

STEAM GENERATOR "A"
9TH REFUELING FALL 1993 OUTAGE
NORTH ANNA 2

In Steam Generator "A," 3098 tubes were inspected full length with bobbin probes. One hundred and two, row 2 and row 3 tubes were examined in the U-bend region (tube support 7H to 7C) with Rotating Pancake Coil (RPC) probes. The remaining portions of the row 2 and row 3 tubes were examined with bobbin probes. RPC examination was performed on 3199 tubes in the hot leg transition region at the top of the tubesheet. Supplemental examinations were also performed using RPC probes where additional confirmatory or other data was desired. A total of 122 tubes were plugged in this steam generator. Ninety-five tubes were plugged because of indications, 14 tubes were plugged to "box" adjacent tubes which could not be stabilized (these tubes have sentinel plugs on the cold end), and 13 tubes were plugged as a precautionary measure (although the analysis process determined that these tubes do not contain flaw indications, concerns were noted with the signals in these 13 tubes). Eleven of the plugged tubes required stabilization. See the attached list and tube sheet maps for details. Please note that the number of indications displayed on the maps and delineated in the attached list will exceed the total number of plugged tubes, because several tubes contain more than one indication.

SG - A TUBES PLUGGED / STABILIZED

HOT LEG

North Anna Unit 2

VGB-A SERIES 51

10-10-1993

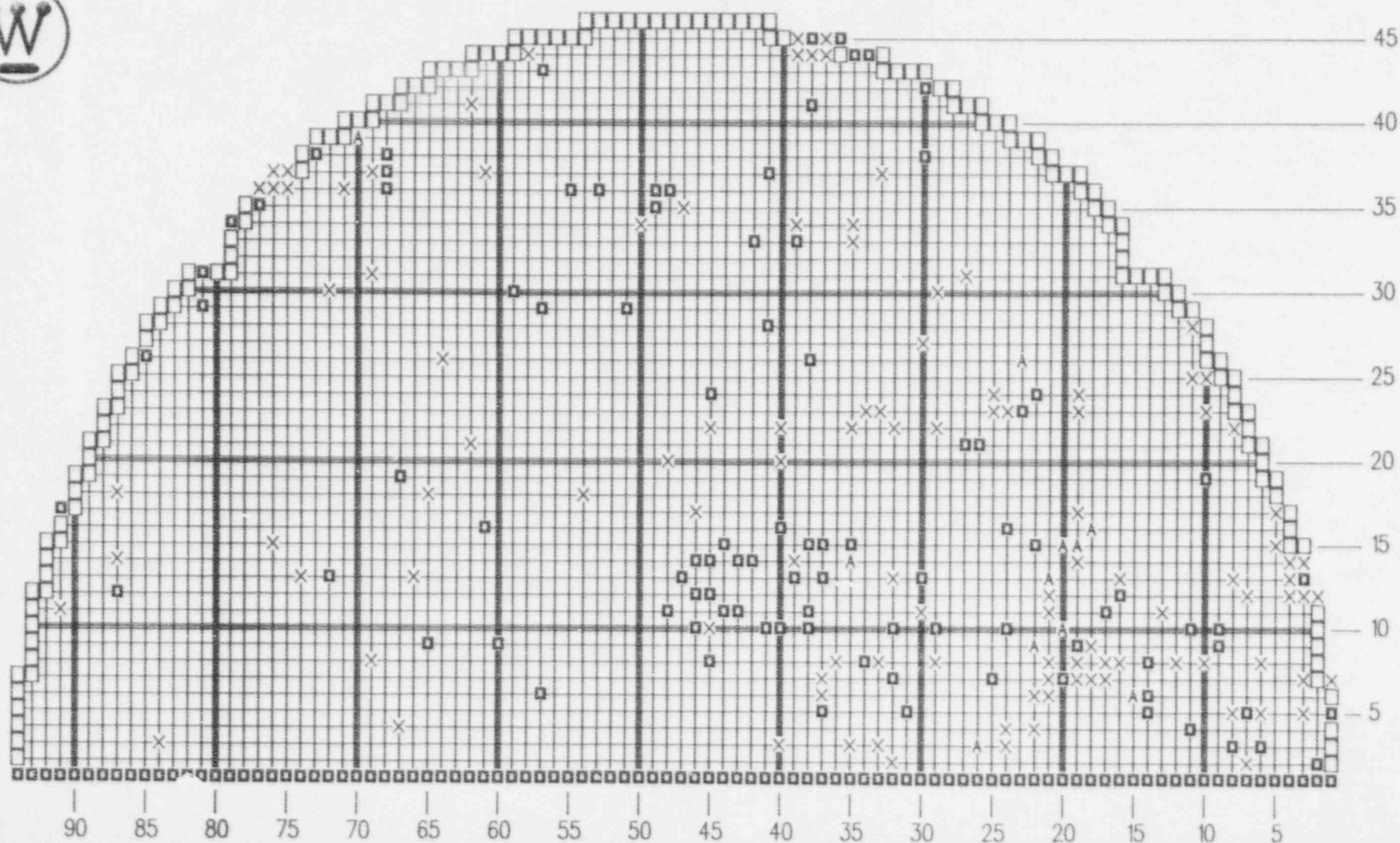
14:39 HRS.

SUPERTUBIN

× : 111 TUBE MECHANICALLY PLUGGED

A : 11 TUBE STABILIZED WITH
ARRANGEMENT "A" & MECHANICALLY
PLUGGED

▣ : 189 EXISTING PLUGGED TUBE



SG - A TUBES PLUGGED -MECH. / SENTINEL

COLD LEG

North Anna Unit 2

VGB-A SERIES 51

10-10-1993

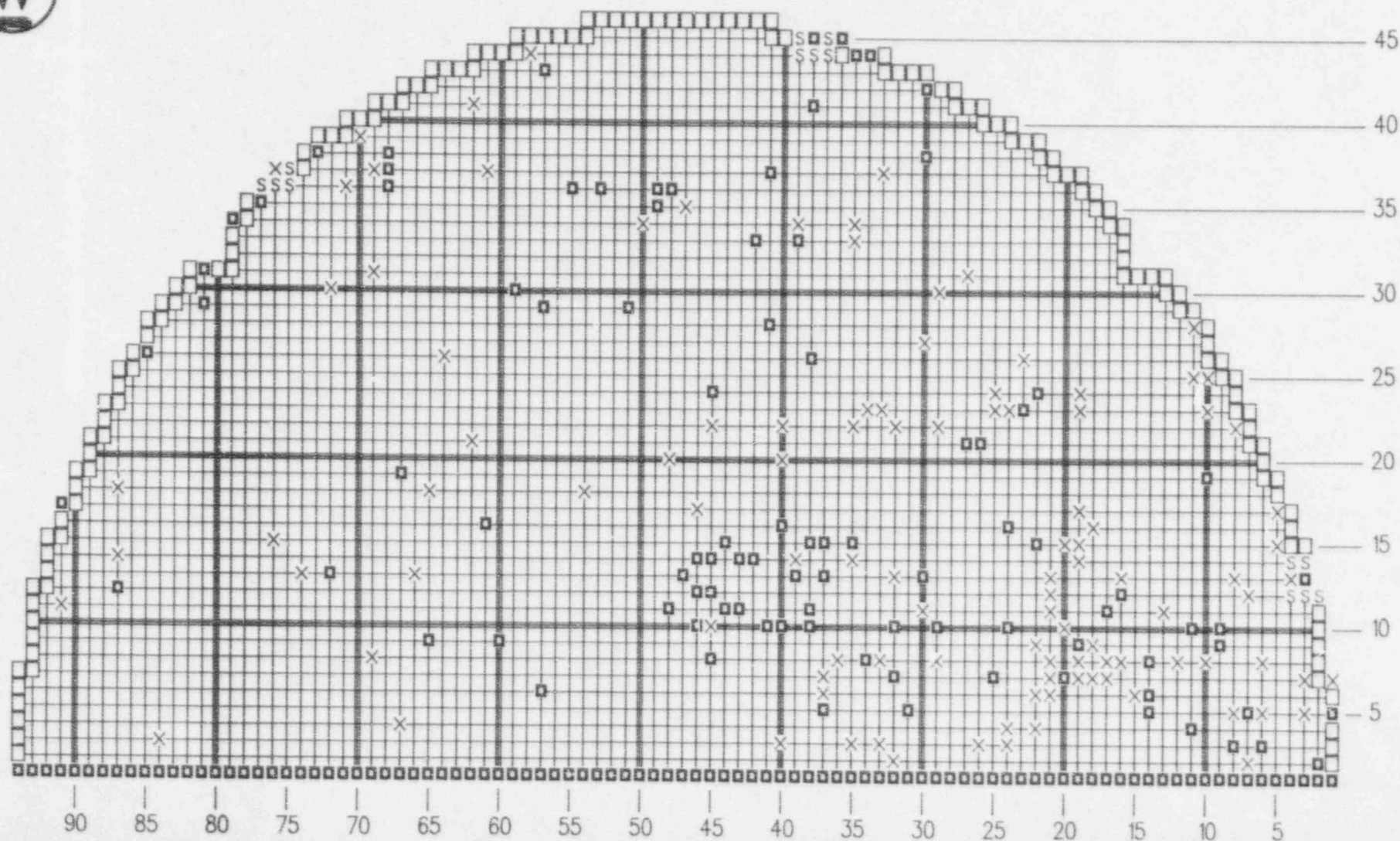
14:28 HRS.

SUPERTUBIN

× : 108 TUBE MECHANICALLY PLUGGED

S : 14 TUBE SENTINEL PLUGGED

▣ : 189 EXISTING PLUGGED TUBE



SG A - HOT LEG % THRU WALL INDICATIONS

Most Severe Indication Per Tube

North Anna Unit 2 VGB-A SERIES 51

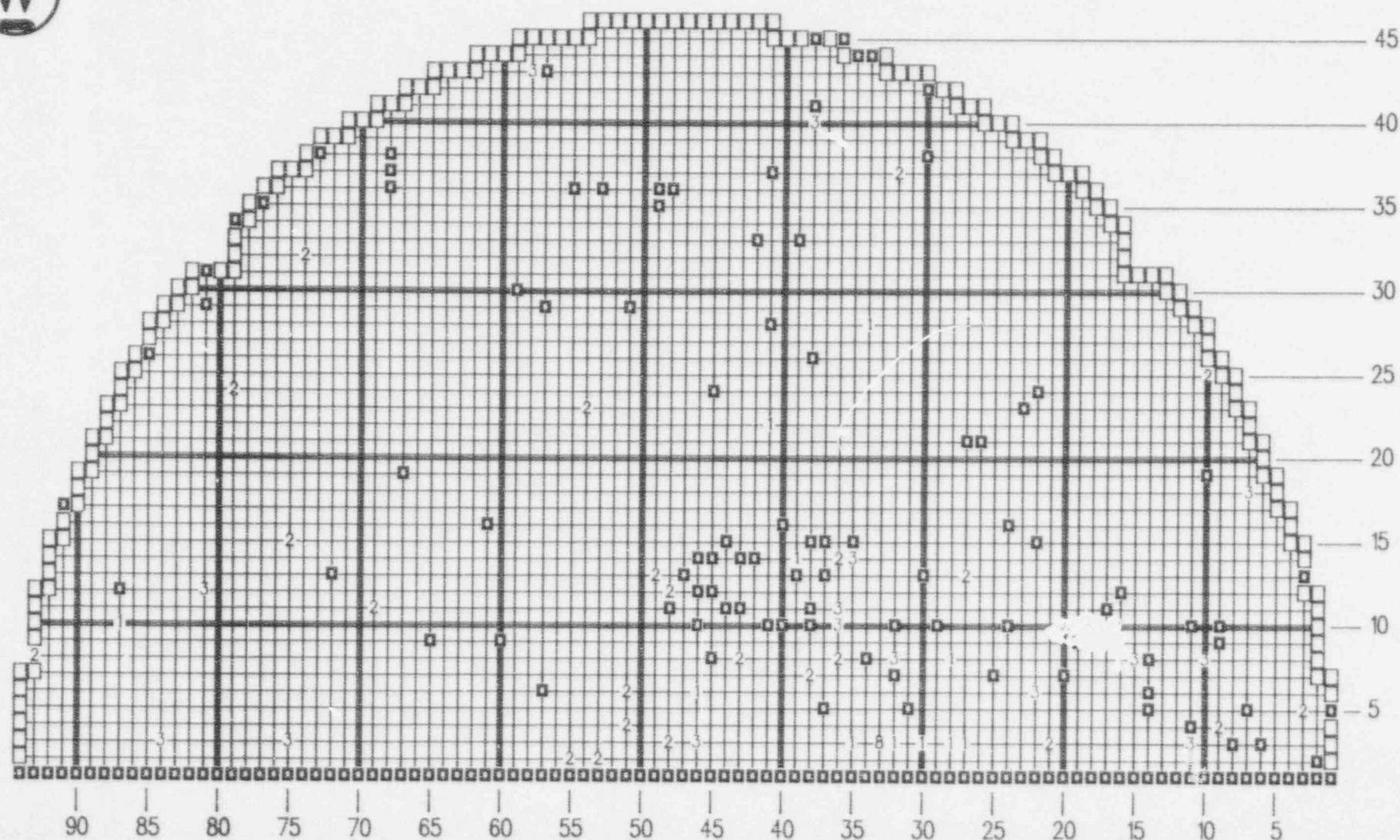
10-11-1993

16:41 HRS.

