IDI INDICATIONS
THESE TUBES ARE DEGRADED PER TECH. SPEC.

COUNT	ROW	LINE	IND	%TW	VOLTS	LOCATION	
1.	3	123	ODI	31	0.49	TSC	+0.84
2.	12	160	ODI	33	0.91	H2	+4.14
3.	21	139	ODI	20	0.99	TSH	+0.96
4.	27	7	ODI	31	0.41	TSH	+3.53
5.	30	130	ODI	25	1.24	H5	+5.89
6.			ODI	35	0.94	H6	+3.71
7.	35	99	ODI	22	0.54	H4	+0.45
8.			ODI	27	0.65	H4	+0.91
9.	42	20	ODI	24	1.28	H2	+21.91
10.	46	54	ODI	27	0.77	TSH	+1.17
11.	47	55	ODI	37	0.53	TSH	+1.88
12.	47	115	ODI	27	0.45	TSH	+1.22
13.	49	115	ODI	27	0.54	H1	-1.38
14.	50	54	ODI	24	1.75	TSH	+1.07
15.	52	114	ODI	20	1.64	TSH	+0.85
16.	58	100	ODI	36	0.40	TSH	+1.06
17.	59	59	ODI	29	0.69	TSH	+2.40
18.	62	18	ODI	29	1.55	C5	+1.37
19.	65	55	ODI	30	2.14	H3	+1.25
20.	65	107	ODI	32	0.53	TSH	+1.45
21.	65	111	ODI	30	1.15	H7	+13.46
22.	67	93	ODI	35	0.72	TSH	+0.87
23.	69	99	ODI	29	0.75	TSH	+0.86
24.	71	53	ODI	21	0.53	TSH	-0.45
25.	71	81	ODI	23	0.42	TSH	+1.03
26.	71	85	ODI	35	0.90	TSH	+0.84
27.	71	87	ODI	34	1.04	TSH	+0.73
28.	73	147	ODI	20	0.60	TSH	+24.45
29.	74	84	ODI	33	0.73	TSH	+10.28
30.	75	83	ODI	28	0.73	TSH	+1.16
31.	76	54	ODI	36	0.42	H8	+5.58
32.	76	90	ODI	25	1.72	TSH	+2.24
33.	77	85	ODI	20	0.93	TSH	+1.69
34.	77	87	ODI	36	0.89	TSH	+1.00
35.	78	22	ODI	23	1.18	C7	+8.91
36.	78	84	ODI	25	0.94	TSH	+0.83
37.	80	90	ODI	31	0.75	H1	+29.37
38.	93	25	ODI	33	1.07	VM	+28.72
39.	95	53	ODI	20	1.27	C4	+27.79
40.	95	125	ODI	30	0.75	H5	-0.01
41.	96	54	ODI	25	0.61	VH	+2.70
42.	98	28	ODI	25	1.69	DH	+6.97
43.	103	83	ODI	22	0.93	H5	+4.57
44.	103	103	ODI	31	0.43	TSH	+1.46
45.	104	132	ODI	28	1.69	H3	+6.41
46.	105	103	ODI	33	0.83	H7	+10.69
47.	108	100	ODI	21	1.50	H2	+27.58
48.	109	45	ODI	27	0.99	VM	+10.18
49.	112	34	ODI	37	0.53	C4	+34.33
50.	117	87	ODI	26	1.11	VC	+11.59
51.	122	54	ODI	32	1.10	H9	+18.66
52.	124	48	ODI	27	1.71	H3	+4.18
53.	124	50	ODI	32	0.83	DH	+13.40
54.			ODI	36	1.37	DH	+9.71
55.	129	65	ODI	29	1.60	H6	+23.49
56.	133	67	ODI	27	0.42	TSC	+0.85
57.	133	71	ODI	31	1.01	H3	+7.78
58.	140	80	ODI	23	0.71	TSC	+19.62
59.	140	90	ODI	24	0.91	TSC	+18.53

Total Indications Found = 59
Total Tubes Found = 56

→

STEAM GENERATOR 11

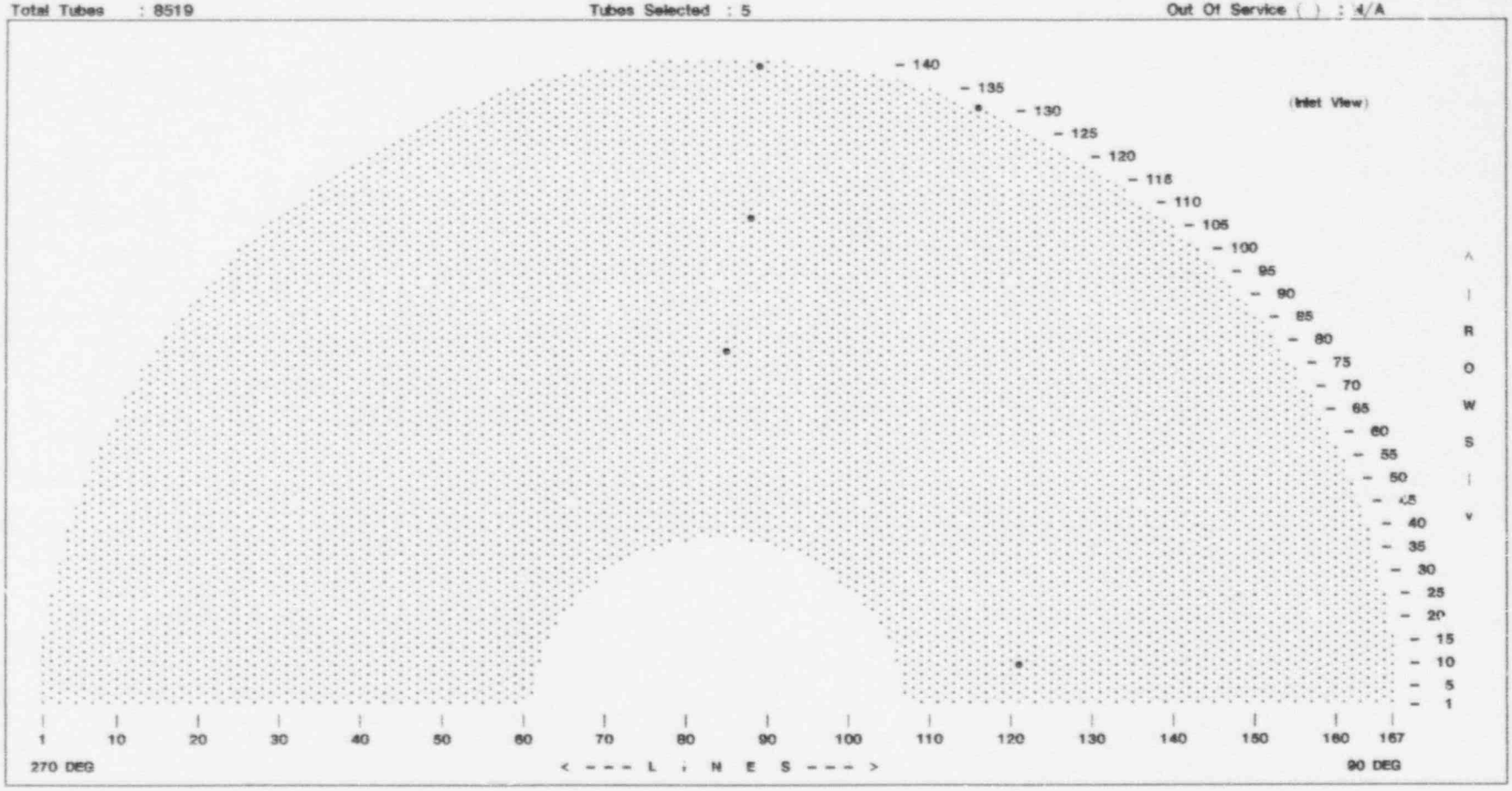
D. Plot with List of >39% Indications March 1994

THESE ARE ALL OF THE 40% TO 100% INDICATIONS FOUND IN THE 1994 INSPECTION

Calvert Cliffs - Unit 1
Total Tubes : 8519

Tubes Selected : 5

S/G 11
Out Of Service ( ) : 4/A



● IDI - 0

● ODI - 5

********** BWNS TUBAN II (Version 2.0) 01/17/1995 12:27:03 **********
********** Calvert Cliffs - Unit 1 **********
********** S/G 11 **********
********** 94 MARCH **********
********** Bobbin **********

40% TO 100% ODI, IDI, INDICATIONS
THESE TUBES ARE DEFECTIVE PER TECH. SPEC.

COUNT	ROW	LINE	IND	%TW	VOLTS	LOCATION	
1.	9	121	ODI	70	2.56	VM	+0.00
2.			ODI	80	3.05	VM	+0.00
3.	77	85	ODI	53	0.64	TSH	+1.16
4.	106	88	ODI	53	1.55	VM	+0.00
5.	130	116	ODI	43	0.58	H2	+1.16
6.			ODI	51	0.88	H2	+1.16
7.			ODI	93	1.66	H2	+1.16
8.	139	89	ODI	54	1.31	TSC	+18.25

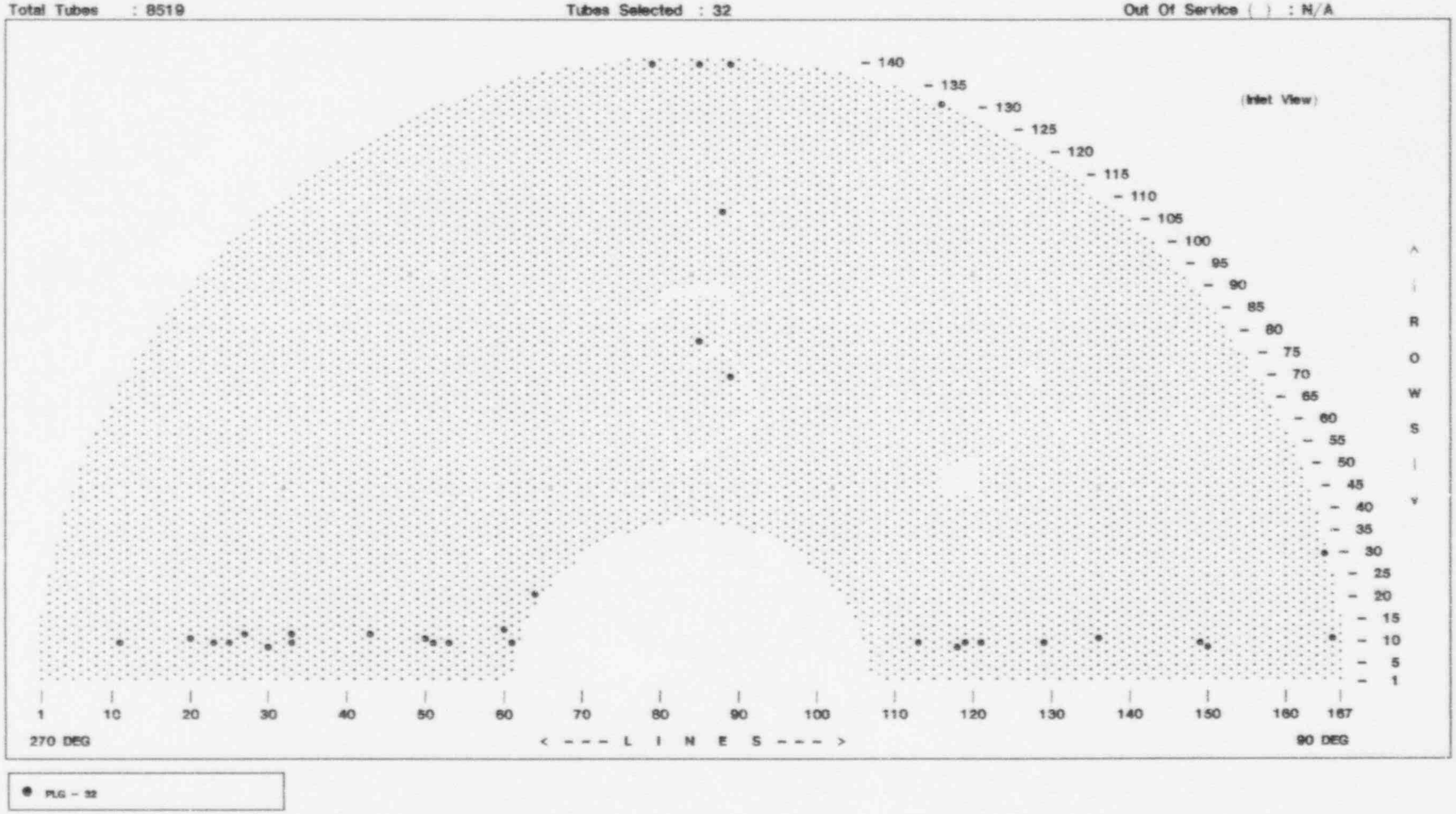
Total Indications Found = 8
Total Tubes Found = 5

STEAM GENERATOR 11

E. Plot with List of Tubes Plugged March 1994

#11 STEAM GENERATOR
TUBES PLUGGED IN THE 1994 OUTAGE

Calvert Cliffs – Unit 1
Total Tubes : 8519
Tubes Selected : 32
S/G 11
Out Of Service ( ) : N/A