SUPERTUBIN

8 : 1 INDICATION 80 TO 89%
 3 : 15 INDICATION 30 TO 39%
 2 : 23 INDICATION 20 TO 29%
 1 : 11 INDICATION 10 TO 19%

□ : 189 EXISTING PLUGGED TUBE



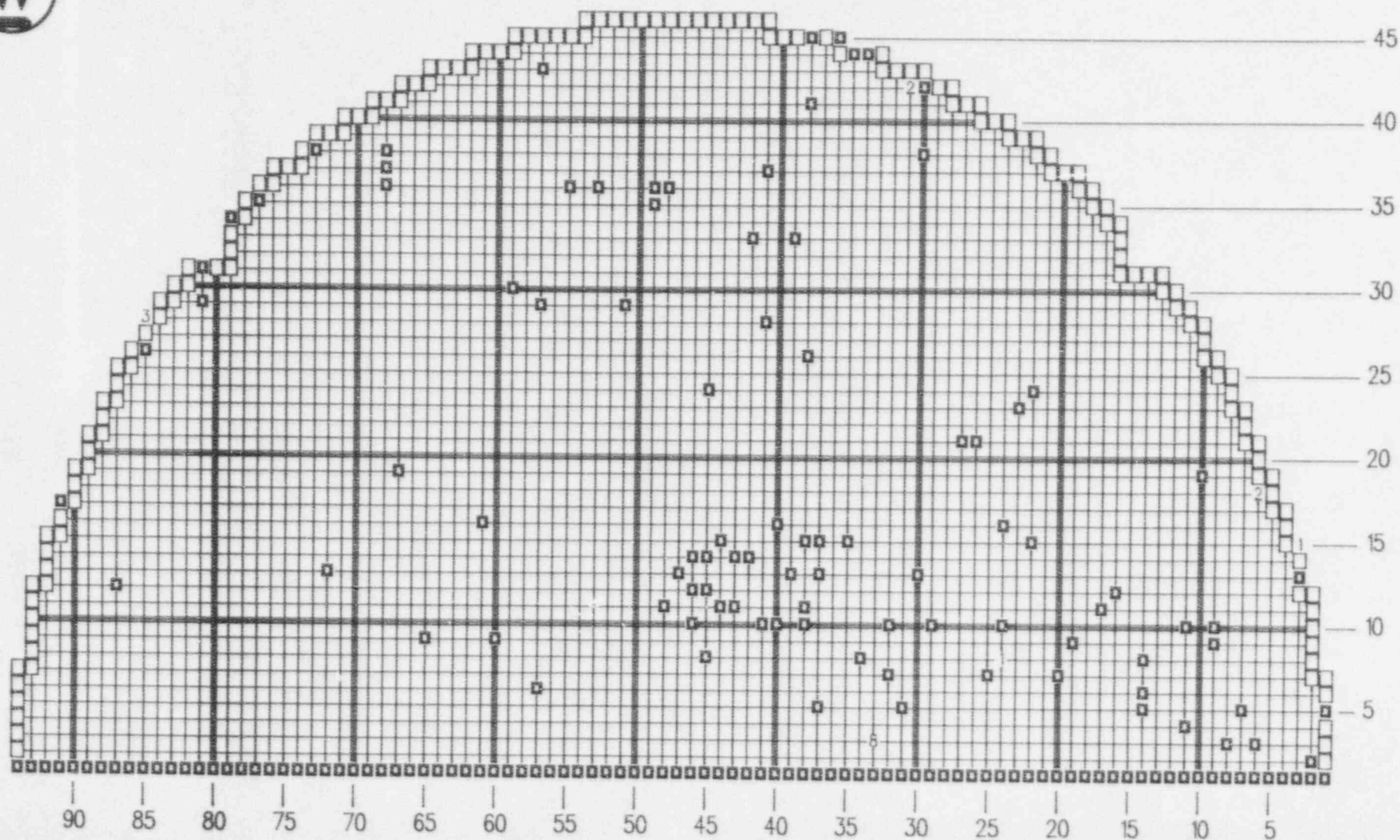
SG A - COLD LEG % THRU WALL INDICATIONS

Most Severe Indication Per Tube
North Anna Unit 2 VGB-A SERIES 51

10-11-1993 16:27 HRS. SUPERTUBIN

8 : 1 INDICATION 80 TO 89%
3 : 1 INDICATION 30 TO 39%
2 : 2 INDICATION 20 TO 29%
1 : 2 INDICATION 10 TO 19%

□ : 189 EXISTING PLUGGED TUBE



SG A - AVB INDICATIONS

Most Severe Indication Per Tube

North Anna Unit 2

VGB-A SERIES 51

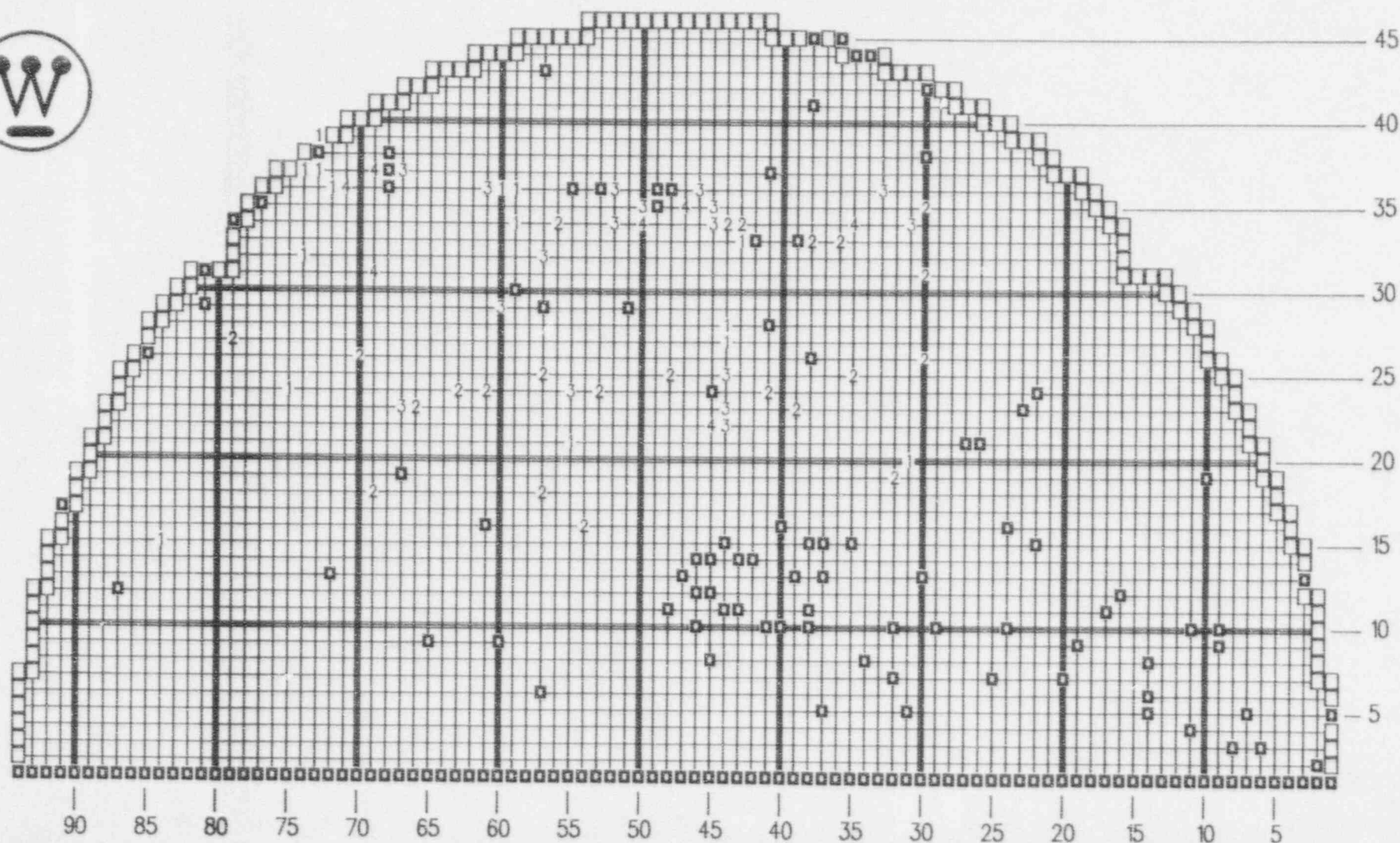
4 : 7 INDICATION 40 TO 49%
 3 : 17 INDICATION 30 TO 39%
 2 : 23 INDICATION 20 TO 29%
 1 : 15 INDICATION 10 TO 19%

□ : 189 EXISTING PLUGGED TUBE

10-11-1993

08:02 HRS.

SUPERTUBIN



SG - A TUBES WITH CIRC. INDICATIONS

C : 60 TUBE WITH CIRCUMFERENTIAL INDICATION

□ : 189 PLUGGED TUBES

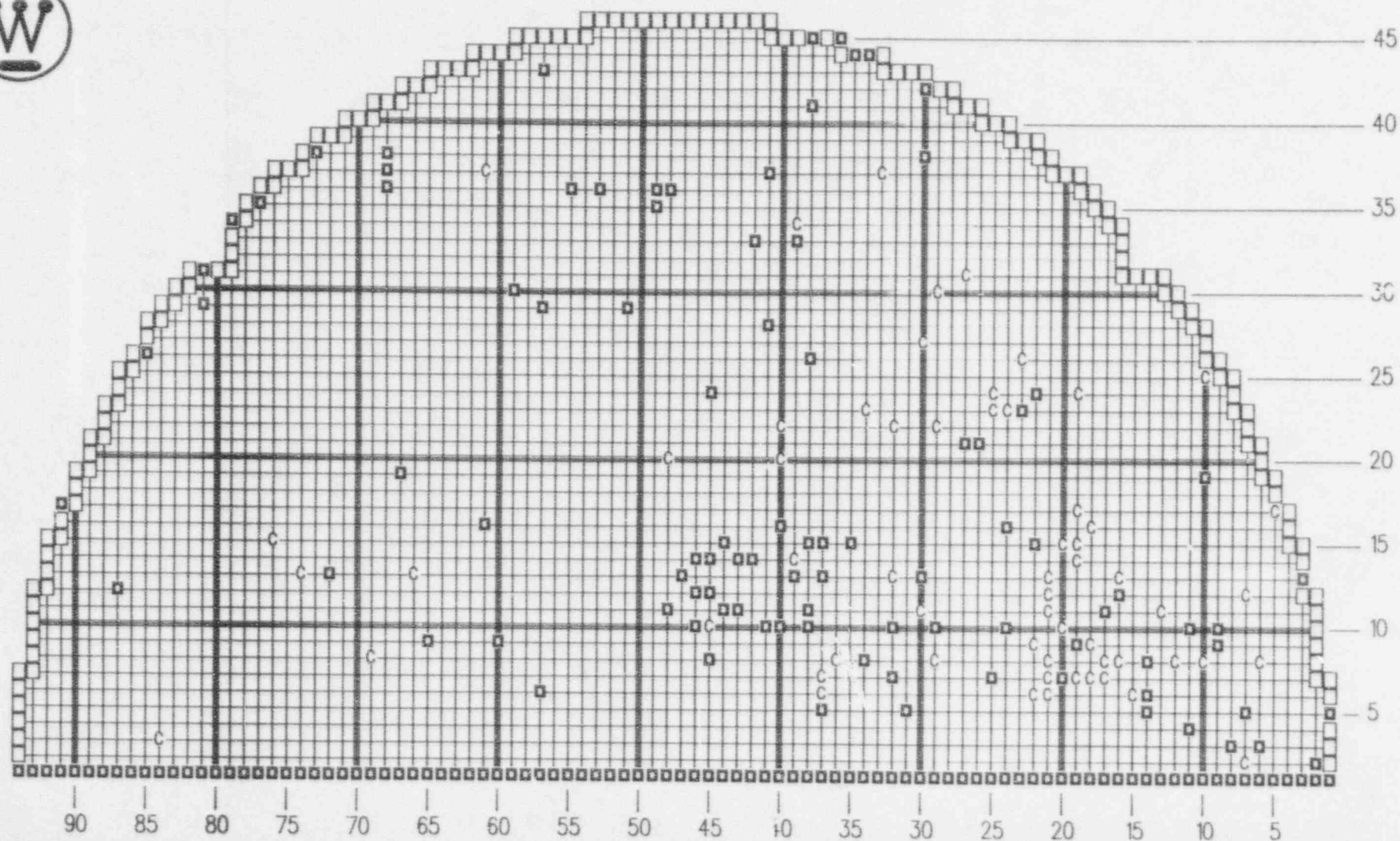
North Anna Unit 2

VGB-A SERIES 51

10-10-1993

16:21 HRS.

SUPERTUBIN



SG - A TUBES WITH AXIAL INDICATIONS

A : 31 TUBE WITH AXIAL INDICATIONS

□ : 189 PLUGGED TUBE

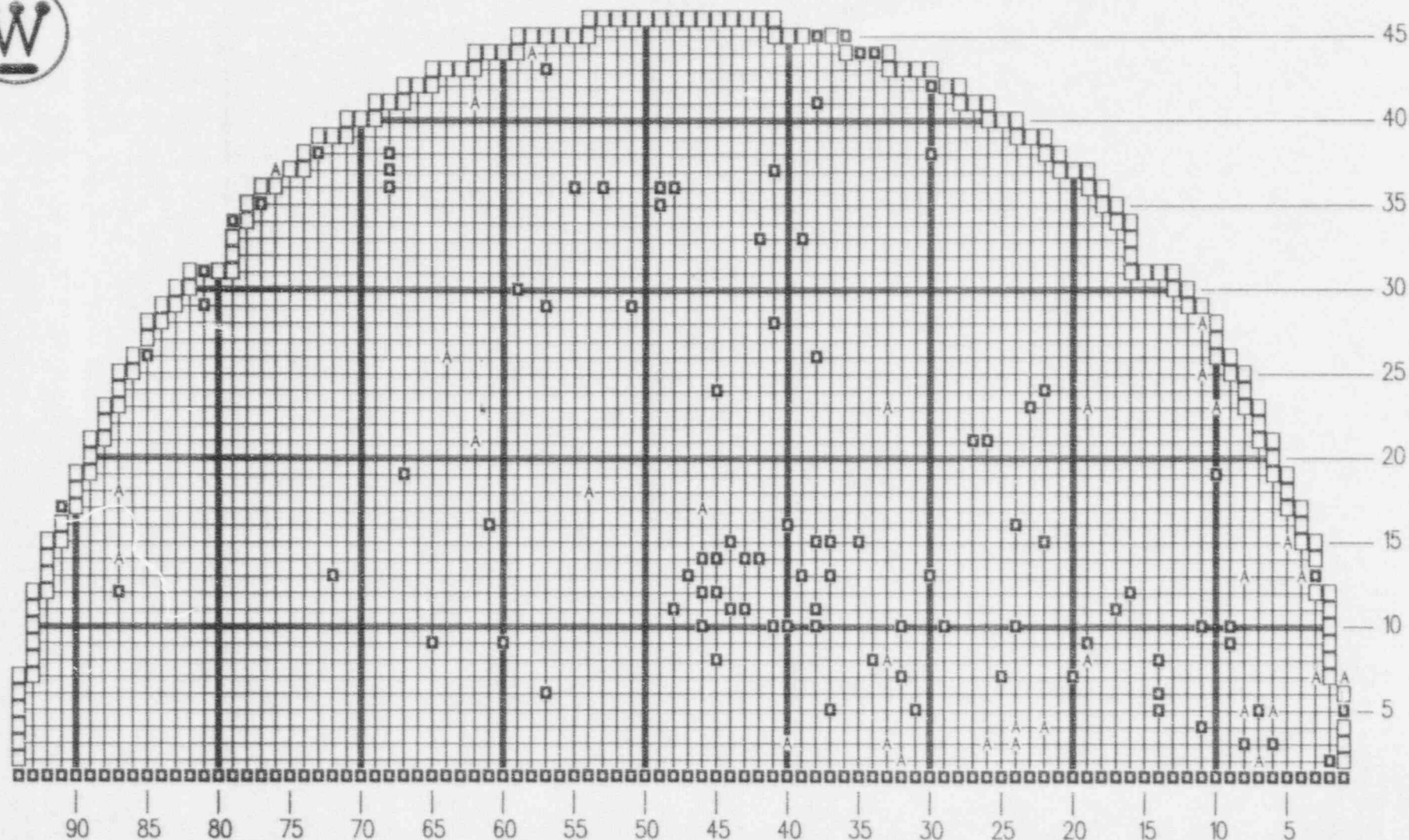
North Anna Unit 2

VGB-A SERIES 51

10-10-1993

16:33 HRS.

SUPERTUBIN



NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
7	1	SAI	TSH	plugged
12	2			plugged **
5	3	27	1H	plugged @
5	3	DI	1H	plugged @
5	3	SAA	1H	plugged @
6	3	SCL	TSH	
7	3	SAI	TSH	plugged
8	3	DIN	4H	
12	3			plugged **
14	3			plugged **
15	3	DIN	1H	
15	3	2	1C	
3	4	SAA	TSH	
6	4	DIN	1H	
12	4			plugged **
13	4	SAI	TSH	plugged
14	4			plugged **
13	5	SAA	TSH	
15	5	SAI	TSH	plugged
17	5	DI	1H	plugged
17	5	SCI	1H	plugged
2	6	SCA	TSH	
5	6	SAI	TSH	plugged
8	6	DI	1H	plugged
8	6	SCI	1H	plugged
12	6	DIN	1H	
18	6	24	1C	
21	6	SAA	TSH	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
2	7	NOI	TSH	plugged
2	7	DI	1H	plugged
2	7	SAI	TSH	plugged
2	7	SCI	1H	plugged
8	7	DIN	1H	
12	7	DI	1H	plugged
12	7	SCI	1H	plugged
13	7	SAA	TSH	
18	7	28	TSH	
18	7	38	1H	
21	7	SAA	TSH	
22	7	SAA	TSH	
23	7	SAA	TSH	
5	8	MAI	TSH	plugged
7	8	SCA	TSH	
13	8	SAI	TSH	plugged
22	8	SCA	TSH	plugged @
23	8	SAA	TSH	
4	9	25	TSH	
11	9	DIN	1H	
6	10	DIN	2H	
6	10	SAA	2H	
8	10	37	1H	plugged
8	10	DI	1H	plugged
8	10	DIN	2H	plugged
8	10	SCI	1H	plugged
23	10	SAI	TSH	plugged
23	10	SAI	TSH	plugged
25	10	DI	1H	plugged
25	10	23	6H	plugged
25	10	SCI	1H	plugged
3	11	29	1H	
3	11	31	1H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
6	11	DIN	1H	
8	11	DIN	1H	
25	11	SAI	TSH	plugged
25	11	SAI	TSH	plugged
28	11	SAI	TSH	plugged
28	11	SAI	TSH	plugged
6	12	DIN	1H	
8	12	DI	1H	plugged
8	12	SCI	1H	plugged
19	12	DIN	1H	
21	12	DIN	1H	
11	13	DI	1H	plugged @
11	13	DIN	2H	plugged @
11	13	14	1H	plugged @
30	14	DIN	4H	
6	15	DIN	1H	plugged *
6	15	SCI	TSH	plugged *
8	15	35	2H	
14	15	DIN	4H	
7	16	SCA	TSH	
8	16	DIN	1H	plugged
8	16	SCI	TSH	plugged
13	16	SCI	TSH	plugged
29	16	DIN	1H	
7	17	TI	TEH	plugged
7	17	SCI	TSH	plugged
8	17	DI	1H	plugged
8	17	SCI	1H	plugged
21	17	DIN	1H	
32	17	DIN	3H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
7	18	SCI	TSH	plugged
9	18	DIN	1H	plugged
9	18	SCI	TSH	plugged
16	18	MCI	TSH	plugged *
7	19	SCI	TSH	plugged
7	19	DIN	1H	plugged
8	19	SAI	TSH	plugged
8	19	TI	TSH	plugged
11	19	DIN	1H	
11	19	DIN	2H	
13	19	DIN	1H	
14	19	SCI	TSH	plugged
15	19	SCI	TSH	plugged *
17	19	SCI	TSH	plugged
21	19	DIN	1H	
23	19	SAI	TSH	plugged
24	19	DI	1H	plugged
24	19	SCI	1H	plugged
8	20	DIN	1H	
10	20	MCI	TSH	plugged *
15	20	SCI	TSH	plugged *
27	20	DIN	1H	
3	21	23	1H	
6	21	SCI	TSH	plugged
6	21	SAA	TSH	plugged
6	21	DI	1H	plugged
6	21	SCI	1H	plugged
7	21	SCI	TSH	plugged
8	21	SCI	TSH	plugged
8	21	DIN	1H	plugged

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
11	21	DIN	1H	plugged
11	21	SCI	TSH	plugged
12	21	8	1H	plugged @
12	21	DI	1H	plugged @
13	21	MCI	TSH	plugged *
4	22	SAI	TSH	plugged
6	22	SCI	TSH	plugged
6	22	33	1H	plugged
9	22	DIN	1H	plugged *
9	22	SCI	TSH	plugged *
12	22	DIN	1H	
13	22	DIN	1H	
25	22	DIN	1H	
6	23	DIN	1H	
6	23	DIN	2H	
22	23	DIN	1H	
26	23	SCI	TSH	plugged *
3	24	SAI	TSH	plugged
4	24	SAI	TSH	plugged
8	24	19	3C	
18	24	SAA	TSH	
23	24	SCI	TSH	plugged
4	25	SAA	TSH	
14	25	DIN	1H	
16	25	DIN	1H	
17	25	DIN	1H	
18	25	PAN	TSH	
18	25	SCA	TSH	
22	25	DIN	1H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
23	25	SCI	TSH	plugged
24	25	SCI	TSH	plugged
27	25	DIN	1H	
33	25	DIN	1H	
3	26	DIN	1H	plugged *
3	26	SAI	TSH	plugged *
3	26	SCA	TSH	plugged *
5	26	DIN	1H	
6	26	SAA	TSH	
7	26	DIN	1H	
7	26	DIN	2H	
11	26	DIN	1H	
23	26	DIN	1H	
33	26	DIN	1H	
36	26	DIN	1H	
37	26	DIN	1H	
37	26	DIN	2H	
3	27	14	1H	
6	27	DIN	1H	
13	27	21	1H	
13	27	18	2H	
14	27	DIN	1H	
27	27	SAA	TSH	
31	27	SCI	TSH	plugged
2	28	DIN	3H	
3	28	19	1H	
8	28	16	2H	
11	28	DIN	1H	
14	28	DIN	1H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
15	28	DIN	1H	
15	28	SAA	TSH	
26	28	DIN	1H	
28	28	DIN	1H	
30	28	DIN	1H	
34	28	SAA	TSH	
36	28	DIN	1C	
37	28	DIN	3H	
42	28	SAA	TSH	
3	29	SCL	TSH	
6	29	DIN	1H	
7	29	DIN	1H	
7	29	DIN	2H	
8	29	SCI	2H	plugged
8	29	DIN	1H	plugged
8	29	DI	2H	plugged
8	29	DIN	3H	plugged
8	29	DIN	4H	plugged
8	29	DIN	5H	plugged
15	29	DIN	1H	
16	29	DIN	1H	
19	29	DIN	1H	
22	29	SCI	TSH	plugged
24	29	DIN	1H	
30	29	DI	1H	plugged
30	29	DIN	2H	plugged
30	29	SCI	1H	plugged
36	29	SCA	TSH	
42	29	DIN	1H	
42	29	SAA	TSH	
3	30	18	1H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
6	30	DIN	1H	
11	30	SCI	TSH	plugged
12	30	DIN	1H	
14	30	DIN	1H	
15	30	DIN	1H	
16	30	DIN	1H	
24	30	NQN	TSH	
26	30	21	AV1	
26	30	16	AV2	
26	30	14	AV3	
26	30	16	AV4	
27	30	DI	1H	plugged
27	30	SCI	1H	plugged
31	30	25	AV2	
31	30	24	AV3	
31	30	23	AV4	
35	30	27	AV1	
35	30	27	AV2	
6	31	DIN	1H	
8	31	DIN	1H	
20	31	15	AV1	
20	31	19	AV2	
20	31	14	AV3	
20	31	17	AV4	
23	31	DIN	1H	
23	31	SAL	1H	
34	31	DIN	4H	
34	31	32	AV3	
42	31	23	2C	
2	32	SAI	TSH	plugged
3	32	5	1H	
6	32	DIN	1H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
8	32	39	1H	
13	32	SCI	TSH	plugged
19	32	24	AV2	
22	32	DIN	4H	plugged
22	32	SCI	TSH	plugged
33	32	DIN	1H	
37	32	28	1H	
3	33	80	7C	plugged
3	33	86	7H	plugged
3	33	SAI	7H	plugged
7	33	DIN	1H	
7	33	DIN	2H	
8	33	SAI	TSH	plugged
8	33	TI	TSH	plugged
10	33	NQN	TSH	
10	33	TIN	TSH	
10	33	DIN	1H	
10	33	DIN	2H	
23	33	SAI	TSH	plugged
36	33	38	AV1	
36	33	38	AV2	
37	33	PCI	TSH	plugged
4	34	DIN	2H	
6	34	DIN	1H	
11	34	DIN	1H	
23	34	SCI	TSH	plugged
28	34	15	TSH	
3	35	14	1H	plugged @
3	35	SCA	TSH	plugged @
7	35	DIN	2H	
12	35	DIN	1H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
13	35	DIN	1H	
13	35	DIN	2H	
14	35	33	TSH	plugged *@
14	35	SCA	TSH	plugged *@
22	35	SCA	TSH	plugged @
25	35	16	AV2	
25	35	24	AV3	
33	35	PAN	7H	plugged @
33	35	SAA	7H	plugged @
34	35	30	AV2	plugged
34	35	40	AV3	plugged
34	35	34	AV4	plugged
6	36	DIN	1H	
6	36	DIN	2H	
8	36	PCI	1H	plugged
8	36	SCI	3H	plugged
8	36	DI	1H	plugged
8	36	20	2H	plugged
8	36	29	3H	plugged
8	36	SCI	1H	plugged
10	36	37	1H	
10	36	20	2H	
11	36	35	1H	
14	36	25	TSH	
33	36	19	AV2	
33	36	24	AV3	
33	36	25	AV4	
6	37	SCI	TSH	plugged
6	37	DIN	1H	plugged
7	37	DI	1H	plugged
7	37	SCI	1H	plugged
44	37			plugged **
45	37	DIN	4H	plugged **
7	38	24	1H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
33	38	26	AV1	
33	38	36	AV2	
33	38	22	AV3	
40	38	37	1H	
44	38			plugged **
6	39	SAA	TSH	
14	39	11	TSH	plugged
14	39	DI	1H	plugged
14	39	SCI	1H	plugged
21	39	SAA	TSH	
23	39	28	AV2	
23	39	26	AV3	
23	39	21	AV4	
34	39	DI	1H	plugged
34	39	SCI	1H	plugged
44	39			plugged **
45	39			plugged **
3	40	TI	TEH	plugged
3	40	SAI	TSH	plugged
6	40	DIN	1H	
20	40	SCI	TSH	plugged
22	40	SCI	TSH	plugged
26	40	SAA	TSH	
28	40	SAA	TSH	
29	40	SAA	TSH	
30	40	SAA	TSH	
33	40	SAA	TSH	
22	41	NQN	TSH	
22	41	12	7H	
24	41	27	AV3	
24	41	SAA	TSH	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
30	41	SAA	TSH	
34	41	DIN	1H	
41	41	SAA	TSH	
3	42	SAA	TSH	
8	43	21	1H	
30	43	SAA	TSH	
33	43	18	AV4	
34	43	20	AV1	
41	43	DIN	1H	
2	44	SAA	TSH	
7	44	DIN	1H	
19	44	DIN	1H	
22	44	23	AV1	
22	44	35	AV2	
22	44	34	AV3	
22	44	23	AV4	
23	44	DIN	1H	
23	44	16	AV1	
23	44	27	AV2	
23	44	34	AV3	
23	44	29	AV4	
25	44	27	AV1	
25	44	36	AV2	
25	44	26	AV3	
25	44	31	AV4	
27	44	12	AV2	
28	44	11	AV2	
34	44	20	AV2	
34	44	28	AV3	
34	44	29	AV4	
37	44	DIN	1H	
10	45	SCI	TSH	plugged

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
16	45	DIN	1H	
22	45	28	AV1	plugged
22	45	43	AV2	plugged
22	45	41	AV3	plugged
22	45	30	AV4	plugged
30	45	DIN	1H	
34	45	25	AV2	
34	45	34	AV3	
34	45	22	AV4	
35	45	32	AV1	
35	45	33	AV2	
35	45	24	AV3	
46	45	DIN	6H	
3	46	37	1H	
6	46	19	1H	
17	46	SAI	TSH	plugged
36	46	36	AV2	
36	46	27	AV3	
36	46	30	AV4	
37	46	DIN	1H	
4	47	SAA	TSH	
35	47	27	AV1	plugged
35	47	38	AV2	plugged
35	47	43	AV3	plugged
35	47	31	AV4	plugged
2	48	SAA	TSH	
3	48	28	1H	
12	48	23	TSH	
18	48	DIN	1H	
20	48	SCI	TSH	plugged
25	48	29	AV2	
25	48	24	AV3	
13	49	22	TSH	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
29	49	SAA	TSH	
34	50	DIN	3H	plugged
34	50	25	AV1	plugged
34	50	40	AV3	plugged
34	50	34	AV4	plugged
35	50	33	AV1	
35	50	35	AV2	
35	50	36	AV3	
35	50	39	AV4	
45	50	SAA	TSH	
4	51	23	1H	
6	51	24	TEH	
34	52	16	AV2	
34	52	38	AV3	
34	52	26	AV4	
36	52	21	AV1	
36	52	36	AV2	
36	52	35	AV3	
36	52	31	AV4	
42	52	DIN	1H	
2	53	29	1H	
7	53	TIN	TSH	
24	53	18	AV1	
24	53	26	AV4	
40	53	SAA	TSH	
16	54	19	AV3	
16	54	22	AV4	
18	54	DI	1H	plugged
18	54	SAI	1H	plugged
23	54	27	5H	
2	55	25	1H	
21	55	19	AV3	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
24	55	22	AV1	
24	55	36	AV2	
24	55	33	AV3	
24	55	18	AV4	
34	56	22	AV3	
18	57	20	AV1	
18	57	20	AV2	
22	57	DIN	1H	
25	57	25	AV2	
25	57	25	AV3	
32	57	27	AV2	
32	57	32	AV3	
32	57	19	AV4	
25	58	TIN	TSH	
25	58	DIN	1H	
25	58	DIN	2H	
29	58	DIN	1H	
30	58	DIN	1H	
40	58	DIN	1H	
43	58	35	TSH	
44	58	DI	3H	plugged
44	58	SAI	3H	plugged
7	59	DIN	1H	
20	59	SAA	TSH	
28	59	SAA	TSH	
32	59	SCA	TSH	
34	59	13	AV3	
36	59	16	AV3	
39	59	DIN	1H	
39	59	DIN	2H	
40	59	SCL	TSH	
19	60	SCL	TSH	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
29	60	20	AV1	
29	60	37	AV2	
29	60	35	AV3	
29	60	31	AV4	
36	60	11	AV3	
43	60	DIN	1H	
7	61	DIN	1H	
8	61	DIN	1H	
24	61	17	AV1	
24	61	23	AV2	
24	61	25	AV3	
36	61	38	AV3	
36	61	33	AV4	
37	61	DI	3H	plugged
37	61	SCI	3H	plugged
21	62	SAI	TSH	plugged
25	62	SCA	TSH	
27	62	SCA	TSH	
34	62	DIN	1H	
38	62	DIN	1H	
41	62	SAI	TSH	plugged
24	63	22	AV1	
24	63	22	AV2	
34	63	SAA	TSH	
38	63	DIN	1H	
8	64	SCA	TSH	
26	64	SAI	TSH	plugged
43	64	SAA	TSH	
8	65	DIN	2H	
11	65	SCA	TSH	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
18	65	SCA	TSH	plugged @
22	65	SAA	TSH	
8	66	NQN	2H	
13	66	SCI	TSH	plugged
23	66	19	AV1	
23	66	24	AV2	
23	66	25	AV3	
23	66	19	AV4	
34	66	SAA	TSH	
4	67	SCA	TSH	plugged @
23	67	25	AV1	
23	67	33	AV2	
23	67	36	AV3	
23	67	20	AV4	
37	67	23	AV2	
37	67	31	AV3	
37	67	28	AV4	
38	67	SAA	TSH	
8	69	15	TSH	plugged
8	69	SCI	TSH	plugged
11	69	24	2H	
18	69	20	AV4	
31	69	29	AV1	plugged
31	69	45	AV2	plugged
31	69	30	AV3	plugged
31	69	SCA	TSH	plugged
37	69	40	AV2	plugged
37	69	37	AV3	plugged
37	69	30	AV4	plugged
38	69	DIN	1H	
18	70	DIN	5H	
26	70	27	AV3	
29	70	DIN	1H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
39	70	SCA	TSH	plugged *@
9	71	SAA	TSH	
15	71	SCL	TSH	
24	71	SAA	TSH	
36	71	41	AV2	plugged
36	71	36	AV3	plugged
2	72	DIN	1H	
12	72	DIN	1C	
30	72	DIN	3H	plugged @
30	72	SCA	TSH	plugged @
36	72	16	AV3	
36	72	14	AV4	
22	73	SAA	TSH	
31	73	SAA	TSH	
37	73	12	AV2	
39	73	12	AV2	
39	73	14	AV3	
13	74	SCI	TSH	plugged
25	74	SAA	TSH	
31	74	SAA	TSH	
32	74	28	1H	
32	74	12	AV3	
37	74	10	AV2	
3	75	28	1H	
3	75	36	2H	
15	75	21	1H	
24	75	19	AV4	
36	75			plugged **
37	75			plugged **

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
7	76	DIN	1H	
15	76	DI	1H	plugged
15	76	PCI	1H	plugged
17		NQN	1H	
36	76			plugged **
37	76	SAI	7H	plugged
37	76	SCL	7H	plugged
10	77	SAA	TSH	
36	77			plugged **
26	78	SAA	TSH	
21	79	NQN	1H	
24	79	27	4H	
27	79	25	AV3	
27	79	15	AV4	
31	80	SAA	TSH	
12	81	39	1H	
15	81	DIN	1H	
11	83	DIN	1H	
3	84	DIN	1H	plugged
3	84	DI	5H	plugged
3	84	16	1H	plugged
3	84	35	5H	plugged
3	84	SCI	5H	plugged
15	84	12	AV3	
15	84	14	AV4	
10	85	DIN	1H	
19	85	DIN	1H	
23	85	DIN	5H	
28	85	30	2C	
15	86	DIN	1H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "A" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
10	87	10	1H	
14	87	DI	2H	plugged
14	87	SAI	2H	plugged
18	87	DI	2H	plugged
18	87	PAI	2H	plugged
21	87	DIN	1H	
17	88	DIN	1H	
2	89	SAA	TSH	
8	90	DIN	1H	
16	90	TIN	TSH	
11	91	TI	TSH	plugged @
11	91	SAA	TSH	plugged @
7	92	DIN	1H	
8	93	DIN	2H	
8	93	21	4H	

* = Tube Plugged and Stabilized.