SWNS TUBAN II – 01/17/1995 14:49:24

#11 STEAM GENERATOR
TUBES PLUGGED IN THE 1994 OUTAGE

	COLUMN	ROW	LINE	TYPE&MANUFACTURER	REASON FOR PLUGGING
1.	8	30		MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-SAI)
2.	8	118		MECH-WESTINGHOUSE	APT AT VM 0.00
3.	8	150		MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-VOL)IR
4.	9	11		MECH-WESTINGHOUSE	APT AT VM 0.00
5.	9	23		MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-MAI)
6.	9	25		MECH-WESTINGHOUSE	APT AT VM -0.14
7.	9	33		MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-SAI)
8.	9	51		MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-VOL)
9.	9	53		MECH-WESTINGHOUSE	APT AT VM 0.00
10.	9	61		MECH-WESTINGHOUSE	CIRCUMFERENTIAL IND. AT TSH +0.1*
11.	9	113		MECH-WESTINGHOUSE	APT AT VM 0.00
12.	9	119		MECH-WESTINGHOUSE	APT AT VM 0.00
13.	9	121		MECH-WESTINGHOUSE	80% ODI AT VM 0.00
14.	9	129		MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-SAI)
15.	9	149		MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-VOL)
16.	10	20		MECH-WESTINGHOUSE	APT AT VM 0.00
17.	10	50		MECH-WESTINGHOUSE	APT AT VM 0.36
18.	10	136		MECH-WESTINGHOUSE	APT AT VM 0.00
19.	10	166		MECH-WESTINGHOUSE	APT AT VM 0.00
20.	11	27		MECH-WESTINGHOUSE	APT AT VM 0.00
21.	11	33		MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-VOL)
22.	11	43		MECH-WESTINGHOUSE	APT AT VM 0.00
23.	12	60		MECH-WESTINGHOUSE	CIRCUMFERENTIAL IND. AT TSH 0.11*
24.	20	64		MECH-WESTINGHOUSE	CIRCUMFERENTIAL IND. AT TSH 0.15*
25.	29	165		MECH-WESTINGHOUSE	MULTIPLE AXIAL IND. AT TSH -1.19
26.	69	89		MECH-WESTINGHOUSE	SAI AT TSH 0.44
27.	77	85		MECH-WESTINGHOUSE	53% ODI AT TSH +1.16
28.	106	88		MECH-WESTINGHOUSE	53% ODI AT VM 0.00
29.	130	116		MECH-WESTINGHOUSE	43% ODI AT H2 1.1
30.	139	79		MECH-WESTINGHOUSE	MULTIPLE AXIAL IND. AT TSH -1.05*
31.	139	85		MECH-WESTINGHOUSE	MULTIPLE AXIAL IND. AT TSH -1.20*
32.	139	89		MECH-WESTINGHOUSE	54% ODI AT TSC 18.25(SHORT PLUG)

Total Indications Found = 32
Total Tubes Found = 32

STEAM GENERATOR 11

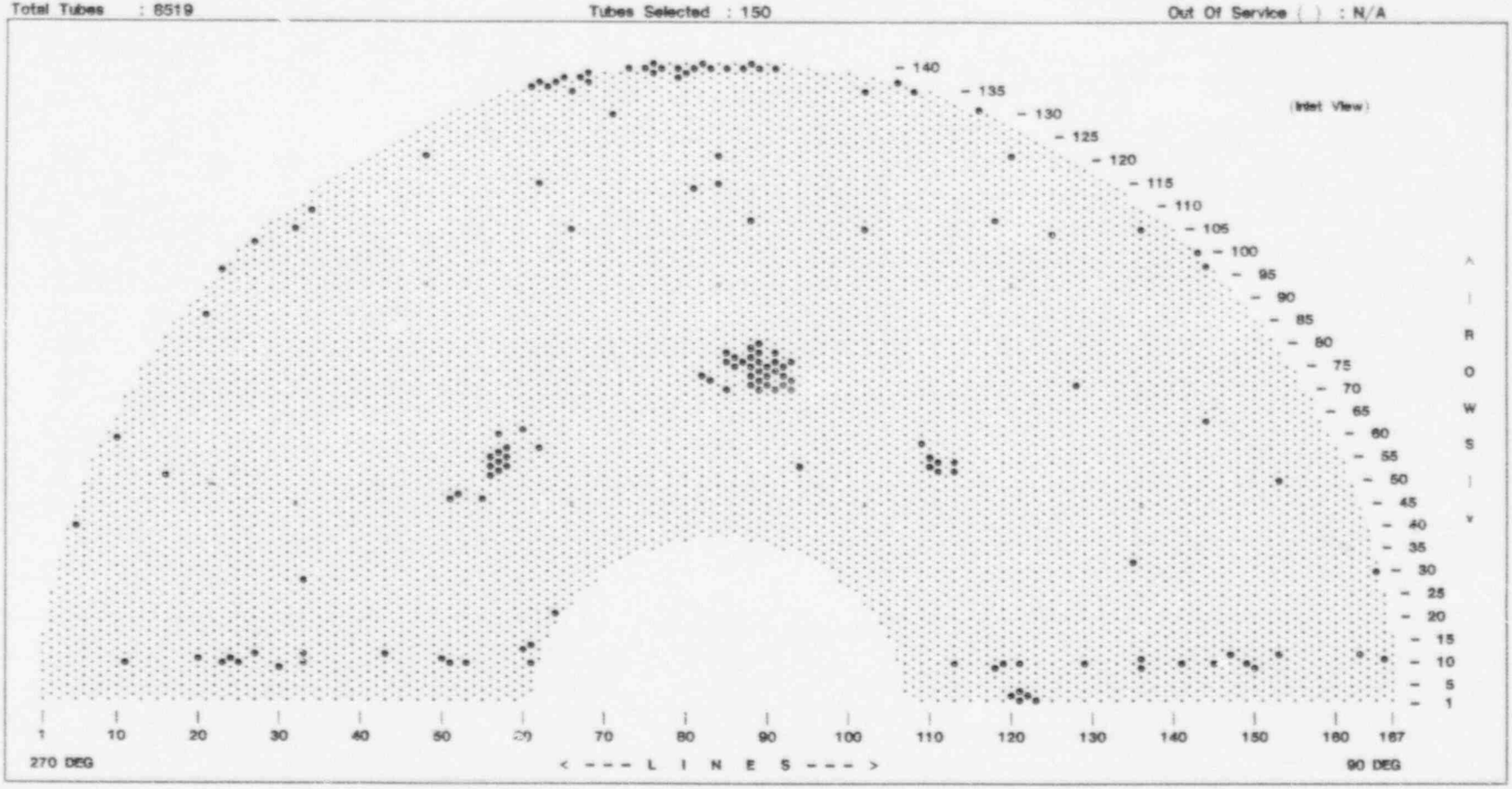
F. Plot with List of All Tubes Plugged All Outages

#11 STEAM GENERATOR
ALL TUBES PLUGGED AS OF JUNE 1994

Calvert Cliffs – Unit 1
Total Tubes : 8519

Tubes Selected : 150

S/G 11
Out Of Service ( ) : N/A



● PLG – 150

EWC TDRN – 8/11/95 14:58:55

#11 STEAM GENERATOR
ALL TUBES PLUGGED UP TO AND INCLUDING THE 1994 OUTAGE

COUNT	ROW	LINE	TYPE&MANUFACTURER	REASON FOR PLUGGING
1.	1	121	MECH-COMBUSTION ENG	43% ODI AT TSC +2.8
2.	1	123	MECH-COMBUSTION ENG	52% ODI AT TSC +0.7
3.	2	120	MECH-COMBUSTION ENG	42% ODI AT TSC +2.3
4.	2	122	MECH-COMBUSTION ENG	55% ODI AT TSC +1.3
5.	3	121	MECH-COMBUSTION ENG	47% ODI AT TSC +1.6
6.	8	30	MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-SAI)
7.	8	118	MECH-WESTINGHOUSE	APT AT VM 0.00
8.	8	136	MECH-WESTINGHOUSE	APT AT VM -0.93
9.	8	150	MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-VOL)
10.	9	11	MECH-WESTINGHOUSE	APT AT VM 0.00
11.	9	23	MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-MAI)
12.	9	25	MECH-WESTINGHOUSE	APT AT VM -0.11
13.	9	33	MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-SAI)
14.	9	51	MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-VOL)
15.	9	53	MECH-WESTINGHOUSE	APT AT VM 0.00
16.	9	61	MECH-WESTINGHOUSE	CIRCUMFERENTIAL IND. AT TSH +0.11
17.	9	113	MECH-WESTINGHOUSE	APT AT VM 0.00
18.	9	119	MECH-WESTINGHOUSE	APT AT VM 0.00
19.	9	121	MECH-WESTINGHOUSE	80% ODI AT VM 0.00
20.	9	129	MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-SAI)
21.	9	141	MECH-WESTINGHOUSE	38% ODI AT VM 0.0
22.	9	145	MECH-WESTINGHOUSE	91% ODI AT VM 0.0
23.	9	149	MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-VOL)
24.	10	20	MECH-WESTINGHOUSE	APT AT VM 0.00
25.	10	24	MECH-WESTINGHOUSE	DI AT TSH +0.0
26.	10	50	MECH-WESTINGHOUSE	APT AT VM 0.36
27.	10	136	MECH-WESTINGHOUSE	APT AT VM 0.00
28.	10	166	MECH-WESTINGHOUSE	APT AT VM 0.00
29.	11	27	MECH-WESTINGHOUSE	APT AT VM 0.00
30.	11	33	MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-VOL)
31.	11	43	MECH-WESTINGHOUSE	APT AT VM 0.00
32.	11	147	MECH-WESTINGHOUSE	57% ODI AT DH +2.1
33.	11	153	MECH-COMBUSTION ENG	43% ODI AT VM
34.	11	163	MECH-COMBUSTION ENG	36% ODI AT VM 0.0
35.	12	60	MECH-WESTINGHOUSE	CIRCUMFERENTIAL IND. AT TSH 0.11
36.	13	61	MECH-WESTINGHOUSE	DRT AT TSH
37.	20	64	MECH-WESTINGHOUSE	CIRCUMFERENTIAL IND. AT TSH 0.15
38.	27	33	MECH-WESTINGHOUSE	59% ODI AT C2 33.8
39.	29	165	MECH-WESTINGHOUSE	MULTIPLE AXIAL IND. AT TSH -1.19
40.	31	135	MECH-WESTINGHOUSE	BULGE FROM TSC TO +23.7
41.	39	5	MECH-COMBUSTION ENG	92% ODI AT DC
42.	45	51	MECH-WESTINGHOUSE	48% ODI AT TSH +0.76
43.	45	55	MECH-WESTINGHOUSE	52% ODI AT TSH +1.03
44.	46	52	MECH-WESTINGHOUSE	38% ODI AT TSH +2.2
45.	49	153	MECH-WESTINGHOUSE	51% ODI AT H3 -0.4
46.	50	16	MECH-WESTINGHOUSE	47% ODI AT H4 +8.67
47.	50	56	MECH-WESTINGHOUSE	23% ODI AT TSH +0.64
48.	51	57	MECH-COMBUSTION ENG	43% ODI AT TSH +0.8
49.	51	111	MECH-WESTINGHOUSE	39% ODI AT TSH +0.8
50.	51	113	MECH-WESTINGHOUSE	62% ODI AT TSH +0.9
51.	52	56	MECH-COMBUSTION ENG	46% ODI AT TSH +1.0
52.	52	58	MECH-WESTINGHOUSE	MULTIPLE INDICATIONS AT TSH
53.	52	94	WELD-COMBUSTION ENG	47% ODI AT TSH +37.4 (REMOVED SECTION)
54.	52	110	MECH-WESTINGHOUSE	23% ODI AT TSH +0.7
55.	53	57	WELD-COMBUSTION ENG	48% ODI AT TSH +0.7 (REMOVED SECTION)
56.	53	111	MECH-WESTINGHOUSE	45% ODI AT TSH +0.4
57.	53	113	MECH-WESTINGHOUSE	48% ODI AT TSH +0.7
58.	54	56	MECH-WESTINGHOUSE	37% ODI AT TSH +0.64
59.	54	58	MECH-WESTINGHOUSE	64% ODI AT TSH +0.64
60.	54	110	MECH-WESTINGHOUSE	34% ODI AT TSH +0.8
61.	55	57	MECH-WESTINGHOUSE	48% ODI AT TSH +0.82
62.	56	58	MECH-WESTINGHOUSE	35% ODI AT TSH +0.79
63.	56	62	MECH-WESTINGHOUSE	BULGE FROM TSH TO TSH +2.0
64.	57	109	MECH-WESTINGHOUSE	17% ODI AT TSH +2.7
65.	58	10	MECH-WESTINGHOUSE	91% ODI AT TSC +14.2

#11 STEAM GENERATOR
ALL TUBES PLUGGED UP TO AND INCLUDING THE 1994 OUTAGE

COUNT	ROW	LINE	TYPE&MANUFACTURER	REASON FOR PLUGGING
66.	59	57	MECH-WESTINGHOUSE	38% ODI AT TSH +1.2
67.	60	60	MECH-WESTINGHOUSE	63% ODI AT TSH +0.8
68.	62	144	MECH-WESTINGHOUSE	50% ODI AT H3 +30.9
69.	69	85	MECH-WESTINGHOUSE	38% ODI AT TSH +1.7
70.	69	89	MECH-WESTINGHOUSE	SAI AT TSH 0.44
71.	69	91	MECH-WESTINGHOUSE	38% ODI AT TSH +0.5
72.	69	93	MECH-WESTINGHOUSE	61% ODI AT TSH +1.1
73.	70	88	MECH-WESTINGHOUSE	59% ODI AT TSH +0.84
74.	70	90	MECH-WESTINGHOUSE	59% ODI AT TSH +1.1
75.	70	92	MECH-WESTINGHOUSE	48% ODI AT TSH +0.8
76.	70	128	WELD-COMBUSTION ENG	7%,15% AT H1+12.9,H2+23.3(REMOVED SECTION)
77.	71	83	MECH-WESTINGHOUSE	44% ODI AT TSH +0.7
78.	71	89	MECH-WESTINGHOUSE	MULTIPLE INDICATIONS 35%,31%-TSH +0.9,+0.6
79.	71	93	MECH-WESTINGHOUSE	MULTIPLE ODI 31%,28%,23,AT TSH +1.1,+1.8,+0.6
80.	72	82	WELD-COMBUSTION ENG	48% ODI AT TSH +0.8 (REMOVED SECTION)
81.	72	88	MECH-WESTINGHOUSE	55% ODI AT TSH +0.89
82.	72	90	MECH-WESTINGHOUSE	MULTIPLE ODI 38%,34% AT TSH +0.6,+1.2
83.	72	92	MECH-WESTINGHOUSE	63% ODI AT TSH +1.1
84.	73	89	MECH-WESTINGHOUSE	47% ODI AT TSH +0.5
85.	73	91	MECH-WESTINGHOUSE	89% ODI AT TSH +0.5
86.	74	86	MECH-WESTINGHOUSE	49% ODI AT TSH +0.6
87.	74	88	MECH-WESTINGHOUSE	23% ODI AT TSH +1.0
88.	74	90	WELD-COMBUSTION ENG	60% ODI AT TSH +0.8 (REMOVED SECTION)
89.	74	92	MECH-WESTINGHOUSE	62% ODI AT TSH +0.6
90.	75	85	MECH-WESTINGHOUSE	46% ODI AT TSH +0.7
91.	75	87	MECH-WESTINGHOUSE	38% ODI AT TSH +0.6
92.	75	89	MECH-WESTINGHOUSE	52% ODI AT TSH +0.8
93.	75	91	MECH-WESTINGHOUSE	47% ODI AT TSH +0.8
94.	75	93	MECH-WESTINGHOUSE	41% ODI AT TSH +2.8
95.	76	86	MECH-WESTINGHOUSE	45% ODI AT TSH +0.79
96.	76	88	MECH-WESTINGHOUSE	52% ODI AT TSH +1.28
97.	77	85	MECH-WESTINGHOUSE	53% ODI AT TSH +1.16
98.	77	89	MECH-WESTINGHOUSE	43% ODI AT TSH +1.8
99.	77	91	WELD-COMBUSTION ENG	45% ODI AT TSH +2.0 (REMOVED SECTION)
100.	78	88	MECH-WESTINGHOUSE	42% ODI AT TSH +1.4
101.	79	89	MECH-WESTINGHOUSE	31% ODI AT TSH +1.7
102.	85	21	MECH-WESTINGHOUSE	56% ODI AT C5 +4.8
103.	95	23	MECH-WESTINGHOUSE	RIM CUT (BURN THROUGH)
104.	96	144	MECH-WESTINGHOUSE	22% ODI AT VM (REMOVED SECTION)
105.	99	143	MECH-WESTINGHOUSE	20% ODI AT VM (REMOVED SECTION)
106.	101	27	MECH-COMBUSTION ENG	72% ODI AT C4 0.0
107.	103	125	MECH-WESTINGHOUSE	54% ODI AT VH 0.0
108.	104	32	MECH-WESTINGHOUSE	RIM CUT ,STAKING LOCATION #1
109.	104	66	MECH-WESTINGHOUSE	RIM CUT ,STAKING LOCATION #4
110.	104	102	MECH-WESTINGHOUSE	RIM CUT ,STAKING LOCATION #7
111.	104	136	MECH-WESTINGHOUSE	RIM CUT ,STAKING LOCATION #9
112.	106	88	MECH-WESTINGHOUSE	53% ODI AT VM 0.00
113.	106	118	MECH-COMBUSTION ENG	43% ODI AT C7 +15.0
114.	108	34	MECH-COMBUSTION ENG	27% ODI AT DH 0.0
115.	113	81	MECH-WESTINGHOUSE	DRT AT TSH
116.	114	62	MECH-COMBUSTION ENG	42% ODI AT VM
117.	114	84	MECH-COMBUSTION ENG	31% ODI AT VH 0.0
118.	120	48	MECH-WESTINGHOUSE	RIM CUT ,STAKING LOCATION #2
119.	120	84	MECH-WESTINGHOUSE	RIM CUT ,STAKING LOCATION #5
120.	120	120	MECH-WESTINGHOUSE	RIM CUT ,STAKING LOCATION #8
121.	129	71	MECH-WESTINGHOUSE	PV AT C4 +6.6
122.	130	116	MECH-WESTINGHOUSE	43% ODI AT H2 1.16
123.	134	66	MECH-WESTINGHOUSE	RIM CUT ,STAKING LOCATION #3
124.	134	102	MECH-WESTINGHOUSE	RIM CUT ,STAKING LOCATION #6
125.	134	108	MECH-WESTINGHOUSE	48% ODI AT TSH +12.6
126.	135	61	MECH-WESTINGHOUSE	RIM CUT ,BURN THROUGH
127.	135	63	MECH-WESTINGHOUSE	RIM CUT ,BURN THROUGH
128.	136	62	MECH-WESTINGHOUSE	RIM CUT (BURN THROUGH)
129.	136	64	MECH-WESTINGHOUSE	RIM CUT ,BURN THROUGH
130.	136	68	MECH-WESTINGHOUSE	56% ODI AT TSC +10.6

#11 STEAM GENERATOR
ALL TUBES PLUGGED UP TO AND INCLUDING THE 1994 OUTAGE

COUNT	ROW	LINE	TYPE&MANUFACTURER	REASON FOR PLUGGING
131.	136	106	MECH-WESTINGHOUSE	48% ODI AT H6 +15.0
132.	137	65	MECH-WESTINGHOUSE	RIM CUT ,BURN THROUGH
133.	137	67	MECH-COMBUSTION ENG	51% ODI AT TSC +10.2
134.	137	79	MECH-COMBUSTION ENG	43% ODI AT C10 +7.6
135.	138	68	MECH-WESTINGHOUSE	36% ODI AT TSC +10.4
136.	138	76	MECH-WESTINGHOUSE	48% ODI AT TSC +11.0
137.	138	80	MECH-WESTINGHOUSE	39% ODI AT TSC +19.7
138.	139	73	MECH-COMBUSTION ENG	74% ODI AT TSH -2.2 (NRH)
139.	139	75	MECH-WESTINGHOUSE	SQR WITH WALL LOSS AT TSH -2.0 (NRH)
140.	139	77	MECH-COMBUSTION ENG	41% ODI AT C2 +1.1 (NRH)
141.	139	79	MECH-WESTINGHOUSE	MULTIPLE AXIAL IND. AT TSH -1.05
142.	139	81	MECH-WESTINGHOUSE	63% ODI AT TSC +18.5 (NRH)
143.	139	83	MECH-WESTINGHOUSE	67% ,53% ODI AT TSH -1.5,-1.9 (NRH)
144.	139	85	MECH-WESTINGHOUSE	MULTIPLE AXIAL IND. AT TSH -1.20
145.	139	87	MECH-WESTINGHOUSE	SQR WITH WALL LOSS AT TSH -2.0 (NRH)
146.	139	89	MECH-WESTINGHOUSE	54% ODI AT TSC 18.25
147.	139	91	MECH-WESTINGHOUSE	83% ODI AT TEH +20.7 (NRH)
148.	140	76	MECH-WESTINGHOUSE	55%,41% ODI AT TSC +10.41,+10.87
149.	140	82	MECH-WESTINGHOUSE	45% ODI AT TSC +0.5
150.	140	88	MECH-WESTINGHOUSE	54%,50% AT TSC +20.19, C2 +0.0

Total Indications Found = 150
Total Tubes Found = 150

APPENDIX II

Eddy Current Test Results for 12 Steam Generator

A. Plot with List of All Indications March 1994

B. Plot with List of <20% Indications March 1994

C. Plot with List of 20% - 39% Indications March 1994

D. Plot with List of >39% Indications March 1994

E. Plot with List of Tubes Plugged March 1994

F. Plot with List of All Tubes Plugged All Outages

STEAM GENERATOR 12

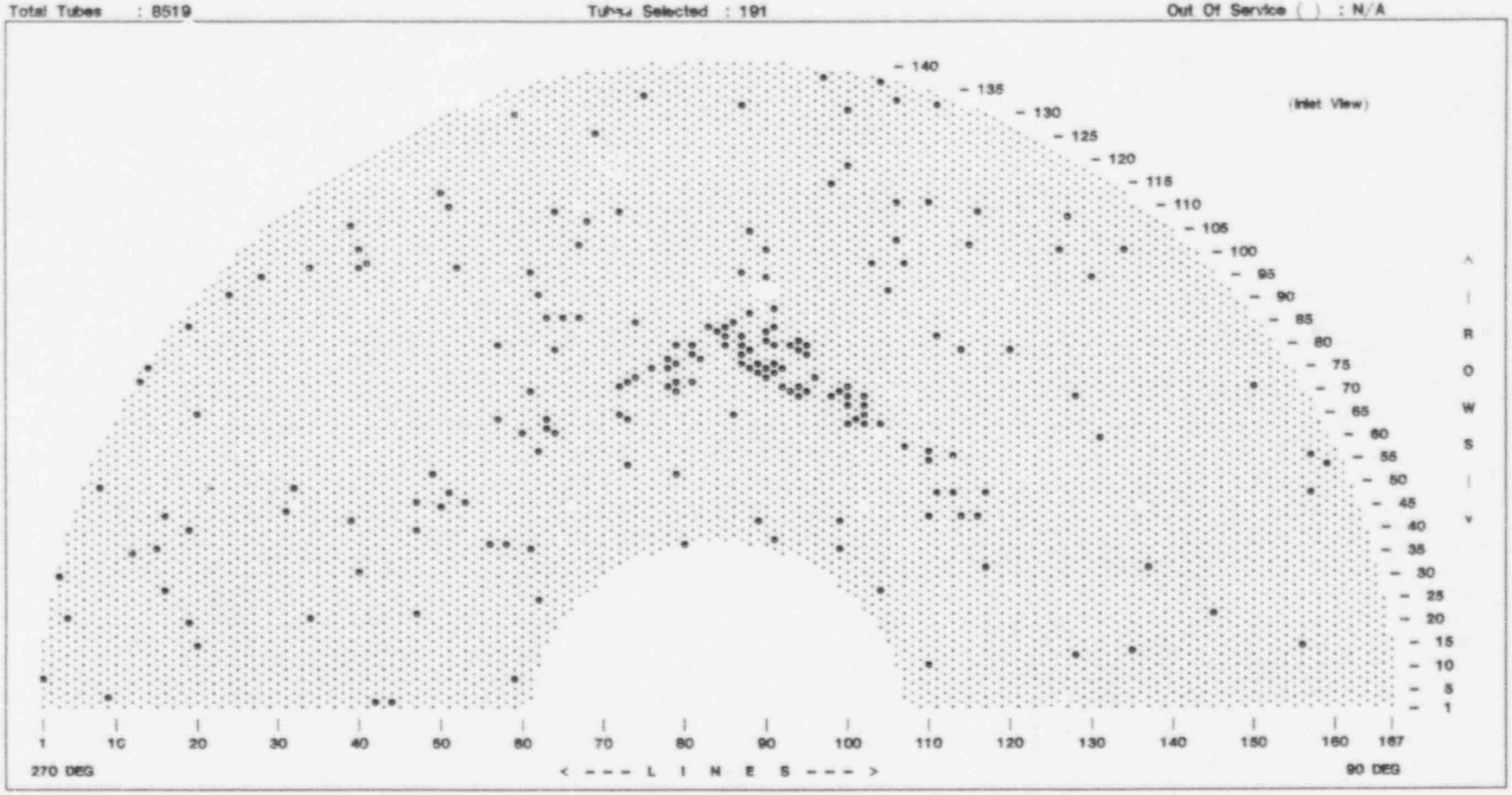
A. Plot with List of All Indications March 1994

THESE ARE ALL OF THE ODI INDICATIONS FOUND IN THE 1994 INSPECTION.