** = Tubes Preventively Plugged To "Box" Adjacent Tubes Which Could Not Be Stabilized.

@ = Plugged As A Precautionary Measure - These tubes contained a signal judged by the analysis program not to be an indication. However, due to the extent of the signal's vertical component and its location in the steam generator, the tube was plugged. Also included are a number of tubes which the Virginia Power Eddy Current Level III requested to be plugged even though the normal analysis process considered the signal not to be a pluggable indication.

TOTAL TUBES PLUGGED = 122

STEAM GENERATOR "B"
9TH REFUELING FALL 1993 OUTAGE
NORTH ANNA 2

In Steam Generator "B," 3151 tubes were inspected full length with bobbin probes. Eighty-nine row 2 tubes were examined in the U-bend region (tube support 7H to 7C) with Rotating Pancake Coil (RPC) probes. Eighty-eight of the row 2 tubes were examined in the non-U-bend area with bobbin probes (the remaining row 2 tubes were examined full length with bobbin probes). RPC examination was also performed on 3239 tubes in the hot leg transition region at the top of the tubesheet. Supplemental examinations were also performed using RPC probes where additional confirmatory or other data was desired. A total of 89 tubes were plugged in this steam generator. Sixty-nine tubes were plugged because of indications, 16 tubes were plugged to "box" adjacent tubes which could not be stabilized (these tubes have sentinel plugs on the cold end), 3 tubes were plugged as a precautionary measure (although the analysis process determined that these tubes do not contain flaw indications, concerns were noted with the signals in these 3 tubes), and 1 tube was plugged in error. Three of the plugged tubes required stabilization. See the attached list and tube sheet maps for details. Please note that the number of indications displayed on the maps and delineated in the attached list will exceed the total number of plugged tubes, because several tubes contain more than one indication.

SG - B TUBES PLUGGED / STABILIZED

HOT LEG

North Anna Unit 2

VGB-B SERIES 51

10-10-1993

14:54 HRS.

SUPERTUBIN

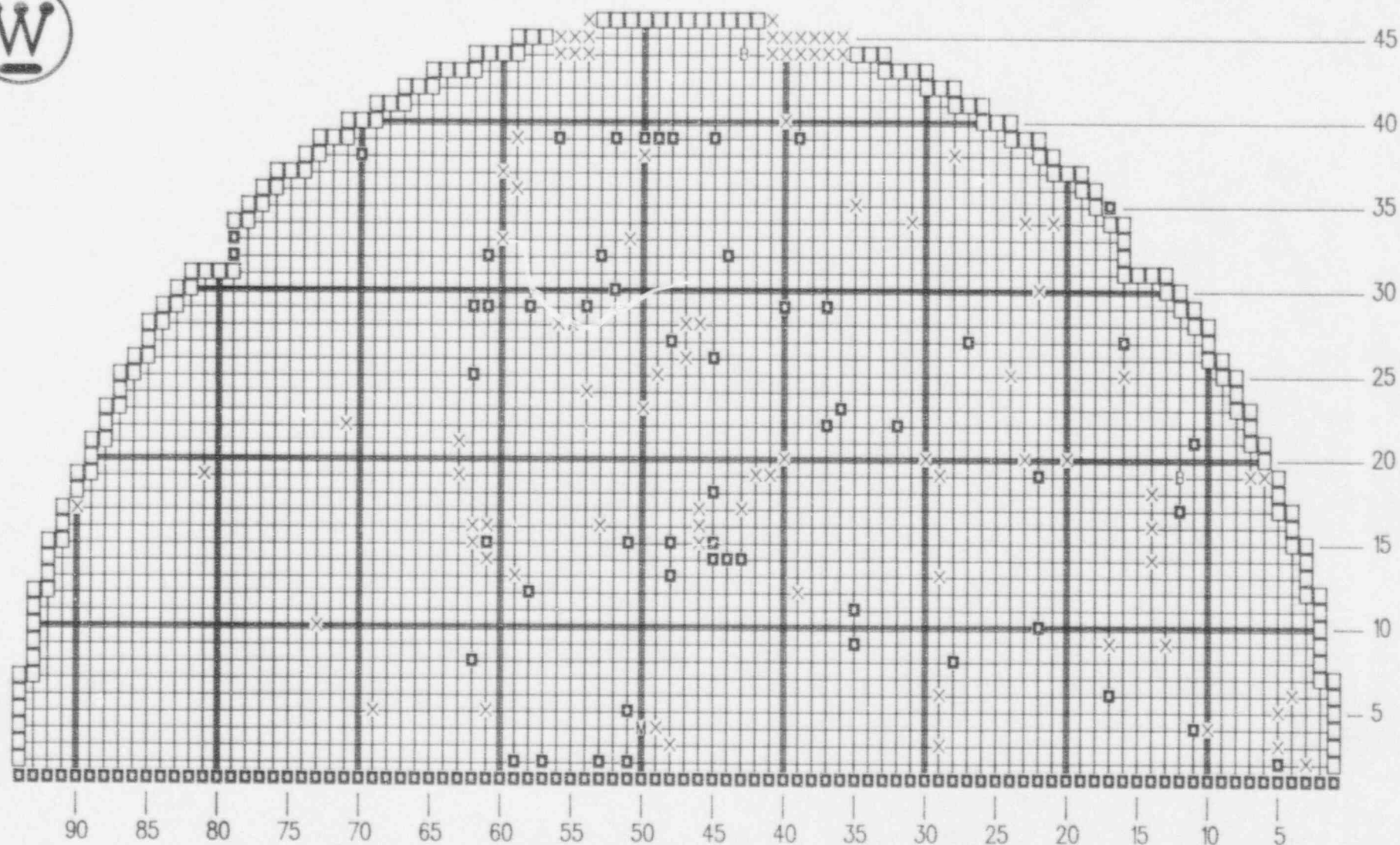
X : 85 TUBE MECHANICALLY PLUGGED

M : 1 TUBE MIS-PLUGGED WITH MECH. PLUG

A : 1 TUBE STABILIZED WITH ARRANGEMENT "A" & MECHANICALLY PLUGGED

B : 2 TUBE STABILIZED WITH ARRANGEMENT "B" & MECHANICALLY PLUGGED

□ : 149 EXISTING PLUGGED TUBE



SG - B TUBES PLUGGED -MECH. / SENTINEL

COLD LEG

North Anna Unit 2

VGB-B SERIES 51

10-10-1993

14:52 HRS.

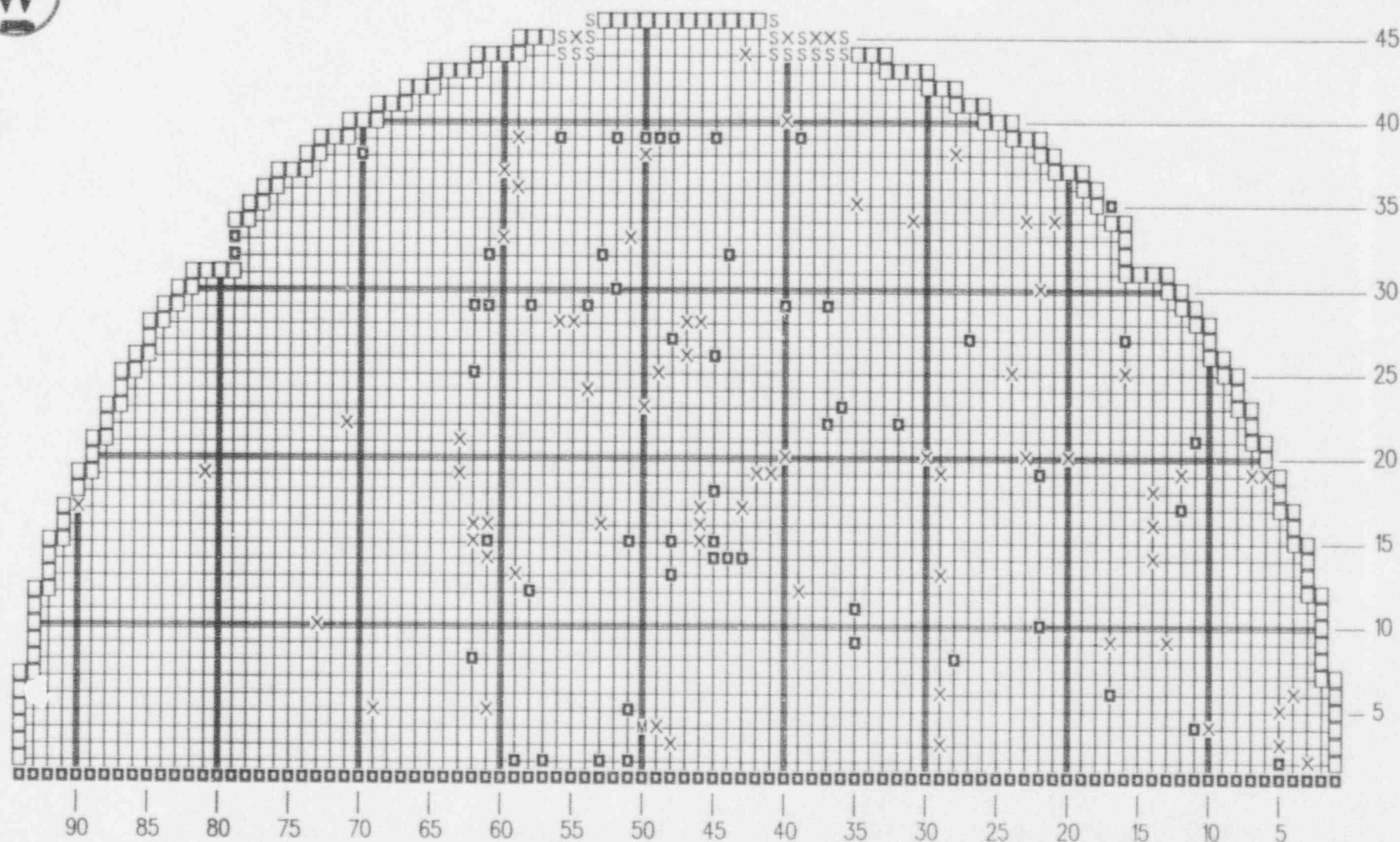
SUPERTUBIN

X : 72 TUBE MECHANICALLY PLUGGED

S : 16 TUBE SENTINEL PLUGGED

M : 1 TUBE MIS-PLUGGED WITH MECH. PLUG

■ : 149 EXISTING PLUGGED TUBE



SG B - HOT LEG % THRU WALL INDICATIONS

Most Severe Indication Per Tube

North Anna Unit 2

VGB-B SERIES 51

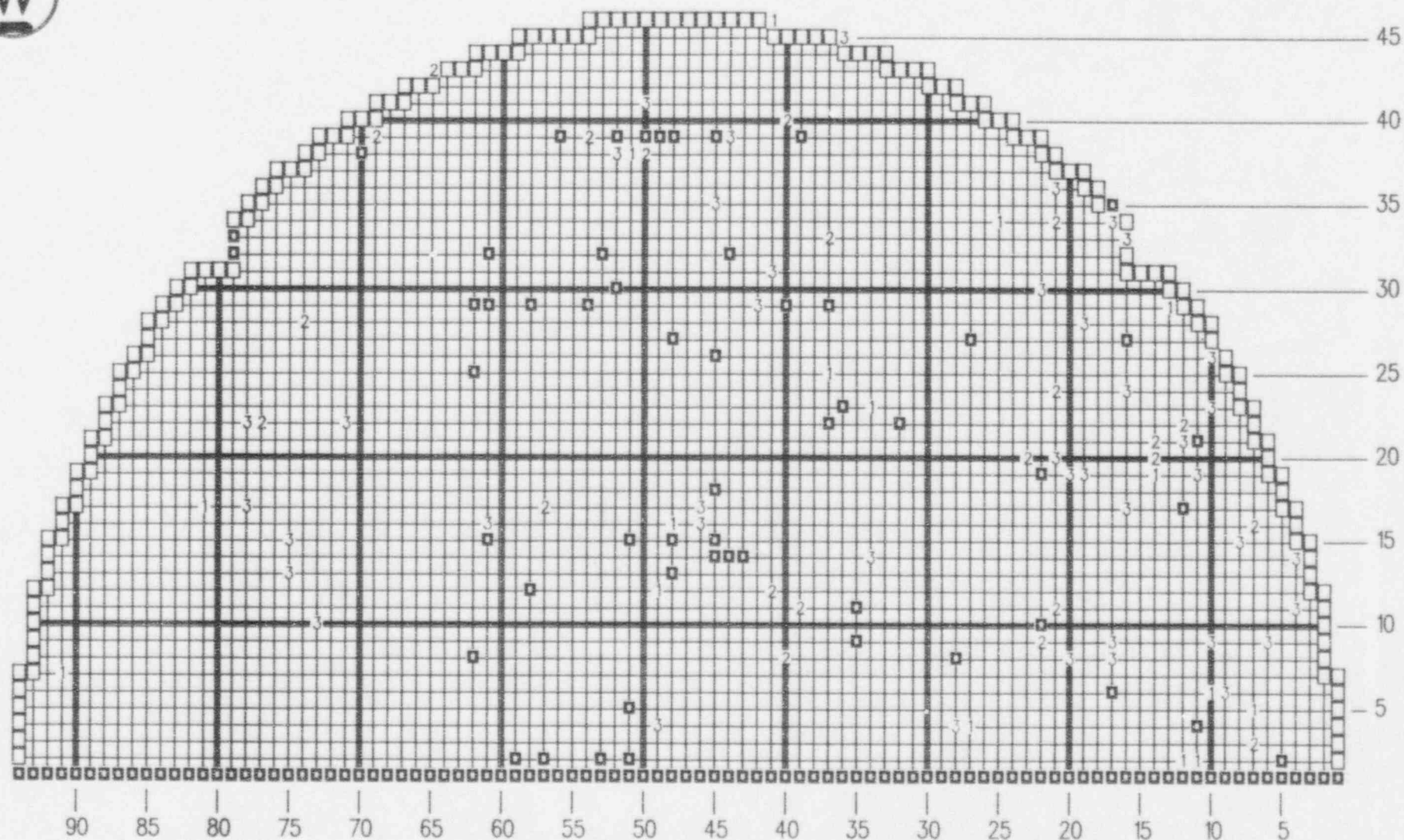
3 : 42 INDICATION 30 TO 39%
2 : 22 INDICATION 20 TO 29%
1 : 16 INDICATION 10 TO 19%

■ : 149 EXISTING PLUGGED TUBE

10-11-1993

18:41 HRS.