Calvert Cliffs – Unit 1
Total Tubes : 8519

Tubes Selected : 191

S/G 12
Out Of Service ( ) : N/A



● IDI – 0

● ODI – 191

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THESE ARE ALL OF THE ODI INDICATIONS
FOUND IN THE 1994 INSPECTION

COUNT	ROW	LINE	IND	%TW	VOLTS	LOCATION	
1.	2	42	ODI	41	0.56	TSH	+1.25
2.	2	44	ODI	16	0.91	TSC	+0.69
3.			ODI	23	0.52	TSH	+1.66
4.	3	9	ODI	3	1.93	C5	+4.04
5.	7	1	ODI	12	0.88	H4	+0.51
6.	7	59	ODI	14	1.14	TSC	+0.30
7.	10	110	ODI	22	0.92	TSH	+0.76
8.	12	128	ODI	39	1.47	TSH	+30.29
9.	13	135	ODI	10	1.82	C5	+11.99
10.	14	20	ODI	11	1.29	H2	+12.68
11.	14	156	ODI	11	0.40	TSH	+10.33
12.	19	19	ODI	13	1.18	TSH	+12.69
13.	20	4	ODI	23	0.91	C2	+23.32
14.	20	34	ODI	21	1.21	TSH	+32.21
15.	21	47	ODI	3	0.90	C3	+14.78
16.	21	145	ODI	1	0.80	TSH	+23.60
17.	24	62	ODI	77	0.42	H6	+0.63
18.	26	16	ODI	21	0.53	TSH	+0.70
19.	26	104	ODI	10	1.00	TSC	+37.48
20.	29	3	ODI	9	0.40	TSC	+29.79
21.	30	40	ODI	11	1.08	TSH	+0.97
22.	31	117	ODI	16	0.42	C4	+11.55
23.	31	137	ODI	6	1.02	H1	+2.25
24.	34	12	ODI	19	1.06	TSH	+30.82
25.	35	15	ODI	23	0.40	TSH	+3.64
26.	35	61	ODI	5	0.88	H2	+13.80
27.	35	99	ODI	19	0.49	C4	+9.10
28.	36	56	ODI	14	0.73	H3	+29.39
29.	36	58	ODI	7	0.69	H1	+33.81
30.	36	80	ODI	15	0.97	H3	+14.19
31.	37	91	ODI	9	0.93	C2	+7.79
32.	39	19	ODI	26	0.66	TSH	+19.54
33.	39	47	ODI	18	0.63	TSH	+0.86
34.	41	39	ODI	7	1.23	H6	+2.12
35.	41	89	ODI	21	1.34	H1	+20.77
36.			ODI	47	1.57	H1	+13.68
37.			ODI	59	0.67	H1	+20.77
38.			ODI	79	0.68	H1	+13.68
39.	41	99	ODI	3	1.33	TSH	+24.38
40.	42	16	ODI	17	1.62	H1	+17.78
41.	42	110	ODI	16	0.67	TSH	+8.95
42.	42	114	ODI	38	1.61	H1	+8.82
43.	42	116	ODI	38	0.98	TSH	+0.71
44.	43	31	ODI	30	0.54	H3	-1.49
45.	44	50	ODI	11	0.78	TSH	+1.36
46.	45	47	ODI	7	1.21	C3	+26.07
47.	45	53	ODI	18	1.03	TSH	+0.65
48.	47	51	ODI	5	2.29	VM	+5.00
49.	47	111	ODI	35	0.45	TSH	+0.93
50.	47	113	ODI	23	0.87	TSH	+1.33
51.	47	117	ODI	20	2.00	TSH	+0.79
52.	47	157	ODI	10	1.42	H7	+9.86
53.	48	8	ODI	4	1.52	H5	+4.65
54.	48	32	ODI	27	2.54	DH	+6.38
55.	51	49	ODI	21	1.15	H4	+24.43
56.	51	79	ODI	7	1.30	C4	+6.65
57.	53	73	ODI	37	1.21	VM	+10.85
58.	53	159	ODI	4	1.04	C3	+24.04
59.	54	110	ODI	10	0.66	TSH	+2.17
60.	55	113	ODI	10	1.40	TSH	+2.15
61.			ODI	29	1.02	TSH	+0.96
62.	55	157	ODI	8	0.58	H7	+18.23
63.	56	62	ODI	30	2.26	TSH	+1.25
64.	56	110	ODI	12	0.59	TSH	+2.05
65.	57	107	ODI	32	2.96	TSH	+0.90

THESE ARE ALL OF THE ODI INDICATIONS
FOUND IN THE 1994 INSPECTION

COUNT	ROW	LINE	IND	%TW	VOLTS	LOCATION	
66.	59	131	ODI	14	1.01	H3	+26.59
67.	60	60	ODI	35	1.48	TSH	+0.63
68.	60	64	ODI	22	0.75	TSH	+1.15
69.	61	63	ODI	10	0.81	TSH	+11.23
70.	62	100	ODI	30	0.86	TSH	+1.19
71.	62	102	ODI	30	1.02	TSH	+1.09
72.			ODI	35	1.40	TSH	+1.41
73.	62	104	ODI	32	2.17	TSH	+1.40
74.	63	57	ODI	13	1.32	C3	+37.44
75.			ODI	13	1.48	C4	+20.87
76.			ODI	18	2.37	C4	+6.72
77.	63	63	ODI	12	0.71	TSH	+0.87
78.	63	73	ODI	36	1.92	C2	+22.54
79.	63	101	ODI	19	0.92	TSH	+1.60
80.	64	20	ODI	11	0.77	H5	+34.52
81.	64	72	ODI	4	1.10	H5	+13.20
82.	64	86	ODI	9	1.32	H3	+27.62
83.	64	102	ODI	25	0.91	TSH	+1.36
84.	66	100	ODI	8	0.98	C3	+23.14
85.			ODI	26	1.12	TSH	+1.52
86.	66	102	ODI	55	0.69	TSH	+0.69
87.	68	94	ODI	39	2.34	TSH	+0.81
88.	68	98	ODI	29	0.98	TSH	+1.63
89.	68	100	ODI	38	0.93	TSH	+1.66
90.	68	102	ODI	22	0.87	TSH	+0.81
91.	68	128	ODI	20	2.06	C4	+30.46
92.	69	61	ODI	8	1.08	DH	+26.34
93.			ODI	12	0.74	DH	+23.33
94.	69	79	ODI	41	0.68	TSH	+0.80
95.	69	93	ODI	56	0.62	TSH	+1.10
96.	69	95	ODI	19	3.07	H5	+32.70
97.	69	99	ODI	1	2.32	TSH	+0.65
98.	70	72	ODI	22	0.65	TSH	+0.70
99.	70	78	ODI	35	0.82	TSH	+0.86
100.	70	92	ODI	59	0.84	TSH	+1.31
101.	70	94	ODI	39	0.76	TSH	+2.10
102.	70	100	ODI	37	0.99	TSH	+1.47
103.	70	150	ODI	15	1.43	C3	+22.81
104.	71	13	ODI	13	1.38	VM	+0.70
105.	71	73	ODI	38	1.03	TSH	+0.66
106.	71	79	ODI	13	1.13	TSH	+1.15
107.	71	81	ODI	11	1.79	TSH	+1.07
108.	72	74	ODI	16	1.20	TSH	+1.37
109.	72	90	ODI	49	0.40	TSH	+1.32
110.	72	96	ODI	14	2.83	TSH	+0.72
111.	73	89	ODI	26	1.45	TSH	+0.93
112.	73	91	ODI	17	1.30	TSH	+2.08
113.	74	14	ODI	14	1.03	TSH	+14.99
114.	74	76	ODI	27	1.77	TSH	+0.65
115.	74	78	ODI	20	0.93	TSH	+0.76
116.	74	88	ODI	15	0.71	TSH	+1.28
117.	74	90	ODI	21	1.08	TSH	+1.64
118.	74	92	ODI	30	1.38	TSH	+1.80
119.			ODI	35	1.38	TSH	+0.69
120.	75	79	ODI	51	0.72	TSH	+1.45
121.	75	87	ODI	26	1.33	TSH	+1.63
122.	75	89	ODI	23	1.09	TSH	+1.74
123.	75	91	ODI	35	2.17	TSH	+1.65
124.	76	78	ODI	31	1.33	TSH	+1.34
125.			ODI	34	0.56	TSH	+1.74
126.			ODI	39	1.95	TSH	+0.91
127.	76	82	ODI	37	0.71	TSH	+1.77
128.	77	81	ODI	31	1.62	TSH	+1.67
129.	77	87	ODI	22	0.99	TSH	+1.68
130.			ODI	23	0.63	TSH	+0.75

THESE ARE ALL OF THE ODI INDICATIONS
FOUND IN THE 1994 INSPECTION

COUNT	ROW	LINE	IND	%TW	VOLTS	LOCATION	
131.	77	95	ODI	11	1.25	TSH	+2.12
132.	78	64	ODI	23	0.92	C7	-1.30
133.	78	88	ODI	24	1.16	TSH	+1.81
134.	78	94	ODI	44	2.07	TSH	+0.87
135.	78	114	ODI	24	0.92	VM	+3.87
136.	78	120	ODI	16	1.09	H2	+17.93
137.	79	57	ODI	13	1.74	C5	+22.87
138.	79	79	ODI	16	1.48	C2	+16.15
139.	79	81	ODI	25	1.65	TSH	+0.65
140.	79	85	ODI	15	0.53	TSH	+2.41
141.	79	87	ODI	34	0.54	TSH	+0.70
142.	79	91	ODI	23	0.91	TSH	+0.80
143.	79	93	ODI	29	0.79	TSH	+0.67
144.	79	95	ODI	14	0.63	TSH	+2.06
145.			ODI	25	0.65	TSH	+0.80
146.	80	90	ODI	26	1.03	TSH	+0.72
147.	80	94	ODI	16	0.66	TSH	+2.14
148.			ODI	33	0.69	TSH	+1.22
149.	81	85	ODI	35	0.52	TSH	+1.63
150.			ODI	38	2.86	TSH	+0.70
151.	81	87	ODI	31	1.00	TSH	+0.73
152.	81	111	ODI	22	2.26	TSH	+37.10
153.	82	84	ODI	15	1.70	TSH	+1.21
154.			ODI	38	1.07	TSH	+0.92
155.	82	90	ODI	28	3.67	TSH	+0.82
156.	83	19	ODI	11	1.20	H7	+12.63
157.			ODI	33	2.72	H6	+22.10
158.	83	83	ODI	28	1.97	TSH	+0.93
159.	83	85	ODI	24	0.82	H1	+8.33
160.			ODI	25	0.52	H1	+8.33
161.			ODI	10	0.80	TSH	+1.27
162.	83	91	ODI	5	1.62	H7	+13.56
163.			ODI	23	1.37	H6	+21.94
164.			ODI	32	0.49	TSH	+0.75
165.	84	74	ODI	5	1.06	VH	+21.13
166.	84	86	ODI	14	1.35	TSH	+0.69
167.	85	63	ODI	37	0.90	TSH	+19.28
168.	85	65	ODI	24	1.18	VC	+1.43
169.	85	67	ODI	7	1.24	VH	+3.53
170.			ODI	23	0.48	VH	+14.54
171.	86	88	ODI	30	0.58	VH	+1.20
172.	87	91	ODI	32	0.63	VH	+0.94
173.	90	24	ODI	18	0.93	H7	+17.64
174.	90	62	ODI	6	0.90	C4	+24.37
175.	91	105	ODI	15	1.37	C8	+17.78
176.	94	28	ODI	27	1.12	TSH	+1.19
177.	94	90	ODI	37	0.62	DH	+9.76
178.	94	130	ODI	9	0.99	TSH	+22.80
179.	95	61	ODI	10	1.75	H7	+9.87
180.	95	87	ODI	19	0.76	VM	+0.97
181.	96	34	ODI	7	1.43	C6	+21.95
182.			ODI	33	1.55	C7	+1.48
183.	96	40	ODI	23	0.45	C4	+35.89
184.	96	52	ODI	19	1.82	C5	+13.45
185.	97	41	ODI	9	1.68	C5	+2.40
186.	97	103	ODI	25	0.55	VM	+1.16
187.	97	107	ODI	23	0.57	TSH	+0.87
188.	100	40	ODI	11	2.27	C5	+1.46
189.	100	90	ODI	19	2.81	H3	+29.35
190.	100	126	ODI	9	1.21	TSH	+8.70
191.	100	134	ODI	2	0.84	H4	+13.77
192.	101	67	ODI	17	0.93	TSH	+1.15
193.	101	115	ODI	19	0.51	VH	+1.70
194.	102	106	ODI	10	0.89	TSH	+1.16
195.	104	88	ODI	27	0.65	VM	-1.66

THESE ARE ALL OF THE ODI INDICATIONS
FOUND IN THE 1994 INSPECTION

COUNT	ROW	LINE	IND	%TW	VOLTS	LOCATION	
196.	105	39	ODI	14	1.39	H1	+3.29
197.			ODI	24	0.85	H1	-0.45
198.	106	68	ODI	6	1.35	H5	+21.92
199.	107	127	ODI	27	0.78	H9	+9.93
200.	108	64	ODI	36	0.59	DH	+20.10
201.	108	72	ODI	20	0.48	DH	+12.72
202.	108	116	ODI	9	1.22	H5	+6.17
203.	109	51	ODI	21	0.75	TSH	+1.53
204.	110	106	ODI	26	0.71	H7	+16.87
205.			ODI	30	1.48	H7	+15.45
206.	110	110	ODI	1	1.31	C8	+18.17
207.	112	50	ODI	27	0.59	H6	+19.75
208.	114	98	ODI	8	0.79	H2	+26.90
209.	118	100	ODI	23	0.75	VM	+6.97
210.	125	69	ODI	16	4.37	VC	+7.49
211.	129	59	ODI	7	0.69	VM	+8.03
212.	130	100	ODI	22	0.93	TSH	+13.00
213.	131	87	ODI	8	0.65	H8	+21.88
214.	131	111	ODI	32	0.88	C8	+14.23
215.	132	106	ODI	31	0.57	H6	+20.60
216.	133	75	ODI	3	1.21	VM	+18.11
217.	136	104	ODI	34	0.53	TSC	+1.26
218.	137	97	ODI	6	1.81	C10	+10.32