SUPERTUBIN



SG B - COLD LEG % THRU WALL INDICATIONS

Most Severe Indication Per Tube

North Anna Unit 2

VGB-B SERIES 51

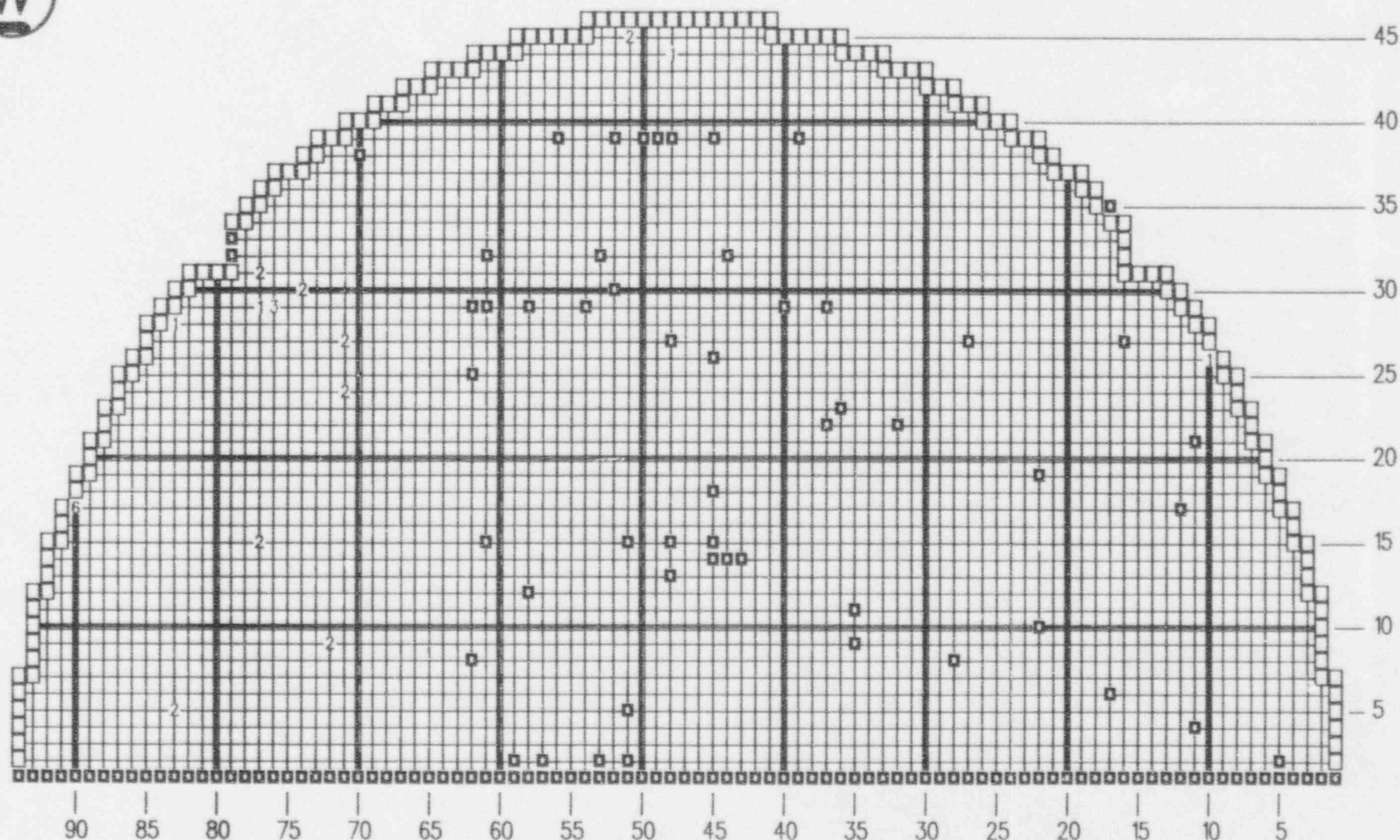
10-11-1993

18:35 HRS.

SUPERTUBIN

6 : 1 INDICATION 60 TO 69%
 3 : 1 INDICATION 30 TO 39%
 2 : 8 INDICATION 20 TO 29%
 1 : 4 INDICATION 10 TO 19%

■ : 149 EXISTING PLUGGED TUBE



SG B - AVB INDICATIONS

Most Severe Indication Per Tube

North Anna Unit 2

VGB-B SERIES 51

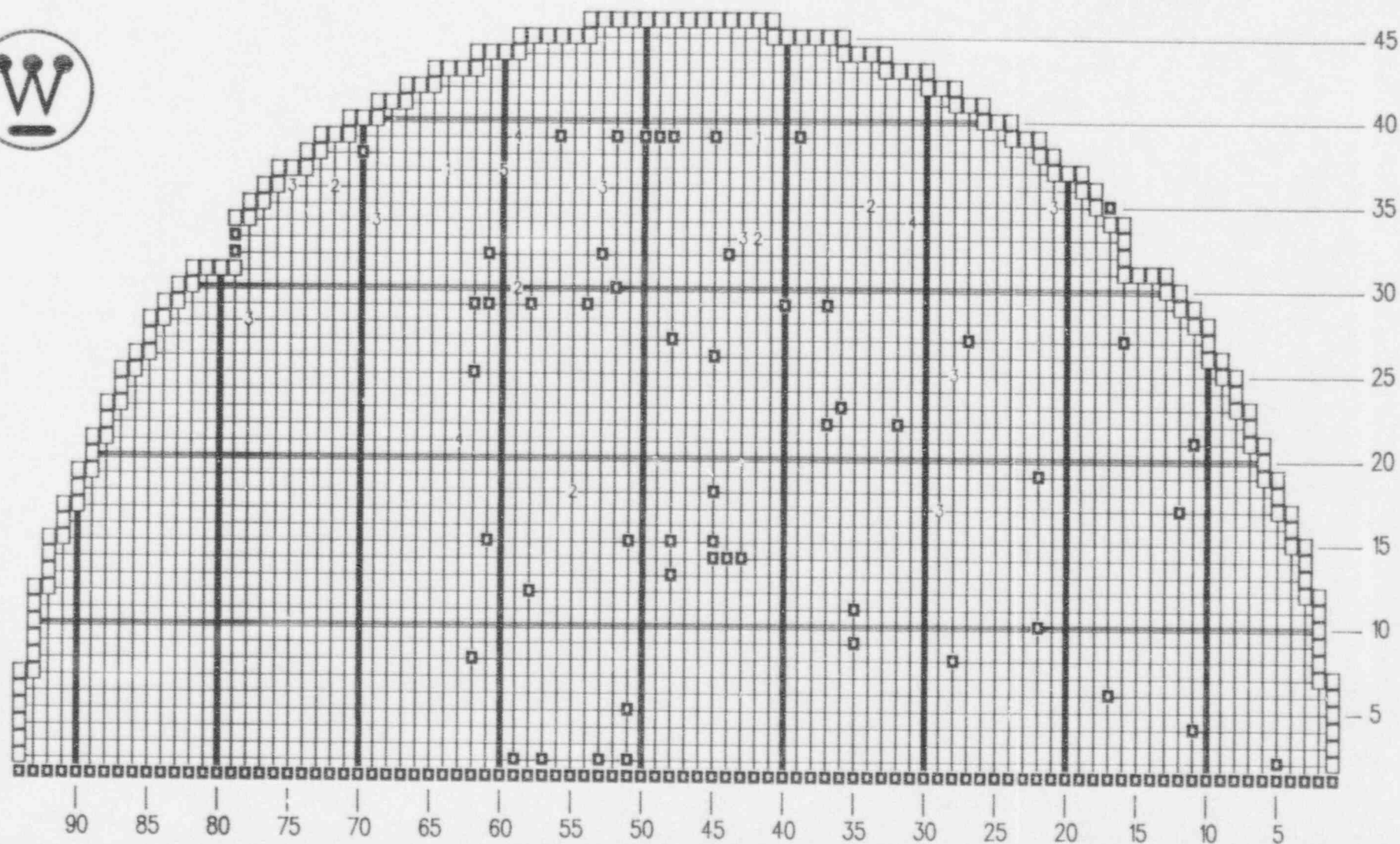
5 : 1 INDICATION 50 TO 59%
 4 : 3 INDICATION 40 TO 49%
 3 : 8 INDICATION 30 TO 39%
 2 : 5 INDICATION 20 TO 29%
 1 : 2 INDICATION 10 TO 19%

■ : 149 EXISTING PLUGGED TUBE

10-11-1993

08:00 HRS.

SUPERTUBIN



SG - B TUBES WITH CIRC. INDICATIONS

C : 51 TUBE WITH CIRCUMFERENTIAL INDICATION

■ : 149 PLUGGED TUBES

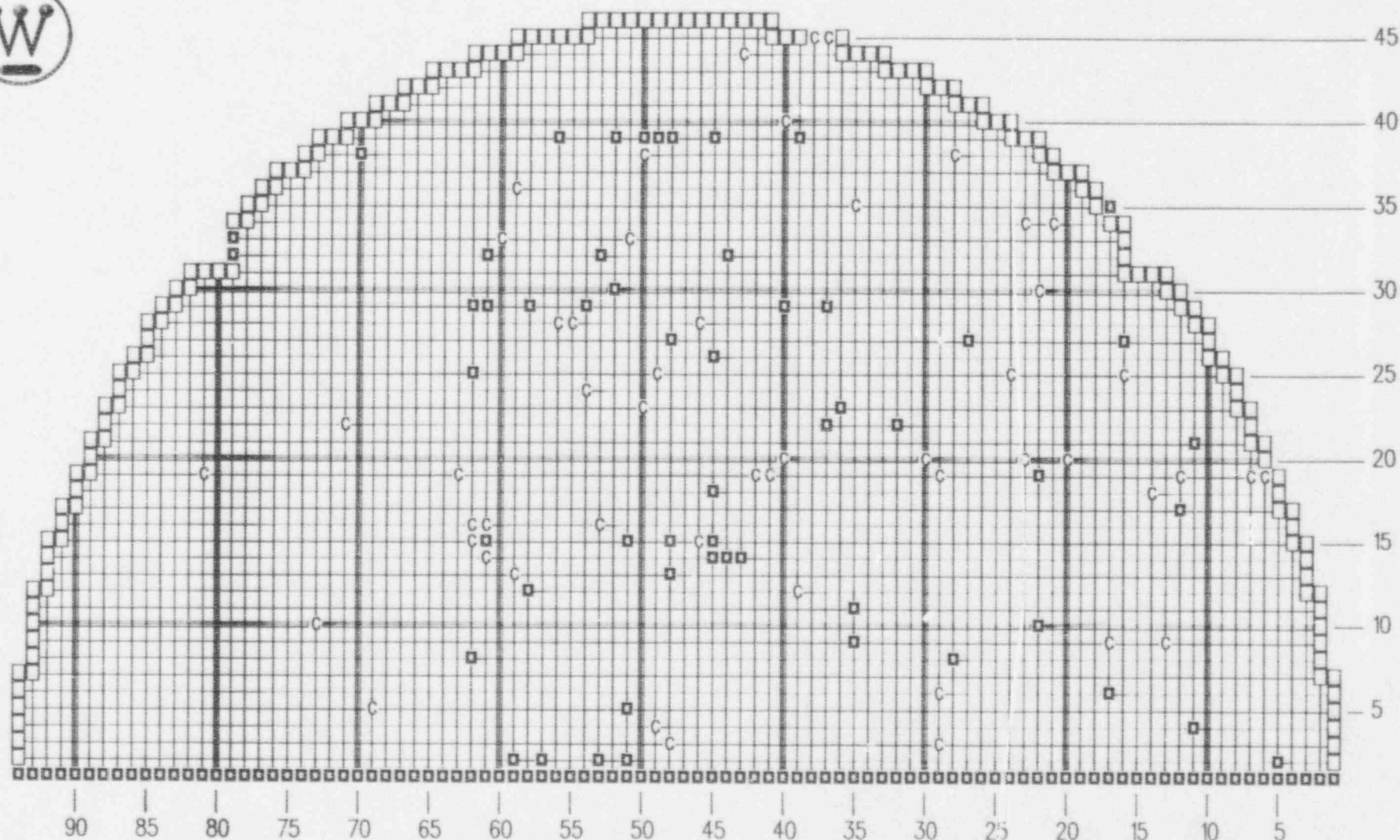
North Anna Unit 2

VGB-B SERIES 51

10-10-1993

16:30 HRS.

SUPERTUBIN



SG - B TUBES WITH AXIAL INDICATIONS

A : 15 TUBE WITH AXIAL INDICATIONS

□ : 149 PLUGGED TUBE

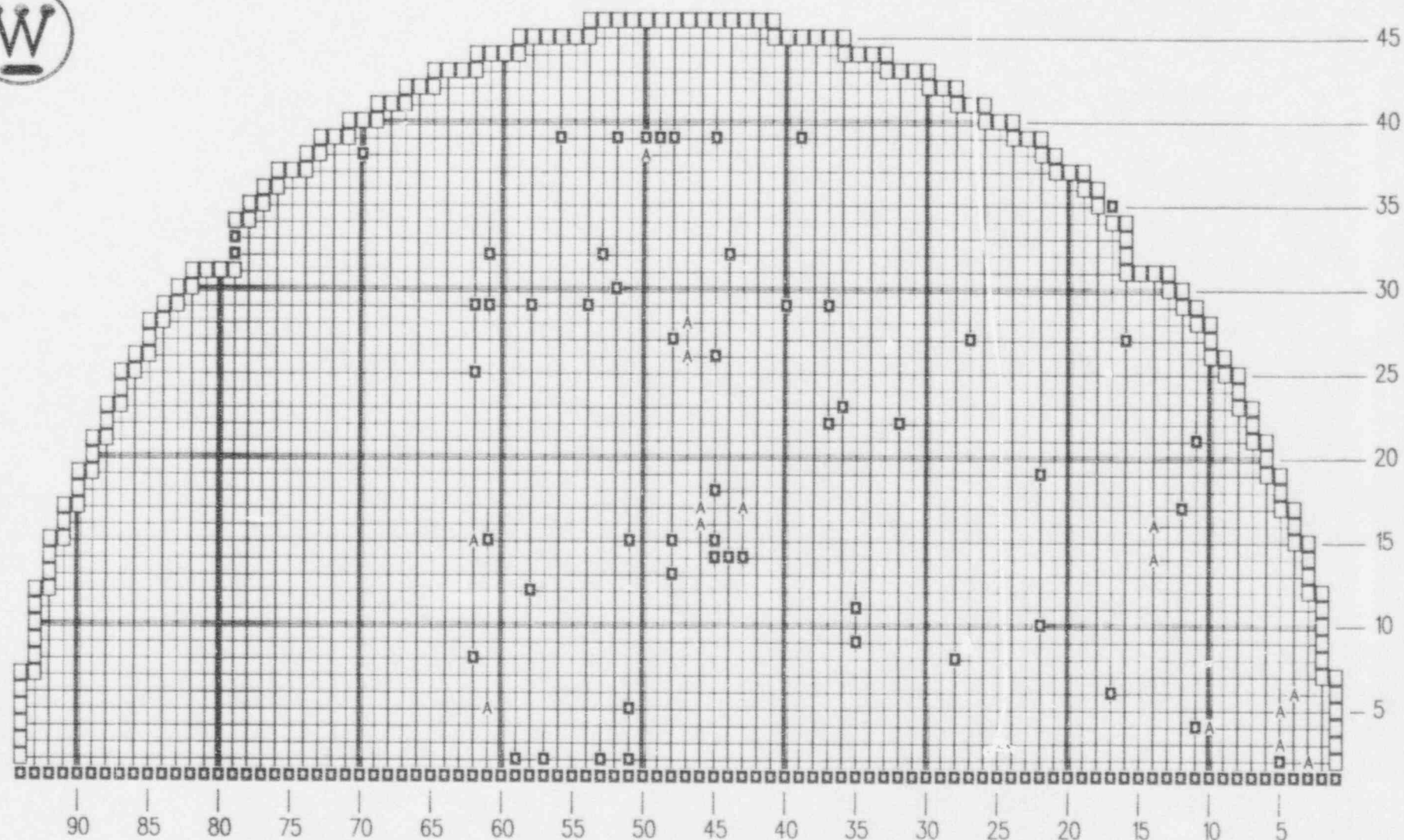
North Anna Unit 2

VC3-B SERIES 51

10-10-1993

16:36 HRS.

SUPERTUBIN



NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
4	1	DIN	1H	
7	1	SAA	TSH	
10	2	DIN	1H	
11	2	DIN	1H	
12	2	DIN	1H	
2	3	SAI	TSH	plugged
12	3	DIN	1H	
6	4	SAI	TSH	plugged
11	4	36	1H	
12	4	DIN	1H	
12	4	DIN	2H	
12	4	DIN	3H	
14	4	38	1H	
3	5	TI	TSH	plugged
3	5	SAI	TSH	plugged
5	5	TI	TSH	plugged
5	5	SAI	TSH	plugged
11	5	DIN	1H	
11	5	DIN	2H	
18	5	DIN	1H	
19	5	DIN	1H	
7	6	DIN	1H	
9	6	39	1H	
12	6	DIN	1H	
17	6	DIN	1H	
17	6	DIN	2H	
18	6	DIN	1H	
19	6	DI	1H	plugged
19	6	DIN	2H	plugged
19	6	SCI	1H	plugged

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
3	7	23	1H	
5	7	DIN	1H	
5	7	7	1H	
6	7	DIN	1H	
11	7	DIN	1H	
12	7	DIN	1H	
14	7	DIN	2H	
16	7	29	1H	
19	7	DI	1H	plugged
19	7	SCI	1H	plugged
23	7	DIN	1H	
2	8	DIN	1H	
12	8	DIN	1H	
15	8	24	TSH	
15	8	37	1H	
19	8	DIN	1H	
19	8	DIN	2H	
6	9	DIN	1H	
6	9	32	2H	
7	9	DIN	1H	
7	9	DIN	2H	
16	9	DIN	1H	
17	9	NQN	TSH	
17	9	DIN	1H	
18	9	DIN	1H	
24	9	DIN	1H	
24	9	DIN	2H	
4	10	TI	TSH	plugged
4	10	SAI	TSH	plugged
6	10	19	2H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
9	10	37	1H	
15	10	DIN	1H	
15	10	DIN	2H	
19	10	DIN	1H	
23	10	38	TSH	
26	10	30	1H	
26	10	18	1C	
2	11	16	1H	
7	11	DIN	1H	
7	11	DIN	2H	
11	11	DIN	1H	
11	11	DIN	2H	
12	11	DIN	1H	
18	11	DIN	1H	
19	11	39	TSH	
19	11	DIN	1H	
19	11	DIN	2H	
22	11	DIN	1H	
2	12	15	1H	
3	12	DIN	2H	
3	12	DIN	2H	
11	12	DIN	1H	
18	12	DIN	1H	
19	12	DI	1H	plugged *
19	12	SCI	1H	plugged *
21	12	27	TSH	
21	12	37	1H	
22	12	22	TSH	
22	12	DIN	1H	
27	12	DIN	2H	
7	13	DIN	1H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
8	13	DIN	1H	
9	13	DI	1H	plugged
9	13	SCI	1H	plugged
17	13	DIN	1H	
23	13	DIN	1H	
23	13	DIN	2H	
29	13	19	TSH	
14	14	DIN	1H	plugged
14	14	SAI	TSH	plugged
16	14	DIN	1H	plugged
16	14	SAI	TSH	plugged
17	14	DIN	1H	
18	14	SCI	TSH	plugged
19	14	19	1H	
20	14	24	TSH	
20	14	DIN	1H	
21	14	22	TSH	
25	14	DIN	1H	
10	15	DIN	1H	
11	15	DIN	1H	
13	15	DIN	1H	
13	15	DIN	2H	
14	15	DIN	1H	
14	15	DIN	2H	
14	15	DIN	3H	
13	16	DIN	1H	
13	16	DIN	2H	
16	16	DIN	1H	
16	16	DIN	2H	
16	16	DIN	4H	
17	16	36	1H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
18	16	DIN	1H	
18	16	DIN	2H	
21	16	DIN	1H	
22	16	DIN	1H	
24	16	35	2H	
25	16	DI	1H	plugged
25	16	DI	2H	plugged
25	16	SCI	1H	plugged
25	16	SCI	2H	plugged
33	16	32	2H	
8	17	32	1H	
8	17	DIN	2H	
9	17	36	1H	plugged
9	17	DI	1H	plugged
9	17	SCI	1H	plugged
10	17	DIN	1H	
16	17	DIN	1H	
17	17	DIN	1H	
19	17	DIN	1H	
21	17	DIN	1H	
22	17	DIN	1H	
27	17	DIN	1H	
29	17	DIN	2H	
34	17	34	2H	
6	18	DIN	1H	
10	18	DIN	1H	
11	18	DIN	1H	
12	18	DIN	1H	
17	18	DIN	1H	
19	18	DIN	1H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
24	18	DIN	1H	
32	18	DIN	2H	
32	18	DIN	3H	
32	18	DIN	5H	
34	18	DIN	2H	
35	18	DIN	2H	
35	18	DIN	3H	
35	18	DIN	4H	
11	19	DIN	1H	
12	19	DIN	1H	
14	19	DIN	1H	
14	19	DIN	2H	
15	19	DIN	1H	
17	19	DIN	1H	
18	19	DIN	1H	
19	19	32	TSH	
19	19	DIN	1H	
28	19	39	TSH	
8	20	30	1H	
19	20	31	1H	
19	20	DIN	2H	
20	20	DI	1H	plugged
20	20	SCI	1H	plugged
24	20	DIN	1H	
24	20	DIN	2H	
24	20	DIN	4H	
25	20	DIN	1H	
32	20	DIN	5H	
11	21	24	1H	
12	21	DIN	1H	
12	21	DIN	2H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
17	21	DIN	1H	
17	21	DIN	2H	
20	21	30	TSH	
20	21	22	TSH	
22	21	DIN	1H	
24	21	DIN	1H	
24	21	20	2H	
34	21	26	TSH	plugged
34	21	DI	1H	plugged
34	21	NQN	1H	plugged
34	21	PCI	1H	plugged
35	21	34	AV3	
35	21	39	AV4	
36	21	DIN	1H	
36	21	36	1H	
9	22	29	1H	
12	22	DIN	1H	
13	22	DIN	1H	
13	22	DIN	2H	
22	22	DIN	1H	
24	22	DIN	1H	
24	22	DIN	3H	
30	22	37	TSH	plugged
30	22	DI	1H	plugged
30	22	33	1H	plugged
30	22	PCI	1H	plugged
37	22	DIN	1H	
9	23	DIN	1H	
12	23	DIN	1H	
13	23	DIN	1H	
20	23	22	TSH	plugged
20	23	DI	1H	plugged
20	23	PCI	1H	plugged

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
34	23	DI	1H	plugged
34	23	SCI	1H	plugged
9	24	DIN	1H	
16	24	DIN	1H	
25	24	DI	1H	plugged
25	24	SCI	1H	plugged
31	25	DIN	1H	
34	25	15	2H	
18	26	DIN	1H	
4	27	12	1H	
15	27	DIN	1H	
33	27	SCA	TSH	
41	27	SAA	TSH	
4	28	37	1H	
5	28	SCA	TSH	
16	28	DIN	1H	
17	28	DIN	1H	
20	28	DIN	1H	
25	28	36	AV1	
25	28	14	AV2	
25	28	15	AV3	
38	28	SCI	TSH	plugged
3	29	DI	1H	plugged
3	29	SCI	1H	plugged
6	29	DI	1H	plugged
6	29	SCI	1H	plugged
11	29	DIN	1H	
13	29	SAA	TSH	plugged @

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
17	29	DIN	1H	
17	29	35	AV2	
17	29	20	AV3	
19	29	DI	1H	plugged
19	29	SCI	1H	plugged
20	29	DIN	1H	
9	30	DIN	1H	
20	30	DI	1H	plugged
20	30	SCI	1H	plugged
23	30	DIN	1H	
25	30	DIN	1H	
30	30	SCL	TSH	
33	30	DIN	1H	
24	31	DIN	1H	
25	31	DIN	1H	
34	31	21	AV2	plugged
34	31	42	AV3	plugged
34	31	41	AV4	plugged
43	31	SAA	TSH	
12	32	DIN	1H	
14	32	DIN	1H	
15	32	DIN	1H	
18	32	DIN	1H	
20	32	DIN	1H	
11	33	DIN	1H	
14	33	DIN	1H	
20	33	DIN	1H	
22	33	DIN	1H	
35	33	DIN	1H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
14	34	31	1H	
22	34	DIN	1H	
23	34	DIN	1H	
23	34	13	2H	
32	34	DIN	2H	
35	34	24	AV3	
35	34	22	AV4	
19	35	DIN	1H	
20	35	DIN	1H	
27	35	DIN	1H	
27	35	DIN	2H	
33	35	DIN	1H	
35	35	DI	2H	plugged
35	35	DIN	3H	plugged
35	35	PCI	2H	plugged
25	36	DIN	1H	
32	36	SAA	TSH	
44	36			plugged **
45	36	38	3H	plugged **
45	36	DIN	5H	plugged **
13	37	DIN	1H	
23	37	DIN	1H	
24	37	SAA	TSH	
25	37	14	1H	
33	37	29	1H	
33	37	DIN	1H	
33	37	DIN	2H	
37	37	SCL	6H	
44	37			plugged **
45	37	SCI	7H	plugged
11	38	NQN	TSH	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
14	38	DIN	1H	
18	38	DIN	1H	
19	38	DIN	1H	
23	38	DIN	1H	
25	38	DIN	1H	
44	38			plugged **
45	38	SCI	7H	plugged
45	38	PCI	7H	plugged
11	39	20	TSH	
12	39	NQI	TSH	plugged
12	39	SCI	TSH	plugger.
14	39	DIN	1H	
19	39	DIN	1H	
20	39	DIN	1H	
22	39	DIN	1H	
24	39	DIN	1H	
29	39	DIN	2H	
36	39	DIN	1H	
36	39	DIN	2H	
36	39	SCL	TSH	
44	39	DIN	1H	plugged **
45	39			plugged **
8	40	20	1H	
19	40	DIN	1H	
20	40	DI	1H	plugged
20	40	SCI	1H	plugged
23	40	DIN	1H	
25	40	DIN	1H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
40	40	DIN	1H	plugged
40	40	DI	2H	plugged
40	40	29	3H	plugged
40	40	DIN	5H	plugged
40	40	SCI	2H	plugged
44	40			plugged **
45	40	SCA	7H	plugged @
11	41	TIN	TSH	
12	41	24	TSH	
12	41	NQN	TSH	
14	41	DIN	1H	
18	41	DIN	1H	
19	41	DI	1H	plugged
19	41	SCI	1H	plugged
20	41	DIN	1H	
26	41	DIN	1H	
31	41	37	1H	
35	41	SCL	TSH	
41	41	NQN	3H	
44	41			plugged **
45	41			plugged **
46	41	10	5H	plugged **
19	42	DI	1H	plugged
19	42	SCI	1H	plugged
27	42	DIN	1H	
29	42	30	3H	
33	42	14	AV1	
33	42	22	AV2	
39	42	17	AV2	
17	43	TI	TSH	plugged
17	43	SAI	TSH	plugged

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
23	43	DIN	1H	
29	43	DIN	1H	
33	43	18	AV1	
33	43	36	AV2	
33	43	28	AV3	
44	43	DI	1H	plugged *
44	43	SCI	1H	plugged *
16	44	NQN	2H	
18	44	DIN	2H	
20	44	DIN	4H	
26	44	DIN	1H	
27	44	DIN	1H	
33	44	DIN	3H	
39	44	DIN	1H	
39	44	38	5H	
19	45	DIN	1H	
28	45	DIN	3H	
35	45	33	1H	
36	45	DIN	1H	
36	45	DIN	2H	
44	45	DIN	1H	
15	46	SCI	TSH	plugged
16	46	38	TSH	plugged
16	46	DIN	1H	plugged
16	46	SAI	TSH	plugged
17	46	34	TSH	plugged
17	46	SAI	TSH	plugged
24	46	DIN	1H	
25	46	DIN	1H	
28	46	SCI	TSH	plugged

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
29	46	DIN	1H	
35	46	SAA	TSH	
46	46	SCL	TSH	
46	46	SCL	TSH	
18	47	DIN	1H	
19	47	DIN	1H	
26	47	DIN	1H	plugged
26	47	SAI	TSH	plugged
28	47	MAI	TSH	plugged
29	47	SCA	TSH	
42	47	DIN	4H	
3	48	SCI	TSH	plugged
9	48	DIN	1H	
9	48	SAA	1H	
16	48	18	TSH	
22	48	DIN	1H	
44	48	11	1C	
4	49	33	1H	plugged
4	49	SCI	TSH	plugged
12	49	16	TSH	
25	49	DI	1H	plugged
25	49	SCI	1H	plugged
30	49	DIN	1H	
44	49	DIN	1H	
4	50			plugged ***
22	50	DIN	1H	
23	50	DI	1H	plugged
23	50	SCI	1H	plugged