Total Indications Found = 218
Total Tubes Found = 191

STEAM GENERATOR 12

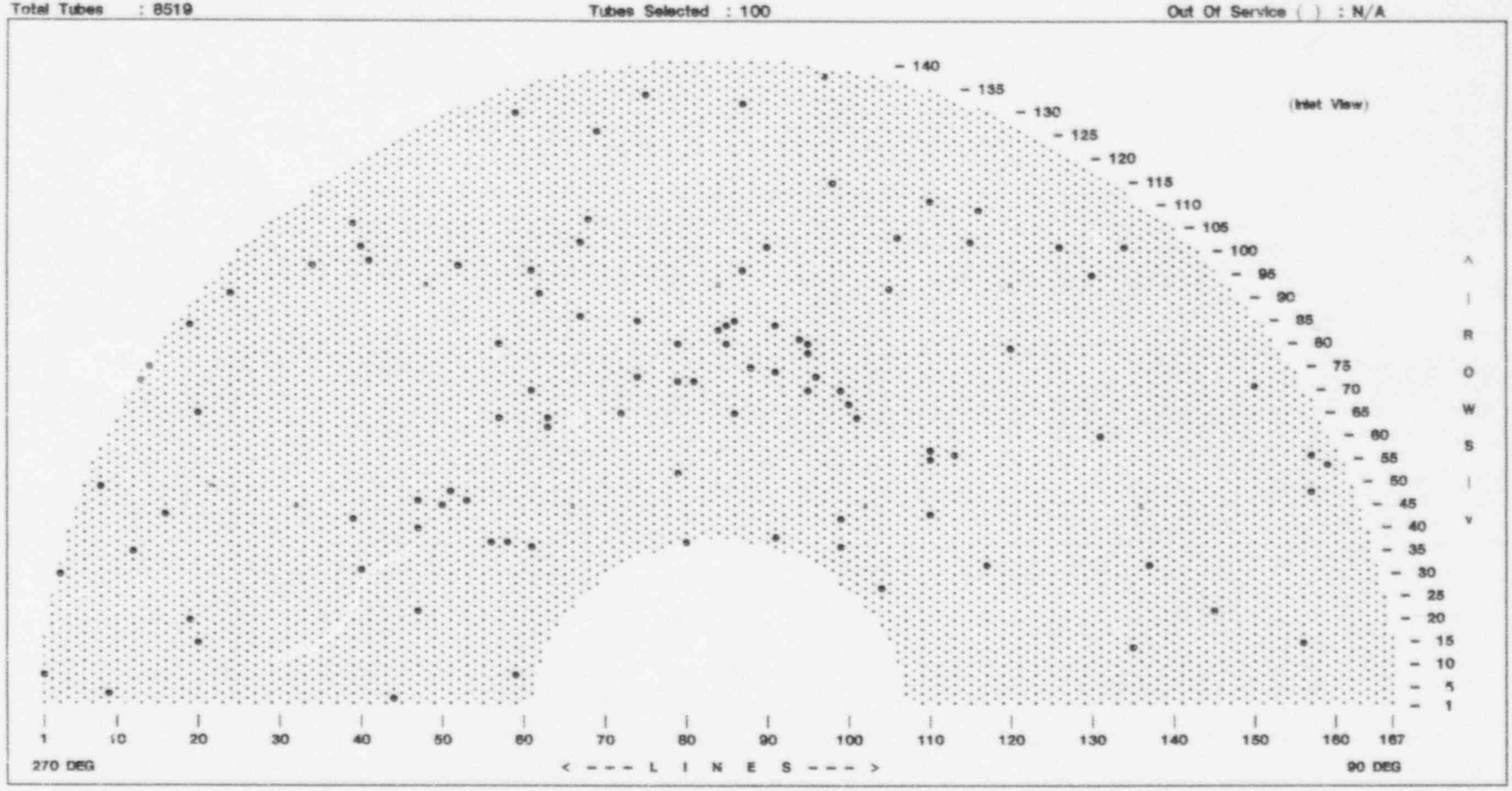
B. Plot with List of <20% Indications March 1994

THESE ARE ALL OF THE 1% TO 19% INDICATIONS FOUND IN THE 1994 INSPECTION

Calvert Cliffs - Unit 1
Total Tubes : 8519

Tubes Selected : 100

S/G 12
Out Of Service ( ) : N/A



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Calvert Cliffs - Unit 1
S/G 12
94 MARCH
Bobbin

1 - 19% ODI, IDI INDICATIONS
THESE TUBES ARE IMPERFECTIONS PER TECH. SPEC.

COUNT	ROW	LINE	IND	%TW	VOLTS	LOCATION	
1.	2	44	ODI	16	0.91	TSC	+0.69
2.	3	9	ODI	3	1.93	C5	+4.04
3.	7	1	ODI	12	0.88	H4	+0.51
4.	7	59	ODI	14	1.14	TSC	+0.30
5.	13	135	ODI	10	1.82	C5	+11.99
6.	14	20	ODI	11	1.29	H2	+12.68
7.	14	156	ODI	11	0.40	TSH	+10.33
8.	19	19	ODI	13	1.18	TSH	+12.69
9.	21	47	ODI	3	0.90	C3	+14.78
10.	21	145	ODI	1	0.80	TSH	+23.60
11.	26	104	ODI	10	1.00	TSC	+37.48
12.	29	3	ODI	9	0.40	TSC	+29.79
13.	30	40	ODI	11	1.08	TSH	+0.97
14.	31	117	ODI	16	0.42	C4	+11.55
15.	31	137	ODI	6	1.02	H1	+2.25
16.	34	12	ODI	19	1.06	TSH	+30.82
17.	35	61	ODI	5	0.88	H2	+13.80
18.	35	99	ODI	19	0.49	C4	+9.10
19.	36	56	ODI	14	0.73	H3	+29.39
20.	36	58	ODI	7	0.69	H1	+33.81
21.	36	80	ODI	15	0.97	H3	+14.19
22.	37	91	ODI	9	0.93	C2	+7.79
23.	39	47	ODI	18	0.63	TSH	+0.86
24.	41	39	ODI	7	1.23	H6	+2.12
25.	41	99	ODI	3	1.33	TSH	+24.38
26.	42	16	ODI	17	1.62	H1	+17.78
27.	42	110	ODI	16	0.67	TSH	+8.95
28.	44	50	ODI	11	0.78	TSH	+1.36
29.	45	47	ODI	7	1.21	C3	+26.07
30.	45	53	ODI	18	1.03	TSH	+0.65
31.	47	51	ODI	5	2.29	VM	+5.00
32.	47	157	ODI	10	1.42	H7	+9.86
33.	48	8	ODI	4	1.52	H5	+4.65
34.	51	79	ODI	7	1.30	C4	+6.65
35.	53	159	ODI	4	1.04	C3	+24.04
36.	54	110	ODI	10	0.66	TSH	+2.17
37.	55	113	ODI	10	1.40	TSH	+2.15
38.	55	157	ODI	8	0.58	H7	+18.23
39.	56	110	ODI	12	0.59	TSH	+2.05
40.	59	131	ODI	14	1.01	H3	+26.59
41.	61	63	ODI	10	0.81	TSH	+11.23
42.	63	57	ODI	13	1.32	C3	+37.44
43.			ODI	13	1.48	C4	+20.87
44.			ODI	18	2.37	C4	+6.72
45.	63	63	ODI	12	0.71	TSH	+0.87
46.	63	101	ODI	19	0.92	TSH	+1.60
47.	64	20	ODI	11	0.77	H5	+34.52
48.	64	72	ODI	4	1.10	H5	+13.20
49.	64	86	ODI	9	1.32	H3	+27.62
50.	66	100	ODI	8	0.98	C3	+23.14
51.	69	61	ODI	8	1.08	DH	+26.34
52.			ODI	12	0.74	DH	+23.33
53.	69	95	ODI	19	3.07	H5	+32.70
54.	69	99	ODI	1	2.32	TSH	+0.65
55.	70	150	ODI	15	1.43	C3	+22.81
56.	71	13	ODI	13	1.38	VM	+0.70
57.	71	79	ODI	13	1.13	TSH	+1.15
58.	71	81	ODI	11	1.79	TSH	+1.07
59.	72	74	ODI	16	1.20	TSH	+1.37
60.	72	96	ODI	14	2.83	TSH	+0.72
61.	73	91	ODI	17	1.30	TSH	+2.08
62.	74	14	ODI	14	1.03	TSH	+14.99
63.	74	88	ODI	15	0.71	TSH	+1.28
64.	77	95	ODI	11	1.25	TSH	+2.12
65.	78	120	ODI	16	1.09	H2	+17.93

1 - 19% ODI, IDI INDICATIONS
THESE TUBES ARE IMPERFECTIONS PER TECH. SPEC.

COUNT	ROW	LINE	IND	%TW	VOLTS	LOCATION	
66.	79	57	ODI	13	1.74	C5	+22.87
67.	79	79	ODI	16	1.48	C2	+16.15
68.	79	85	ODI	15	0.53	TSH	+2.41
69.	79	95	ODI	14	0.63	TSH	+2.06
70.	80	94	ODI	16	0.66	TSH	+2.14
71.	82	84	ODI	15	1.70	TSH	+1.21
72.	83	19	ODI	11	1.20	H7	+12.63
73.	83	85	ODI	10	0.80	TSH	+1.27
74.	83	91	ODI	5	1.62	H7	+13.56
75.	84	74	ODI	5	1.06	VH	+21.13
76.	84	86	ODI	14	1.35	TSH	+0.69
77.	85	67	ODI	7	1.24	VH	+3.53
78.	90	24	ODI	18	0.93	H7	+17.64
79.	90	62	ODI	6	0.90	C4	+24.37
80.	91	105	ODI	15	1.37	C8	+17.78
81.	94	130	ODI	9	0.99	TSH	+22.80
82.	95	61	ODI	10	1.75	H7	+9.87
83.	95	87	ODI	19	0.76	VM	+0.97
84.	96	34	ODI	7	1.43	C6	+21.95
85.	96	52	ODI	19	1.82	C5	+13.45
86.	97	41	ODI	9	1.68	C5	+2.40
87.	100	40	ODI	11	2.27	C5	+1.46
88.	100	90	ODI	19	2.81	H3	+29.35
89.	100	126	ODI	9	1.21	TSH	+8.70
90.	100	134	ODI	2	0.84	H4	+13.77
91.	101	67	ODI	17	0.93	TSH	+1.15
92.	101	115	ODI	19	0.51	VH	+1.70
93.	102	106	ODI	10	0.89	TSH	+1.16
94.	105	39	ODI	14	1.39	H1	+3.29
95.	106	68	ODI	6	1.35	H5	+21.92
96.	108	116	ODI	9	1.22	H5	+6.17
97.	110	110	ODI	1	1.31	C8	+18.17
98.	114	98	ODI	8	0.79	H2	+26.90
99.	125	69	ODI	16	4.37	VC	+7.49
100.	129	59	ODI	7	0.69	VM	+8.03
101.	131	87	ODI	8	0.65	H8	+21.88
102.	133	75	ODI	3	1.21	VM	+18.11
103.	137	97	ODI	6	1.81	C10	+10.32

Total Indications Found = 103
Total Tubes Found = 100

STEAM GENERATOR 12

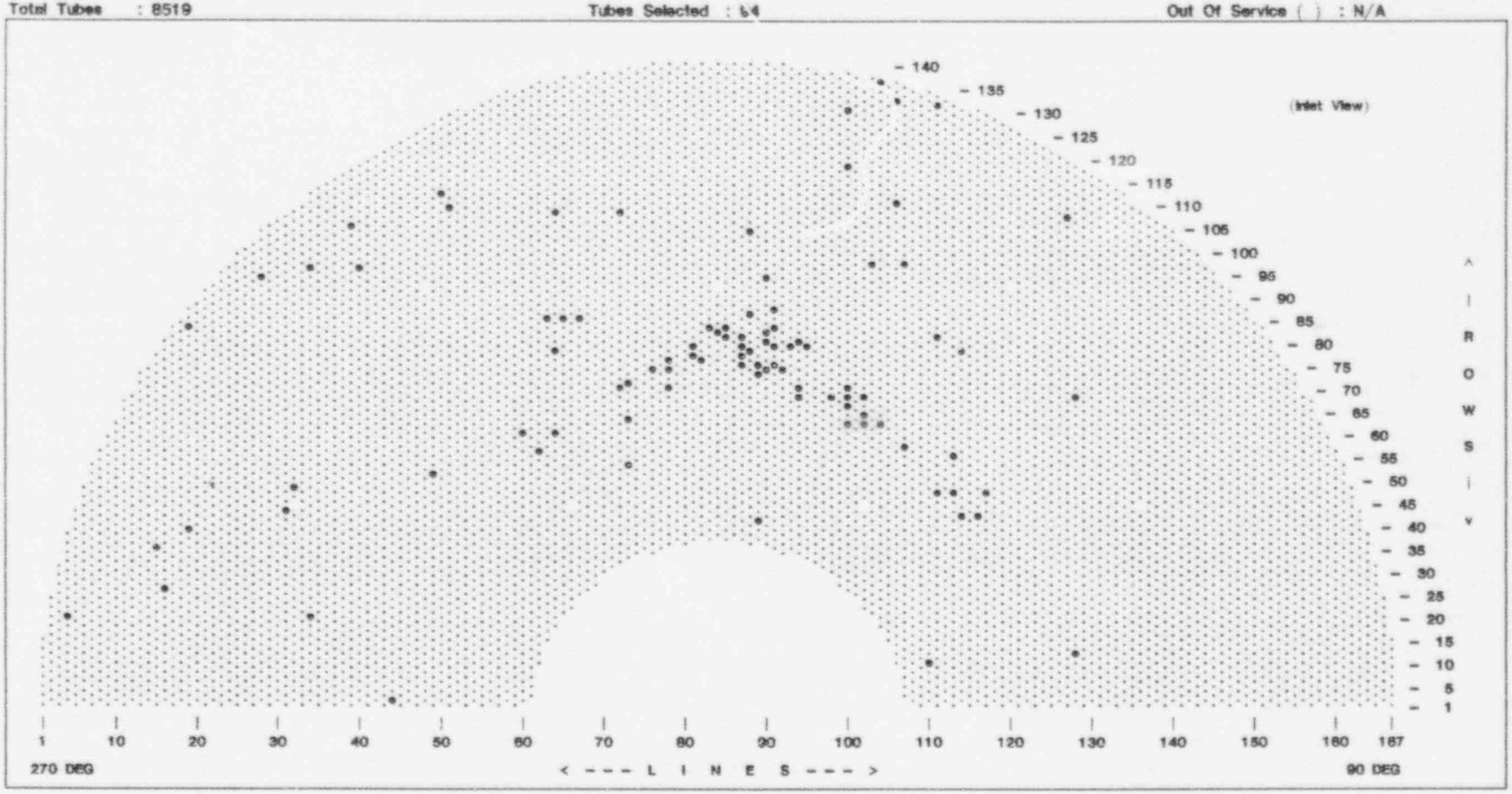
C. Plot with List of 20% - 39% Indications March 1994

THESE ARE ALL OF THE 20% TO 39% INDICATIONS FOUND IN THE 1994 INSPECTION

Calvert Cliffs - Unit 1
Total Tubes : 8519

Tubes Selected : 54

S/G 12
Out Of Service ( ) : N/A



● tbi - 0

● odi - 94

BWNS TUBAN II - 01/17/1995 15:50:37

********** BWNS TUBAN II (Version 2.0) 01/17/1995 15:48:31 **********
********** Calvert Cliffs - Unit 1 **********
********** S/G 12 **********
********** 94 MARCH **********
********** Bobbin **********

20% TO 39% ODI, IDI INDICATIONS
THESE ARE DEGRADED TUBES PER TECH. SPEC.