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
30	50	DIN	1H	
30	50	DIN	2H	
38	50	26	1H	plugged
38	50	DIN	1H	plugged
38	50	NQN	1H	plugged
38	50	DI	2H	plugged
38	50	DI	3H	plugged
38	50	DI	4H	plugged
38	50	SCI	2H	plugged
38	50	SAI	3H	plugged
38	50	SAI	4H	plugged
41	50	32	1H	
46	50	DIN	2H	
4	51	SAA	TSH	
14	51	DIN	1H	
33	51	DI	1H	plugged
33	51	SCI	1H	plugged
38	51	15	2H	
38	51	DIN	2H	
40	51	DIN	1H	
43	51	SAA	TSH	
45	51	27	3C	
45	51	DIN	2C	
46	51	DIN	1H	
36	52	DIN	1H	
37	52	SCA	TSH	
38	52	35	2H	
46	52	DIN	1H	
46	52	DIN	3H	
16	53	PCI	TSH	plugged
23	53	DIN	1H	
36	53	DIN	1H	
36	53	21	AV2	
36	53	31	AV3	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
37	53	DIN	2H	
16	54	DIN	1H	
24	54	DI	1H	plugged
24	54	SCI	1H	plugged
39	54	26	1H	
44	54			plugged **
45	54	NQN	1H	plugged **
45	54	SCA	6H	plugged **
46	54			plugged **
18	55	21	AV1	
18	55	20	AV3	
28	55	SCI	TSH	plugged *
42	55	DIN	1H	
44	55			plugged **
45	55	SCL	6H	plugged @
45	55	SCA	7H	plugged @
27	56	TIN	TSH	
28	56	SCI	TSH	plugged
44	56			plugged **
45	56			plugged **
17	57	25	TSH	
23	57	DIN	1H	
27	57	DIN	1H	
14	58	NQN	TSH	
13	59	DI	1H	plugged
13	59	SCI	1H	plugged
30	59	28	AV3	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
36	59	DIN	1H	plugged
36	59	DI	2H	plugged
36	59	PCI	2H	plugged
37	59	DIN	2H	
39	59	42	AV3	plugged
39	59	38	AV4	plugged
16	60	SCL	TSH	
31	60	SAA	TSH	
33	60	DI	1H	plugged
33	60	SCI	1H	plugged
37	60	43	AV3	plugged
37	60	52	AV4	plugged
5	61	SAI	TSH	plugged
14	61	SCI	TSH	plugged
16	61	34	TSH	plugged
16	61	SCI	TSH	plugged
30	61	NQN	1C	
30	61	NQN	TSC	
15	62	SCI	TSH	plugged
15	62	SAI	TSH	plugged
16	62	TI	TSH	plugged
16	62	SCI	TSH	plugged
23	62	DIN	1H	
12	63	DIN	1C	
13	63	TIN	TSH	
19	63	DI	1H	plugged
19	63	SCI	1H	plugged
21	63	22	AV1	plugged
21	63	38	AV2	plugged
21	63	41	AV3	plugged
21	63	33	AV4	plugged
8	64	NQN	TSH	
37	64	13	AV4	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
12	65	DIN	1H	
43	65	22	3H	
29	66	SCA	TSH	
12	67	DIN	1H	
37	67	DIN	1H	
5	69	PCI	TSH	plugged
5	69	SCI	TSH	plugged
34	69	22	AV3	
34	69	31	AV4	
39	69	21	1H	
26	70	DIN	1H	
36	70	DIN	1H	
20	71	DIN	1H	
22	71	31	TSH	plugged
22	71	NQN	TSH	plugged
22	71	DI	1H	plugged
22	71	39	1H	plugged
22	71	NQN	1H	plugged
22	71	SCI	1H	plugged
24	71	20	5C	
27	71	25	6C	
9	72	24	5C	
34	72	DIN	1H	
36	72	22	AV3	
36	72	28	AV4	
10	73	37	TSH	plugged
10	73	DI	1H	plugged
10	73	SCI	1H	plugged
28	74	22	1H	
28	74	NQN	1H	
30	74	27	TSC	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
32	74	NQN	1H	
13	75	30	1H	
13	75	DIN	2H	
15	75	31	TSH	
15	75	NQN	TSH	
36	75	33	AV3	
36	75	25	AV4	
22	76	DIN	1H	
22	76	NQN	1H	
29	76	34	1C	
7	77	DIN	1H	
12	77	DIN	3H	
15	77	25	TSC	
22	77	NQN	TSH	
22	77	21	1H	
29	77	17	1C	
31	77	26	1C	
17	78	38	TSH	
22	78	37	TSH	
28	78	16	AV2	
28	78	31	AV3	
28	78	17	AV4	
30	78	DIN	1H	
17	81	17	TSH	
19	81	DI	1H	plugged
19	81	SCI	1H	plugged
7	82	DIN	1H	
23	82	NQN	2H	
5	83	29	1C	
17	83	DIN	1H	

NORTH ANNA UNIT #2
9th REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "B" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
28	83	19	1C	
12	84	DIN	1H	
22	88	DIN	1H	
17	90	69	1C	plugged
7	91	17	2H	
7	91	DIN	4H	
10	92	DIN	3H	

* = Tubes Plugged and Stabilized.

** = Tubes Preventively Plugged to "Box" Adjacent Tubes Which Could Not Be Stabilized.

*** = Plugged in Error.

@ = Plugged as a precautionary measure. These tubes contained a signal judged by the analysis program not to be an indication. However, due to the extent of the signal's vertical component and its location in the steam generator, the tube was plugged.

TOTAL TUBES PLUGGED = 89

STEAM GENERATOR "C "
9TH REFUELING FALL 1993 OUTAGE
NORTH ANNA 2

In Steam Generator "C", 2938 tubes were inspected full length with bobbin probes. Seventy-six row 2 tubes were examined in the U-bend region (tube support 7H to 7C) with Rotating Pancake Coil (RPC) probes. The remaining portions of the row 2 tubes were examined with bobbin probes. RPC examination was performed on 3014 tubes in the hot leg region at the top of the tubesheet. Supplemental examinations were also performed using RPC probes where additional confirmatory or other data was desired. A total of 409 tubes were plugged in this steam generator. Three-hundred and fifteen tubes were plugged for indications, 40 tubes were plugged to "box" adjacent plugged tubes that could not be stabilized (these tubes have sentinel plugs on the cold end), and 54 additional tubes were plugged as a precautionary measure (although the analysis process determined that these tubes do not contain flaw indications, concerns were noted with the signals in these 54 tubes). Seventeen of the plugged tubes required stabilization. See the attached list and tube sheet maps for details. Please note that the number of indications displayed on the maps and delineated in the attached list will exceed the total number of plugged tubes, because several tubes contain more than one indication.

SG - C TUBES PLUGGED / STABILIZED

HOT LEG

North Anna Unit 2

VGB-C SERIES 51

10-12-1993

10:57 HRS.

SUPERTUBIN

X : 392 TUBE MECHANICALLY PLUGGED

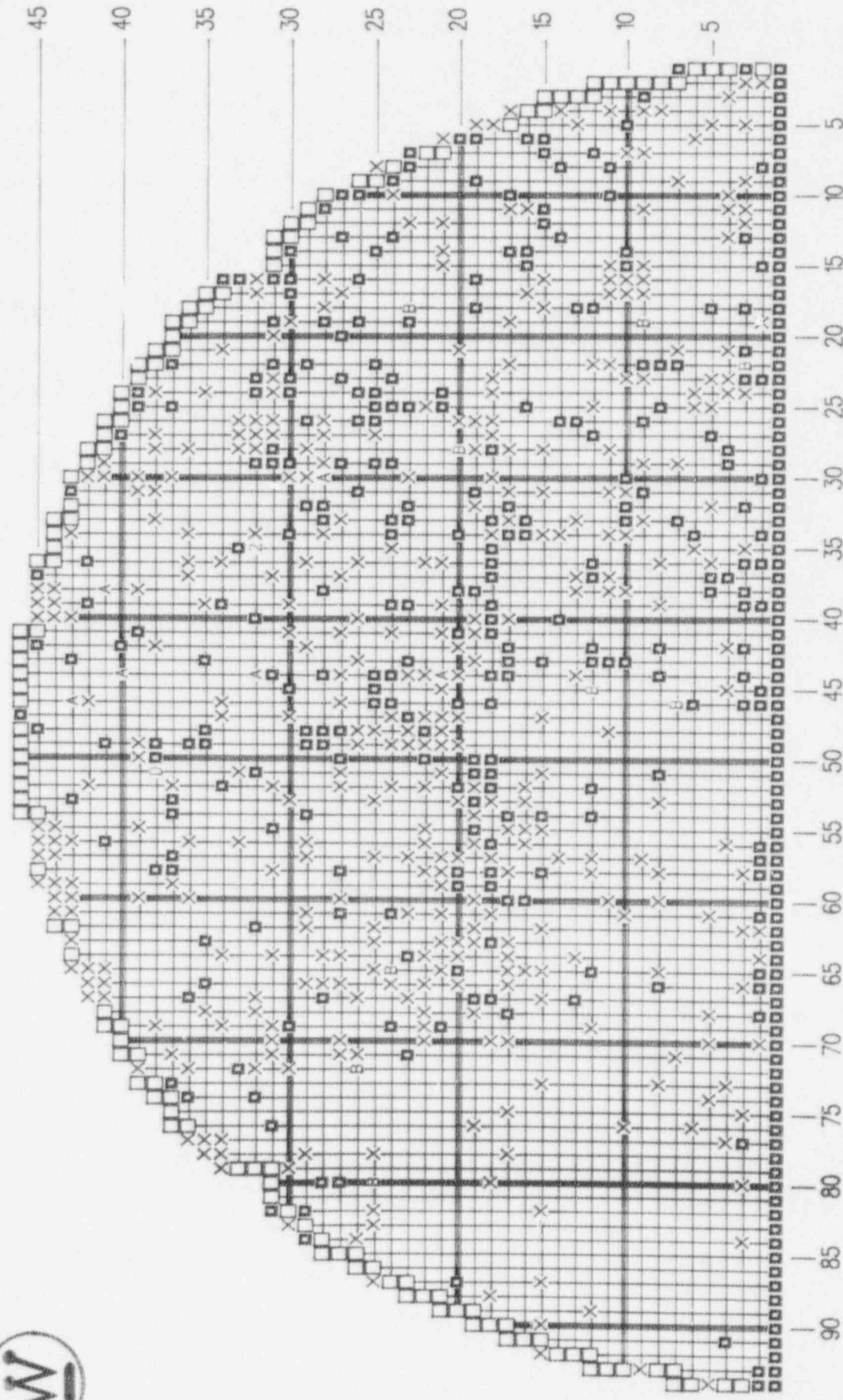
A : 6 TUBE STABILIZED WITH
ARRANGEMENT "A" & MECHANICALLY
PLUGGED

B : 9 TUBE STABILIZED WITH
ARRANGEMENT "B" & MECHANICALLY
PLUGGED

D : 1 TUBE STABILIZED WITH
ARRANGEMENT "D" & MECHANICALLY
PLUGGED

2 : 1 TUBE STABILIZED WITH 12 FT.
3/4 INCH DIAMETER STABILIZER
& MECHANICALLY PLUGGED

□ : 374 EXISTING PLUGGED TUBE



SG - C TUBES PLUGGED - MECH. / SENTINEL

COLD LEG

North Anna Unit 2

VGB-C SERIES 51

10-12-1993

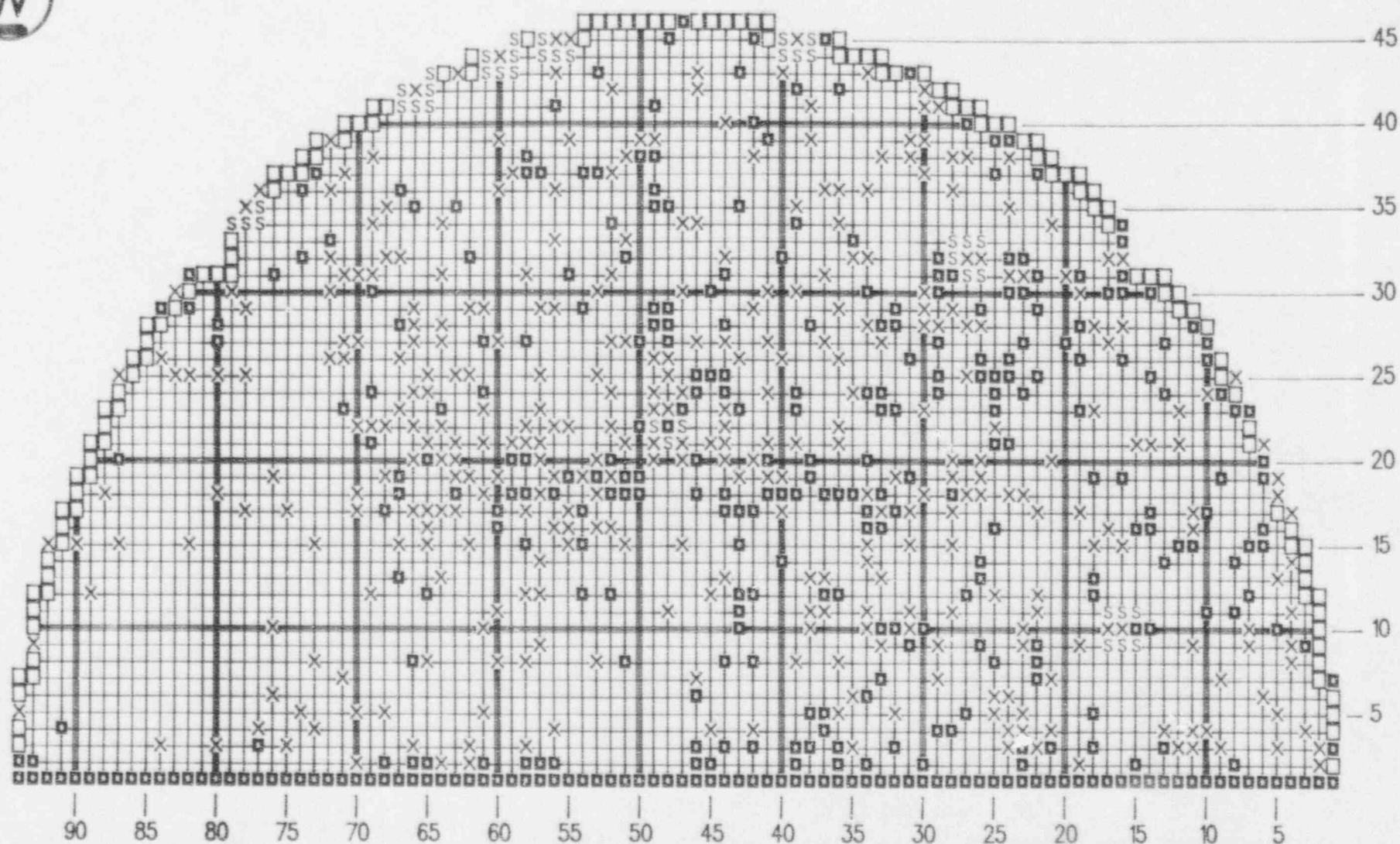
11:54 HRS.