COUNT	ROW	LINE	IND	%TW	VOLTS	LOCATION	
1.	2	44	ODI	23	0.52	TSH	+1.66
2.	10	110	ODI	22	0.92	TSH	+0.76
3.	12	128	ODI	39	1.47	TSH	+30.29
4.	20	4	ODI	23	0.91	C2	+23.32
5.	20	34	ODI	21	1.21	TSH	+32.21
6.	26	16	ODI	21	0.53	TSH	+0.70
7.	35	15	ODI	23	0.40	TSH	+3.64
8.	39	19	ODI	26	0.66	TSH	+19.54
9.	41	89	ODI	21	1.34	H1	+20.77
10.	42	114	ODI	38	1.61	H1	+8.82
11.	42	116	ODI	38	0.98	TSH	+0.71
12.	43	31	ODI	30	0.54	H3	-1.49
13.	47	111	ODI	35	0.45	TSH	+0.93
14.	47	113	ODI	23	0.87	TSH	+1.33
15.	47	117	ODI	20	2.00	TSH	+0.79
16.	48	32	ODI	27	2.54	DH	+6.38
17.	51	49	ODI	21	1.15	H4	+24.43
18.	53	73	ODI	37	1.21	VM	+10.85
19.	55	113	ODI	29	1.02	TSH	+0.96
20.	56	62	ODI	30	2.26	TSH	+1.25
21.	57	107	ODI	32	2.96	TSH	+0.90
22.	60	60	ODI	35	1.48	TSH	+0.63
23.	60	64	ODI	32	0.75	TSH	+1.15
24.	62	100	ODI	30	0.86	TSH	+1.19
25.	62	102	ODI	30	1.02	TSH	+1.09
26.			ODI	35	1.40	TSH	+1.41
27.	62	104	ODI	32	2.17	TSH	+1.40
28.	63	73	ODI	36	1.92	C2	+22.54
29.	64	102	ODI	25	0.91	TSH	+1.36
30.	66	100	ODI	26	1.12	TSH	+1.52
31.	68	94	ODI	39	2.34	TSH	+0.81
32.	68	98	ODI	29	0.98	TSH	+1.63
33.	68	100	ODI	38	0.93	TSH	+1.66
34.	68	102	ODI	22	0.87	TSH	+0.81
35.	68	128	ODI	20	2.06	C4	+30.46
36.	70	72	ODI	22	0.65	TSH	+0.70
37.	70	78	ODI	35	0.82	TSH	+0.86
38.	70	94	ODI	39	0.76	TSH	+2.10
39.	70	100	ODI	37	0.99	TSH	+1.47
40.	71	73	ODI	38	1.03	TSH	+0.66
41.	73	89	ODI	26	1.45	TSH	+0.93
42.	74	76	ODI	27	1.77	TSH	+0.65
43.	74	78	ODI	20	0.93	TSH	+0.76
44.	74	90	ODI	21	1.08	TSH	+1.64
45.	74	92	ODI	30	1.38	TSH	+1.80
46.			ODI	35	1.38	TSH	+0.69
47.	75	87	ODI	26	1.33	TSH	+1.63
48.	75	89	ODI	23	1.09	TSH	+1.74
49.	75	91	ODI	35	2.17	TSH	+1.65
50.	76	78	ODI	31	1.33	TSH	+1.34
51.			ODI	34	0.56	TSH	+1.74
52.			ODI	39	1.95	TSH	+0.91
53.	76	82	ODI	37	0.71	TSH	+1.77
54.	77	81	ODI	31	1.62	TSH	+1.67
55.	77	87	ODI	22	0.99	TSH	+1.68
56.			ODI	23	0.63	TSH	+0.75
57.	78	64	ODI	23	0.92	C7	-1.30
58.	78	88	ODI	24	1.16	TSH	+1.81
59.	78	114	ODI	24	0.92	VM	+3.87
60.	79	81	ODI	25	1.65	TSH	+0.65
61.	79	87	ODI	34	0.54	TSH	+0.70
62.	79	91	ODI	23	0.91	TSH	+0.80
63.	79	93	ODI	29	0.79	TSH	+0.67
64.	79	95	ODI	25	0.65	TSH	+0.80
65.	80	90	ODI	26	1.03	TSH	+0.72

20% TO 39% ODI, IDI INDICATIONS
THESE ARE DEGRADED TUBES PER TECH. SPEC.

COUNT	ROW	LINE	IND	%TW	VOLTS	LOCATION	
66.	80	94	ODI	33	0.69	TSH	+1.22
67.	81	85	ODI	35	0.52	TSH	+1.63
68.			ODI	38	2.86	TSH	+0.70
69.	81	87	ODI	31	1.00	TSH	+0.73
70.	81	111	ODI	22	2.26	TSH	+37.10
71.	82	84	ODI	38	1.07	TSH	+0.92
72.	82	90	ODI	28	3.67	TSH	+0.82
73.	83	19	ODI	33	2.72	H6	+22.10
74.	83	83	ODI	28	1.97	TSH	+0.93
75.	83	85	ODI	24	0.82	H1	+8.33
76.			ODI	25	0.52	H1	+8.33
77.	83	91	ODI	23	1.37	H6	+21.94
78.			ODI	32	0.49	TSH	+0.75
79.	85	63	ODI	37	0.90	TSH	+19.28
80.	85	65	ODI	24	1.18	VC	+1.43
81.	85	67	ODI	23	0.48	VH	+14.54
82.	86	88	ODI	30	0.58	VH	+1.20
83.	87	91	ODI	32	0.63	VH	+0.94
84.	94	28	ODI	27	1.12	TSH	+1.19
85.	94	90	ODI	37	0.62	DH	+9.76
86.	96	34	ODI	33	1.55	C7	+1.48
87.	96	40	ODI	23	0.45	C4	+35.89
88.	97	103	ODI	25	0.55	VM	+1.16
89.	97	107	ODI	23	0.57	TSH	+0.87
90.	104	88	ODI	27	0.65	VM	-1.66
91.	105	39	ODI	24	0.85	H1	-0.45
92.	107	127	ODI	27	0.78	H9	+9.93
93.	108	64	ODI	36	0.59	DH	+20.10
94.	108	72	ODI	20	0.48	DH	+12.72
95.	109	51	ODI	21	0.75	TSH	+1.53
96.	110	106	ODI	26	0.71	H7	+16.87
97.			ODI	30	1.48	H7	+15.45
98.	112	50	ODI	27	0.59	H6	+19.75
99.	118	100	ODI	23	0.75	VM	+6.97
100.	130	100	ODI	22	0.93	TSH	+13.00
101.	131	111	ODI	32	0.88	C8	+14.23
102.	132	106	ODI	31	0.57	H6	+20.60
103.	136	104	ODI	34	0.53	TSC	+1.26

Total Indications Found = 103
Total Tubes Found = 94

STEAM GENERATOR 12

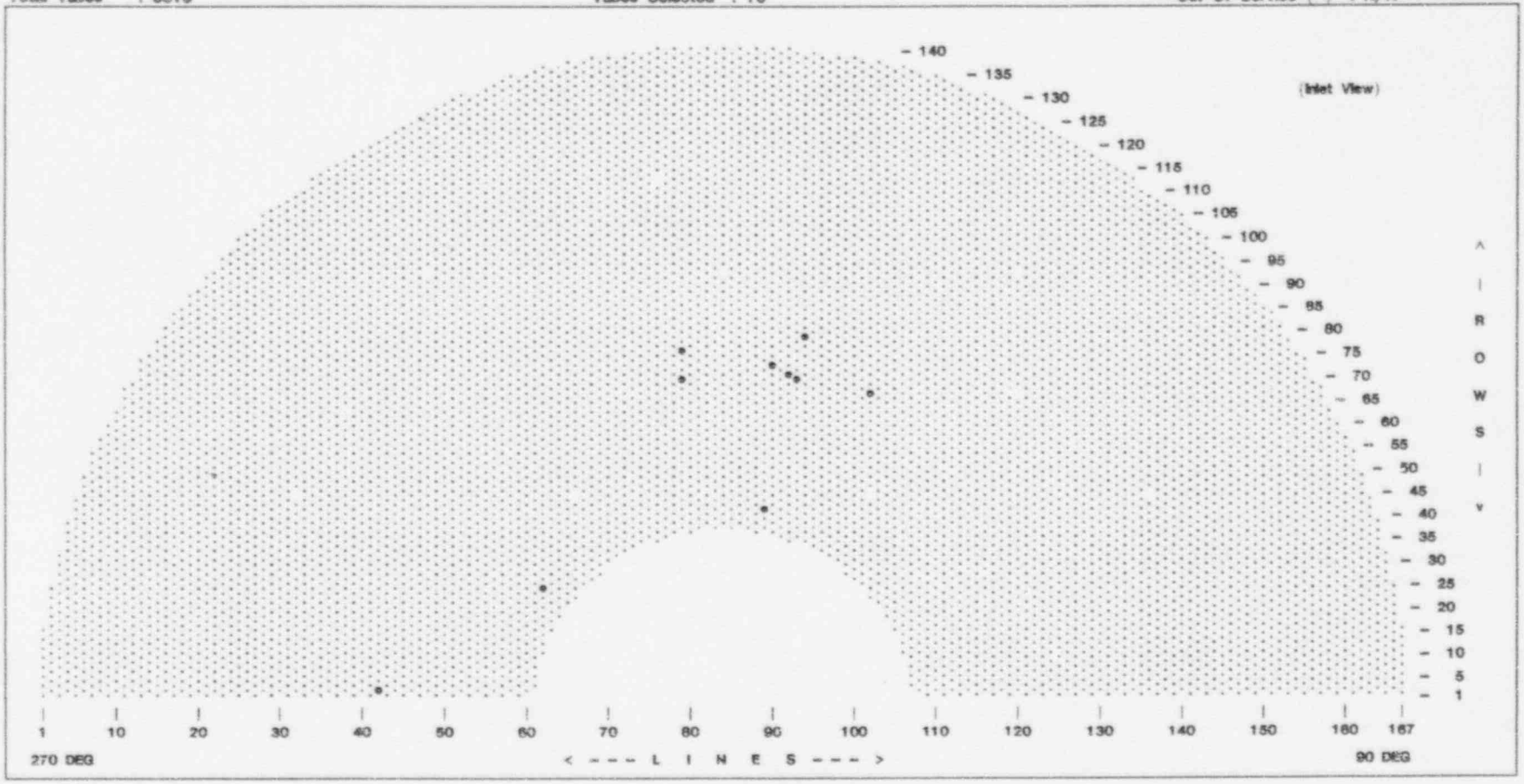
D. Plot with List of >39% Indications March 1994

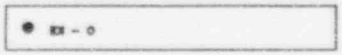
THESE ARE ALL OF THE 40% TO 100% INDICATIONS FOUND IN THE 1994 INSPECTION

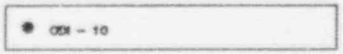
Calvert Cliffs - Unit 1
Total Tubes : 8519

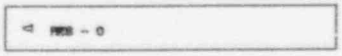
Tubes Selected : 10

S/G 12
Out Of Service ( ) : N/A









********** BWNS TUBAN II (Version 2.0) 01/17/1995 15:55:05 **********
********** Calvert Cliffs - Unit 1 **********
********** S/G 12 **********
********** 94 MARCH **********
********** Bobbin **********

40% TO 100% ODI, IDI, INDICATIONS
THESE TUBES ARE DEFECTIVE PER TECH. SPEC.

COUNT	ROW	LINE	IND	%TW	VOLTS	LOCATION	
1.	2	42	ODI	41	0.56	TSH	+1.25
2.	24	62	ODI	77	0.42	H6	+0.63
3.	41	89	ODI	47	1.57	H1	+13.68
4.			ODI	59	0.67	H1	+20.77
5.			ODI	79	0.68	H1	+13.68
6.	66	102	ODI	55	0.69	TSH	+0.69
7.	69	79	ODI	41	0.68	TSH	+0.80
8.	69	93	ODI	56	0.62	TSH	+1.10
9.	70	92	ODI	59	0.84	TSH	+1.31
10.	72	90	ODI	49	0.40	TSH	+1.32
11.	75	79	ODI	51	0.72	TSH	+1.45
12.	78	94	ODI	44	2.07	TSH	+0.87

Total Indications Found = 12
Total Tubes Found = 10

STEAM GENERATOR 12

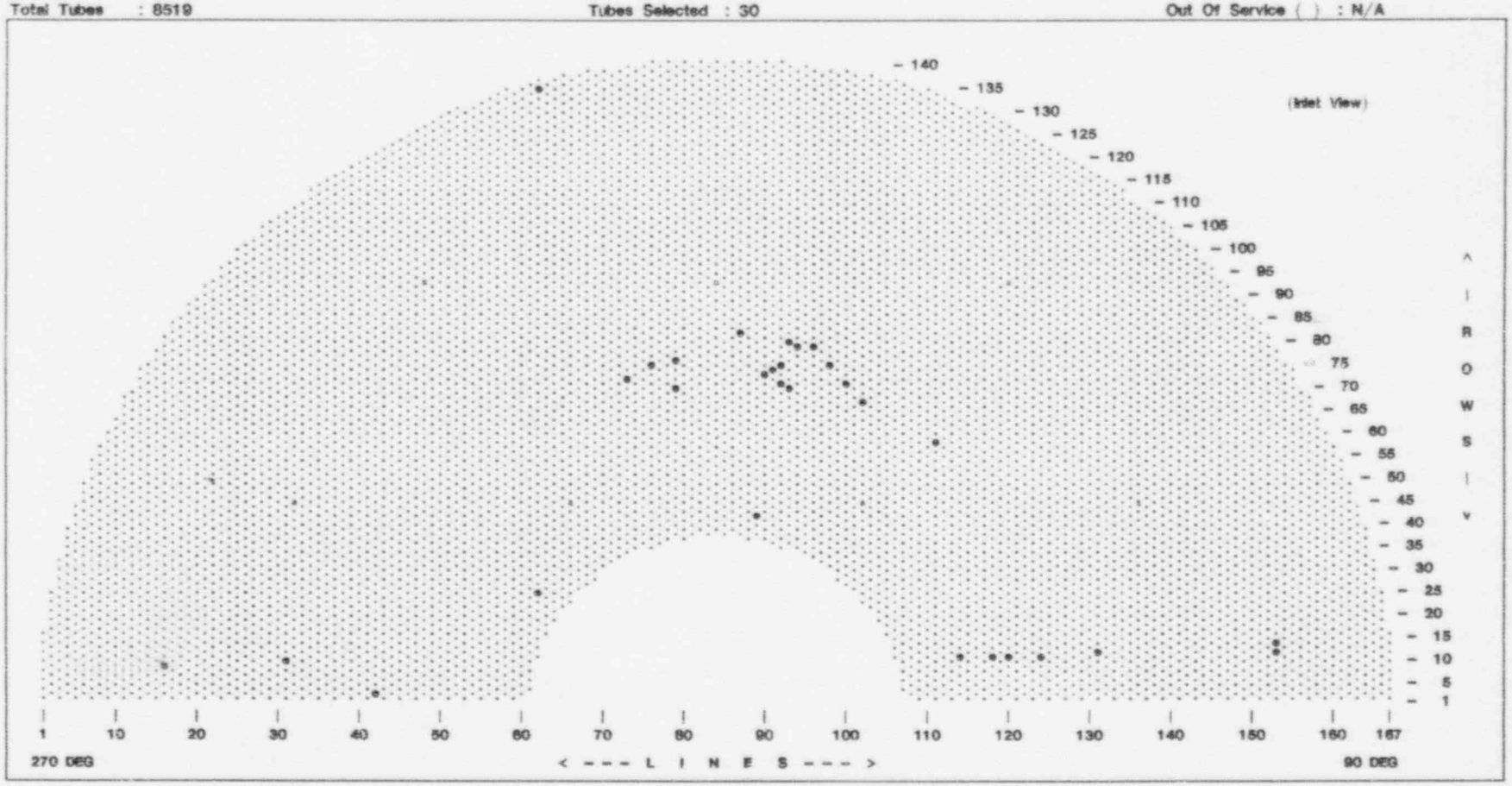
E. Plot with List of Tubes Plugged March 1994

#12 STEAM GENERATOR
TUBES PLUGGED IN THE 1994 OUTAGE

Calvert Cliffs - Unit 1
Total Tubes : 8519

Tubes Selected : 30

S/G 12
Out Of Service ( ) : N/A



● PLG - 30

#12 STEAM GENERATOR
TUBES PLUGGED IN THE 1994 OUTAGE

COUNT	ROW	LINE	TYPE&MANUFACTURER	REASON FOR PLUGGING
1.	2	42	MECH-WESTINGHOUSE	41% ODI AT TSH 1.25(MRPC-SAI)
2.	8	16	MECH-WESTINGHOUSE	APT AT VM 0.00
3.	9	31	MECH-WESTINGHOUSE	MULTIPLE AXIAL IND. AT VM 0.00
4.	10	114	MECH-WESTINGHOUSE	APT AT VM 0.00
5.	10	118	MECH-WESTINGHOUSE	APT AT VM 0.00
6.	10	120	MECH-WESTINGHOUSE	APT AT VM 0.00
7.	10	124	MECH-WESTINGHOUSE	APT AT VM 0.00
8.	11	131	MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-VOL)IR
9.	11	153	MECH-WESTINGHOUSE	APT AT VM 0.00
10.	13	153	MECH-WESTINGHOUSE	APT AT VM 0.00
11.	24	62	MECH-WESTINGHOUSE	77% ODI AT H6 0.63
12.	41	89	MECH-WESTINGHOUSE	47% ODI AT H1 13.68
13.	57	111	MECH-WESTINGHOUSE	SINGLE AXIAL IND. AT TSH 0.16
14.	66	102	MECH-WESTINGHOUSE	55% ODI AT TSH 0.69
15.	69	79	MECH-WESTINGHOUSE	41% ODI AT TSH 0.80
16.	69	93	MECH-WESTINGHOUSE	56% ODI AT TSH 1.10
17.	70	92	MECH-WESTINGHOUSE	59% ODI AT TSH 1.31
18.	70	100	MECH-WESTINGHOUSE	37% ODI AT TSH 1.47(MRPC-SAI)
19.	71	73	MECH-WESTINGHOUSE	38% ODI AT TSH 0.66(MRPC-MAI)
20.	72	90	MECH-WESTINGHOUSE	49% ODI AT TSH 1.32
21.	73	91	MECH-WESTINGHOUSE	17% ODI AT TSH 2.08(MRPC-MAI)
22.	74	76	MECH-WESTINGHOUSE	27% ODI AT TSH 0.65(MRPC-SAI)
23.	74	92	MECH-WESTINGHOUSE	35% ODI AT TSH 0.69(MRPC-SAI)
24.	74	98	MECH-WESTINGHOUSE	SAI AT TSH 0.77
25.	75	79	MECH-WESTINGHOUSE	51% ODI AT TSH 1.45
26.	78	94	MECH-WESTINGHOUSE	44% ODI AT TSH 0.87(MRPC-SAI,VOL)
27.	78	96	MECH-WESTINGHOUSE	SAI AT TSH 0.42(IR)
28.	79	93	MECH-WESTINGHOUSE	29% ODI AT TSH 0.67(MRPC-SAI)
29.	81	87	MECH-WESTINGHOUSE	31% ODI AT TSH 0.73(MRPC-SAI)
30.	134	62	MECH-WESTINGHOUSE	SINGLE AXIAL IND. AT TSH -0.06

Total Indications Found = 30
Total Tubes Found = 30

STEAM GENERATOR 12

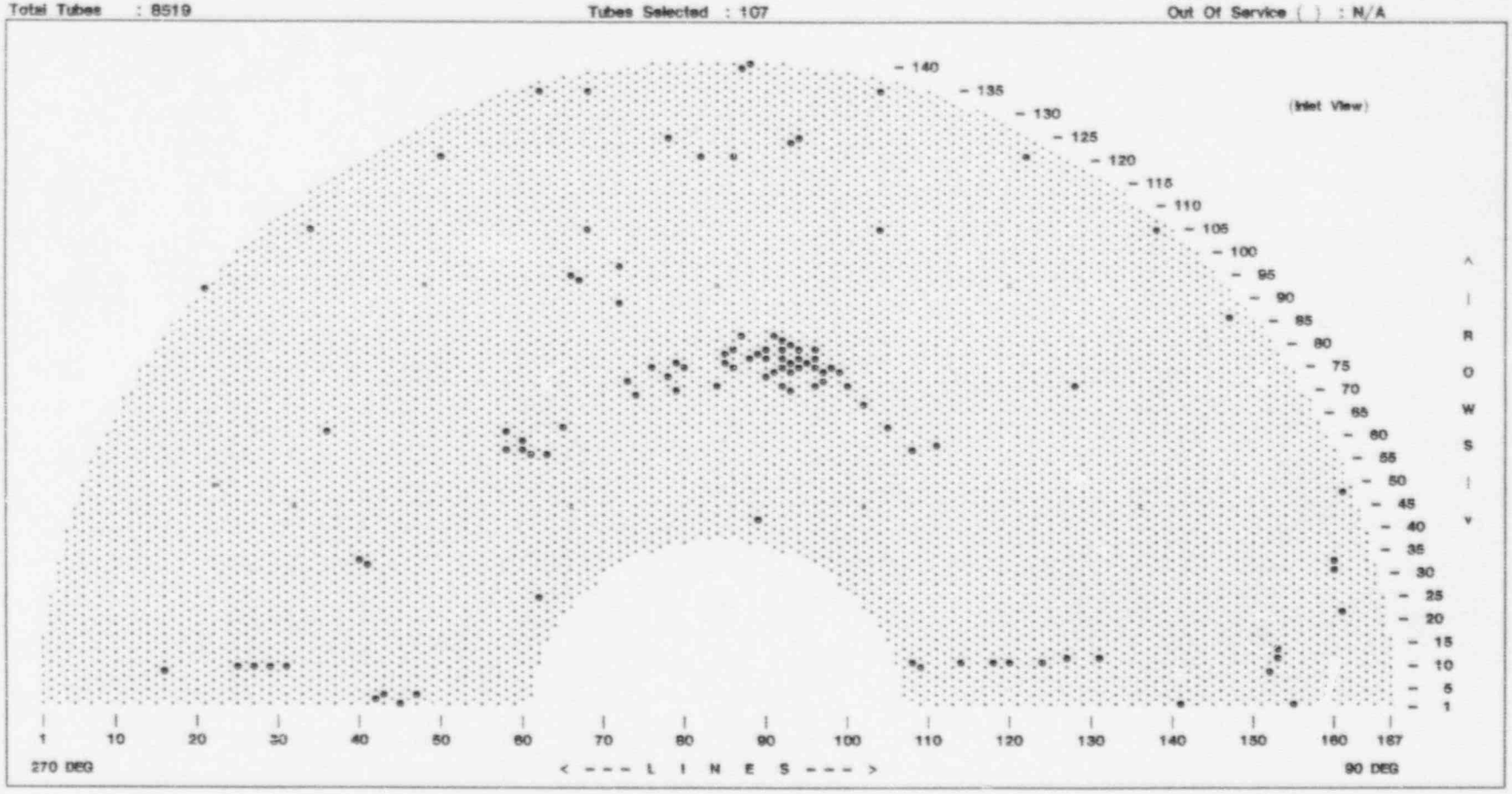
F. Plot with List of All Tubes Plugged All Outages

#12 STEAM GENERATOR
ALL TUBES PLUGGED AS OF JUNE 1994

Calvert Cliffs – Unit 1
Total Tubes : 8519

Tubes Selected : 107

S/G 12
Out Of Service ( ) : N/A



● PLG – 107

#12 STEAM GENERATOR
ALL TUBES PLUGGED UP TO AND INCLUDING THE 1994 OUTAGE

COUNT	ROW	LINE	TYPE&MANUFACTURER	REASON FOR PLUGGING
1.	1	45	MECH-WESTINGHOUSE	49% ODI AT TSC +0.5
2.	1	141	MECH-WESTINGHOUSE	PLUGGED IN 89,100% ODI AT TSH +0.2 (LEAKER)
3.	1	155	MECH-COMBUSTION ENG	72% ODI AT H4 +35.9
4.	2	42	MECH-WESTINGHOUSE	41% ODI AT TSH 1.25(MRPC-SAI)
5.	3	43	MECH-WESTINGHOUSE	38% ODI AT TSH +1.2
6.	3	47	MECH-WESTINGHOUSE	65% ODI AT TSH +5.55
7.	8	16	MECH-WESTINGHOUSE	APT AT VM 0.00
8.	8	152	MECH-WESTINGHOUSE	61% ODI AT VM +0.0
9.	9	25	MECH-WESTINGHOUSE	55% ODI AT VM +0.0
10.	9	27	MECH-WESTINGHOUSE	59% ODI AT H6 +17.8
11.	9	29	MECH-COMBUSTION ENG	44% ODI AT VM +0.
12.	9	31	MECH-WESTINGHOUSE	MULTIPLE AXIAL IND. AT VM 0.00
13.	9	109	MECH-WESTINGHOUSE	48% ODI AT TSH +0.97
14.	10	108	MECH-WESTINGHOUSE	38% ODI AT TSH +1.4
15.	10	114	MECH-WESTINGHOUSE	APT AT VM 0.00
16.	10	118	MECH-WESTINGHOUSE	APT AT VM 0.00
17.	10	120	MECH-WESTINGHOUSE	APT AT VM 0.00
18.	10	124	MECH-WESTINGHOUSE	APT AT VM 0.00
19.	11	127	MECH-WESTINGHOUSE	DI AT VM +0.0
20.	11	131	MECH-WESTINGHOUSE	APT AT VM 0.00(MRPC-VOL)IR
21.	11	153	MECH-WESTINGHOUSE	APT AT VM 0.00
22.	13	153	MECH-WESTINGHOUSE	APT AT VM 0.00
23.	21	161	MECH-COMBUSTION ENG	45% ODI AT H2 +34.2
24.	24	62	MECH-WESTINGHOUSE	77% ODI AT H6 0.63
25.	30	160	MECH-WESTINGHOUSE	DUMMY TUBE
26.	31	41	MECH-WESTINGHOUSE	47% ODI AT TSH +0.7
27.	32	40	MECH-WESTINGHOUSE	42% ODI AT TSH +0.7
28.	32	160	MECH-WESTINGHOUSE	DUMMY TUBE
29.	41	89	MECH-WESTINGHOUSE	47% ODI AT H1 13.68
30.	47	161	MECH-COMBUSTION ENG	38% ODI AT DC 0.0
31.	55	61	MECH-COMBUSTION ENG	43% ODI AT TSH +1.0
32.	55	63	MECH-COMBUSTION ENG	A 48% ODI AT TSH +0.7
33.	56	58	MECH-WESTINGHOUSE	57% ODI AT TSH +0.7
34.	56	60	MECH-WESTINGHOUSE	53% ODI AT TSH +0.5
35.	56	108	MECH-WESTINGHOUSE	31% ODI AT TSH +0.8
36.	57	111	MECH-WESTINGHOUSE	SINGLE AXIAL IND. AT TSH 0.16
37.	58	60	MECH-COMBUSTION ENG	48% ODI AT TSH +0.5
38.	60	36	MECH-WESTINGHOUSE	DI AT TSH +0.08
39.	60	58	MECH-WESTINGHOUSE	16% ODI AT TSH +0.6
40.	61	65	MECH-WESTINGHOUSE	42% ODI AT TSH +0.7
41.	61	105	MECH-WESTINGHOUSE	49% ODI AT TSH +1.0
42.	66	102	MECH-WESTINGHOUSE	55% ODI AT TSH 0.69
43.	68	74	MECH-WESTINGHOUSE	38% ODI AT TSH +1.2
44.	69	79	MECH-WESTINGHOUSE	41% ODI AT TSH 0.80
45.	69	93	MECH-WESTINGHOUSE	56% ODI AT TSH 1.10
46.	70	84	MECH-WESTINGHOUSE	45% ODI AT TSH +0.7
47.	70	92	MECH-WESTINGHOUSE	59% ODI AT TSH 1.31
48.	70	96	MECH-WESTINGHOUSE	64% ODI AT TSH +0.7
49.	70	100	MECH-WESTINGHOUSE	37% ODI AT TSH 1.47(MRPC-SAI)
50.	70	128	MECH-COMBUSTION ENG	BLG FROM TSH TO 24.5
51.	71	73	MECH-WESTINGHOUSE	38% ODI AT TSH 0.66(MRPC-MAI)
52.	71	97	MECH-WESTINGHOUSE	47% ODI AT TSH +0.5
53.	72	78	MECH-WESTINGHOUSE	45% ODI AT TSH +0.9
54.	72	90	MECH-WESTINGHOUSE	49% ODI AT TSH 1.32
55.	73	91	MECH-WESTINGHOUSE	17% ODI AT TSH 2.08(MRPC-MAI)
56.	73	93	MECH-WESTINGHOUSE	54% ODI AT TSH +0.7
57.	73	97	MECH-WESTINGHOUSE	59% ODI AT TSH +1.7
58.	73	99	MECH-WESTINGHOUSE	DI AT TSH +0.6
59.	74	76	MECH-WESTINGHOUSE	27% ODI AT TSH 0.65(MRPC-SAI)
60.	74	80	MECH-WESTINGHOUSE	48% ODI AT TSH +1.0
61.	74	86	MECH-WESTINGHOUSE	38% ODI AT TSH +1.4
62.	74	92	MECH-WESTINGHOUSE	35% ODI AT TSH 0.69(MRPC-SAI)
63.	74	94	MECH-WESTINGHOUSE	33% ODI AT TSH +1.4
64.	74	96	MECH-WESTINGHOUSE	45% ODI AT TSH +0.6
65.	74	98	MECH-WESTINGHOUSE	SAI AT TSH 0.77

#12 STEAM GENERATOR
ALL TUBES PLUGGED UP TO AND INCLUDING THE 1994 OUTAGE

COUNT	ROW	LINE	TYPE&MANUFACTURER	REASON FOR PLUGGING
66.	75	79	MECH-WESTINGHOUSE	51% ODI AT TSH 1.45
67.	75	85	MECH-WESTINGHOUSE	44% ODI AT TSH +1.3
68.	75	93	MECH-WESTINGHOUSE	PLUGGED 1989, 55% ODI AT TSH +1.3
69.	75	95	MECH-WESTINGHOUSE	67% ODI AT TSH +0.7
70.	76	88	MECH-COMBUSTION ENG	48% ODI AT TSH +2.8
71.	76	90	MECH-WESTINGHOUSE	34% ODI AT TSH +3.0
72.	76	92	MECH-WESTINGHOUSE	53% ODI AT TSH +0.6
73.	76	94	MECH-WESTINGHOUSE	38% ODI AT TSH +0.5
74.	76	96	MECH-WESTINGHOUSE	45% ODI AT TSH +0.4
75.	77	85	MECH-WESTINGHOUSE	52% ODI AT TSH +2.7
76.	77	89	MECH-WESTINGHOUSE	43% ODI AT TSH +2.2
77.	78	86	MECH-WESTINGHOUSE	44% ODI AT TSH +0.6
78.	78	90	MECH-WESTINGHOUSE	47% ODI AT TSH +1.3
79.	78	92	MECH-COMBUSTION ENG	45% ODI AT TSH +2.8
80.	78	94	MECH-WESTINGHOUSE	44% ODI AT TSH 0.87(MRPC-SAI,VOL)
81.	78	96	MECH-WESTINGHOUSE	SAI AT TSH 0.42(IR)
82.	79	93	MECH-WESTINGHOUSE	29% ODI AT TSH 0.67(MRPC-SAI)
83.	80	92	MECH-COMBUSTION ENG	44% ODI AT TSH +0.7
84.	81	87	MECH-WESTINGHOUSE	31% ODI AT TSH 0.73(MRPC-SAI)
85.	81	91	MECH-WESTINGHOUSE	19% ODI AT TSH +0.5
86.	85	147	MECH-WESTINGHOUSE	55% ODI AT H7 +21.7
87.	88	72	MECH-WESTINGHOUSE	55% ODI AT TSC +1.22
88.	91	21	MECH-WESTINGHOUSE	RIM CUT, BURN THROUGH
89.	93	67	MECH-COMBUSTION ENG	PLUGGED BY MISTAKE
90.	94	66	MECH-WESTINGHOUSE	44% ODI AT VM,PLUGGED WRONG TUBE IN 86,R-93 L-67
91.	96	72	MECH-WESTINGHOUSE	46% ODI AT C1 +30.0
92.	104	34	MECH-WESTINGHOUSE	RIM CUT, STAKING LOCATION
93.	104	68	MECH-WESTINGHOUSE	RIM CUT, STAKING LOCATION
94.	104	104	MECH-WESTINGHOUSE	RIM CUT, STAKING LOCATION
95.	104	138	MECH-WESTINGHOUSE	RIM CUT, STAKING LOCATION
96.	120	50	MECH-WESTINGHOUSE	RIM CUT, STAKING LOCATION
97.	120	82	MECH-WESTINGHOUSE	RIM CUT, STAKING LOCATION
98.	120	86	MECH-WESTINGHOUSE	RIM CUT, STAKING LOCATION
99.	120	122	MECH-WESTINGHOUSE	RIM CUT, STAKING LOCATION
100.	123	93	MECH-WESTINGHOUSE	PV & DI AT TSH +8.8
101.	124	78	MECH-WESTINGHOUSE	45% ODI AT C8 +12.0
102.	124	94	CONSTCOMBUSTION ENG	INSTALLED AT CONSTRUCTION
103.	134	62	MECH-WESTINGHOUSE	SINGLE AXIAL IND. AT TSH -0.06
104.	134	68	MECH-WESTINGHOUSE	RIM CUT, STAKING LOCATION
105.	134	104	MECH-WESTINGHOUSE	RIM CUT, STAKING LOCATION
106.	139	87	MECH-COMBUSTION ENG	42% ODI AT TSH +21.0
107.	140	88	MECH-WESTINGHOUSE	57% ODI AT TSH +20.3

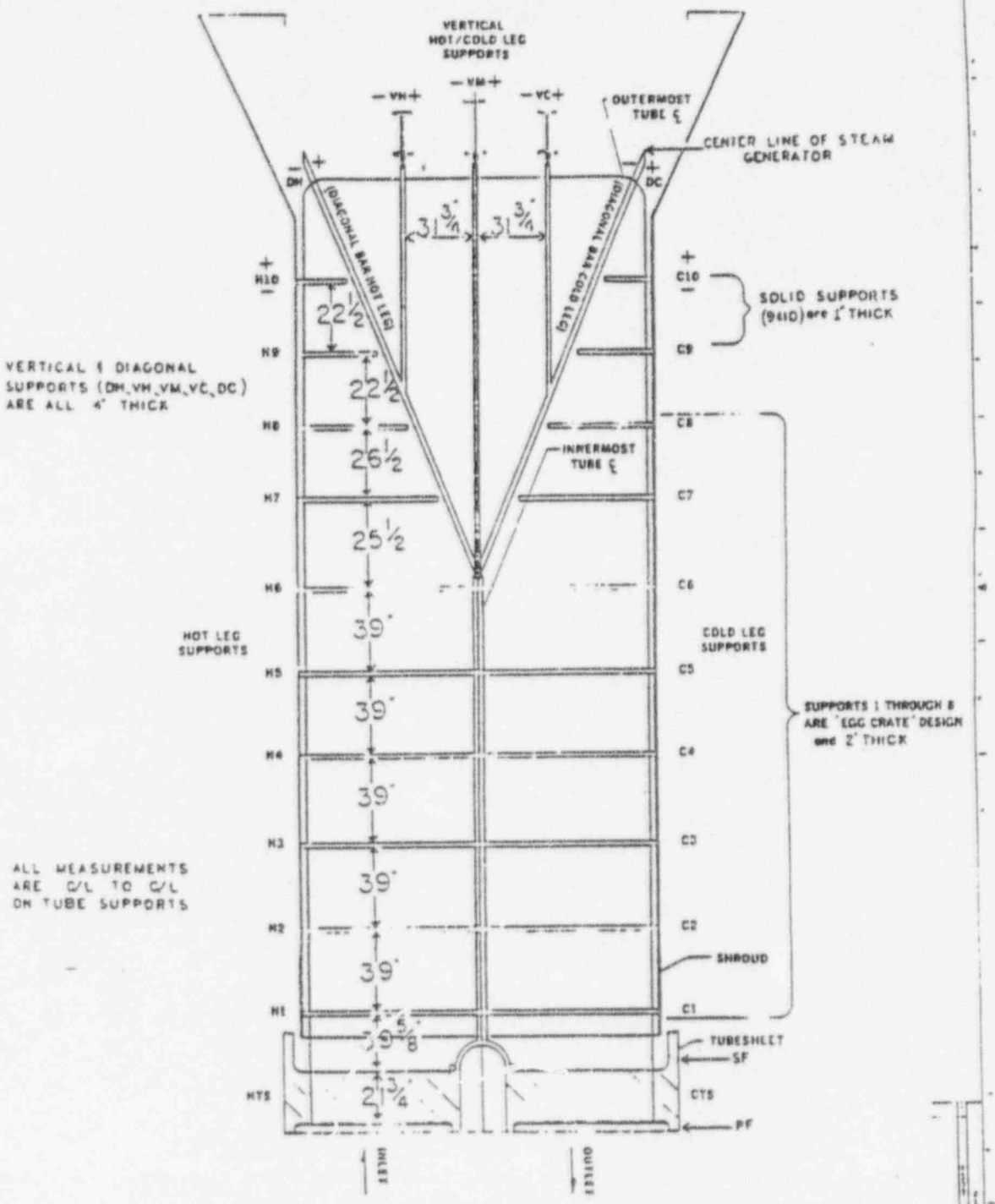
Total Indications Found = 107
Total Tubes Found = 107

APPENDIX III

Steam Generator Inspection Information

A. Steam Generator Support Locations and Nomenclature

STEAM GENERATORS CCNPP 1 & 2



Rows Contacting Supports Above 6th TS

ROWS	NO. OF SUPPORTS	SUPPORT DESIGNATIONS
1-9	1	VM
10-25	3	DH, VM, DC
26-65	5	H7, DH, VM, DC, C7
66-73	7	H8, H7, DH, VM, DC, C7, C8
74-89	9	VH, H8, H7, DH, VM, DC, C7, C8, VC
90-115	11	H9, VH, H8, H7, DH, VM, DC, C7, C8, VC, C9
116-140	13	H10, H9, VH, H8, H7, DH, VM, DC, C7, C8, VC, C9, C10

ACCEPTABLE 3 LETTER CODES

DNT - Dent

PLG - Plug

PVN - Permeability Variation

RES - Restricted

RBD - Retest Bad Data

SLV - Sleeve

INR - Indication Not Reportable

INF - Indication Not Found

PID - Positive ID

NQI - Non Quantifiable Indication

DI - Distorted Indication

CUD - Copper

BLG - Bulge

IDI - ID Indication

SLG - Sludge

APT - Absolute Positive Trace

NRH - No Roll Hotleg

NRC - No Roll Coldleg

DRI - Distorted Roll Transition (w/ possible indication)

ODI - Outside Diameter Indication

PLP - Possible Loose Part