SUPERTUBIN

X : 369 TUBE MECHANICALLY PLUGGED

S : 40 TUBE SENTINEL PLUGGED

■ : 374 EXISTING PLUGGED TUBE



SG - C TUBES WITH CIRC. INDICATIONS

C : 295 TUBE WITH CIRCUMFERENTIAL INDICATION

■ : 374 PLUGGED TUBE

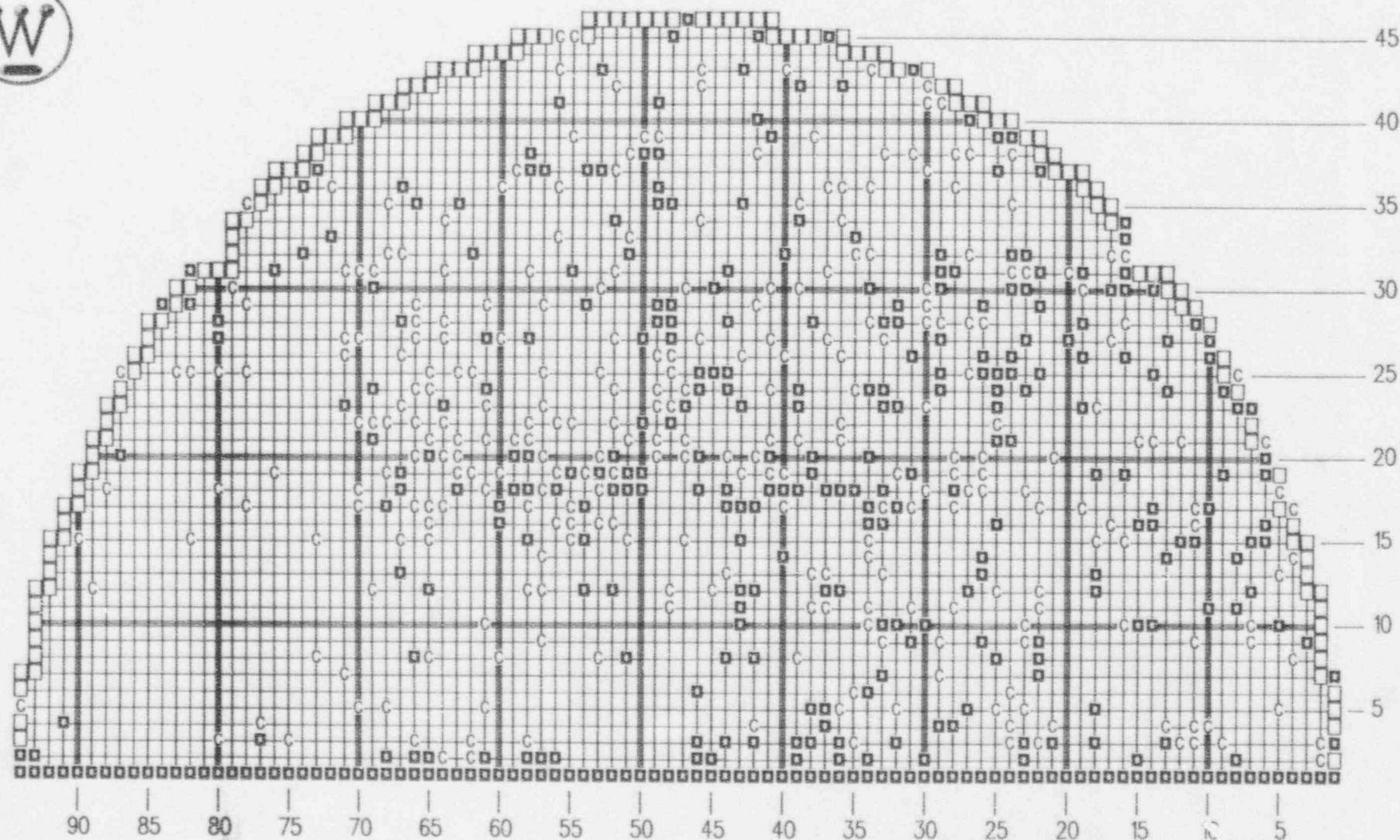
North Anna Unit 2

VGB-C SERIES 51

10-12-1993

01:40 HRS.

SUPERTUBIN



SG - C TUBES WITH AXIAL INDICATIONS

A : 51 TUBE WITH AXIAL INDICATION

□ : 374 PLUGGED TUBE

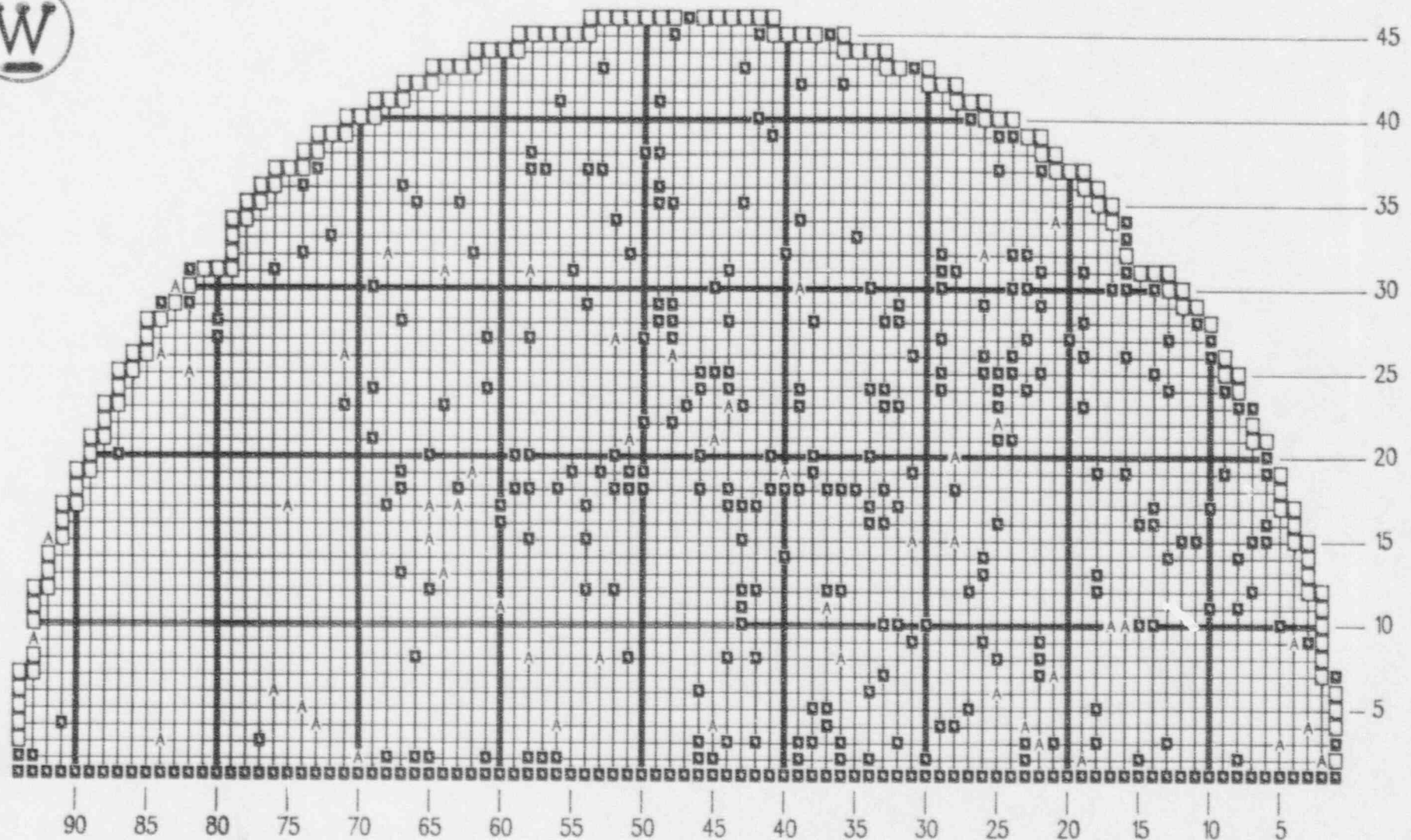
North Anna Unit 2

VGB-C SERIES 51

10-12-1993

22:35 HRS.

SUPERTUBIN



SG C - HOT LEG % THRU WALL INDICATIONS

Most Severe Indication Per Tube

North Anna Unit 2

VGB-C SERIES 51

10-12-1993

00:03 HRS.

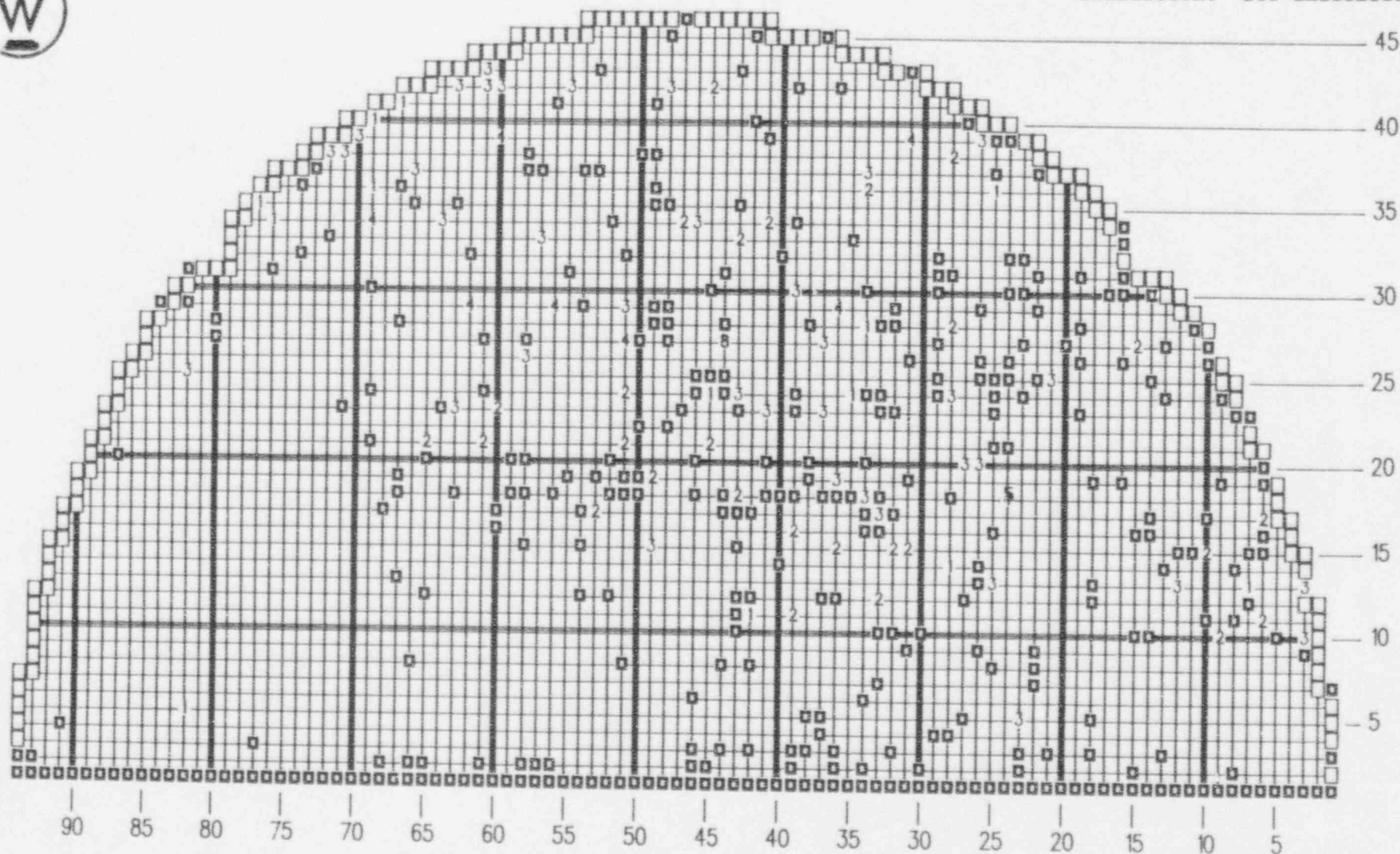
SUPERTUBIN



8 : 1 INDICATION 80 TO 89%
 4 : 8 INDICATION 40 TO 49%
 3 : 37 INDICATION 30 TO 39%
 2 : 27 INDICATION 20 TO 29%
 1 : 13 INDICATION 10 TO 19%

■ : 374 EXISTING PLUGGED TUBE

5 : Tube R18-C24 has been erroneously displayed with a 40-49% indication, it should be displayed with a 50-59% indication. See indication list.



SG C - COLD LEG % THRU WALL INDICATIONS

Most Severe Indication Per Tube

North Anna Unit 2

VGB-C SERIES 51

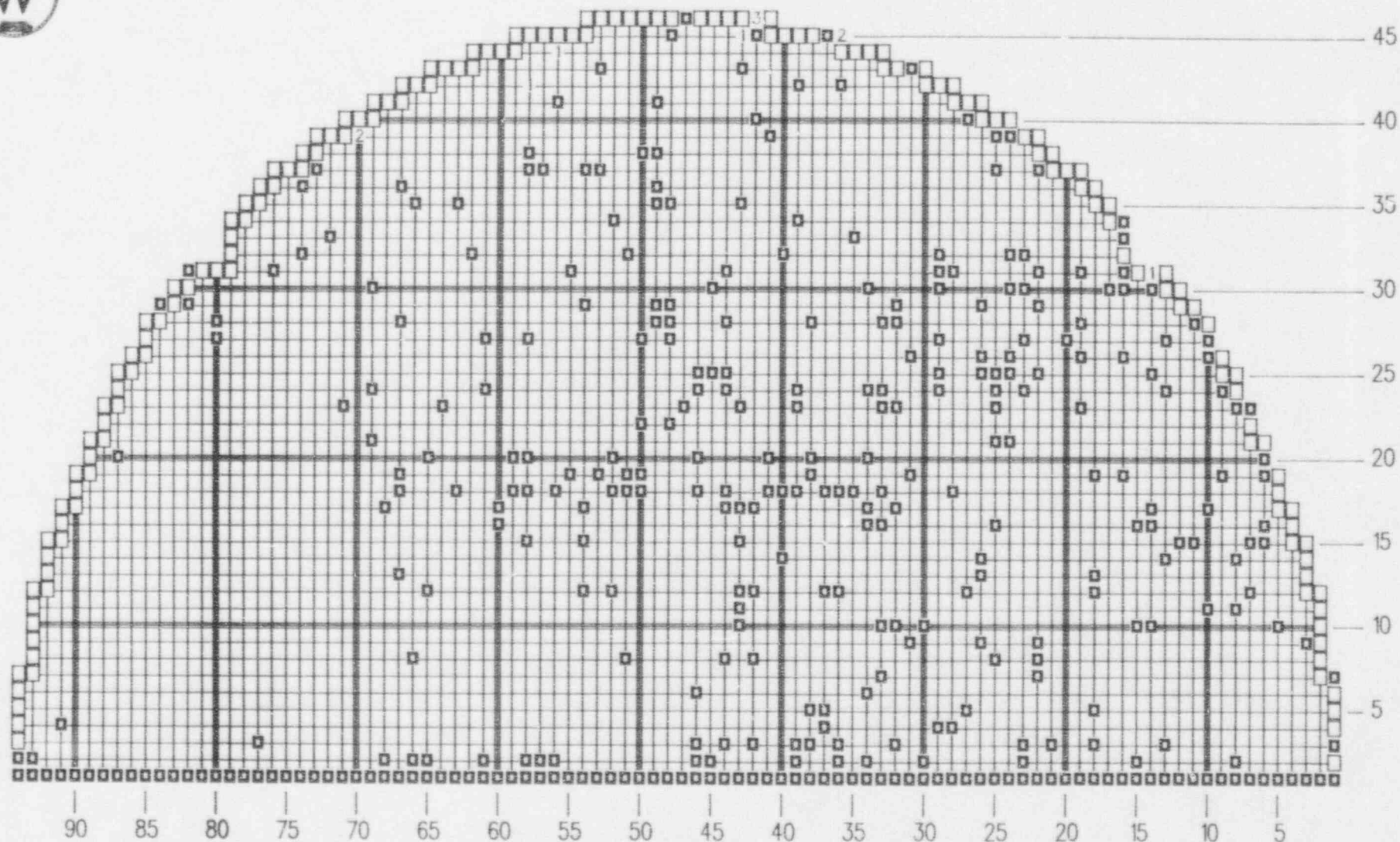
3 : 1 INDICATION 30 TO 39%
2 : 2 INDICATION 20 TO 29%
1 : 4 INDICATION 10 TO 19%

□ : 374 EXISTING PLUGGED TUBE

10-12-1993

00:26 HRS.

SUPERTUBIN



SG C - AVB INDICATIONS

Most Severe Indication Per Tube

North Anna Unit 2

VGB-C SERIES 51

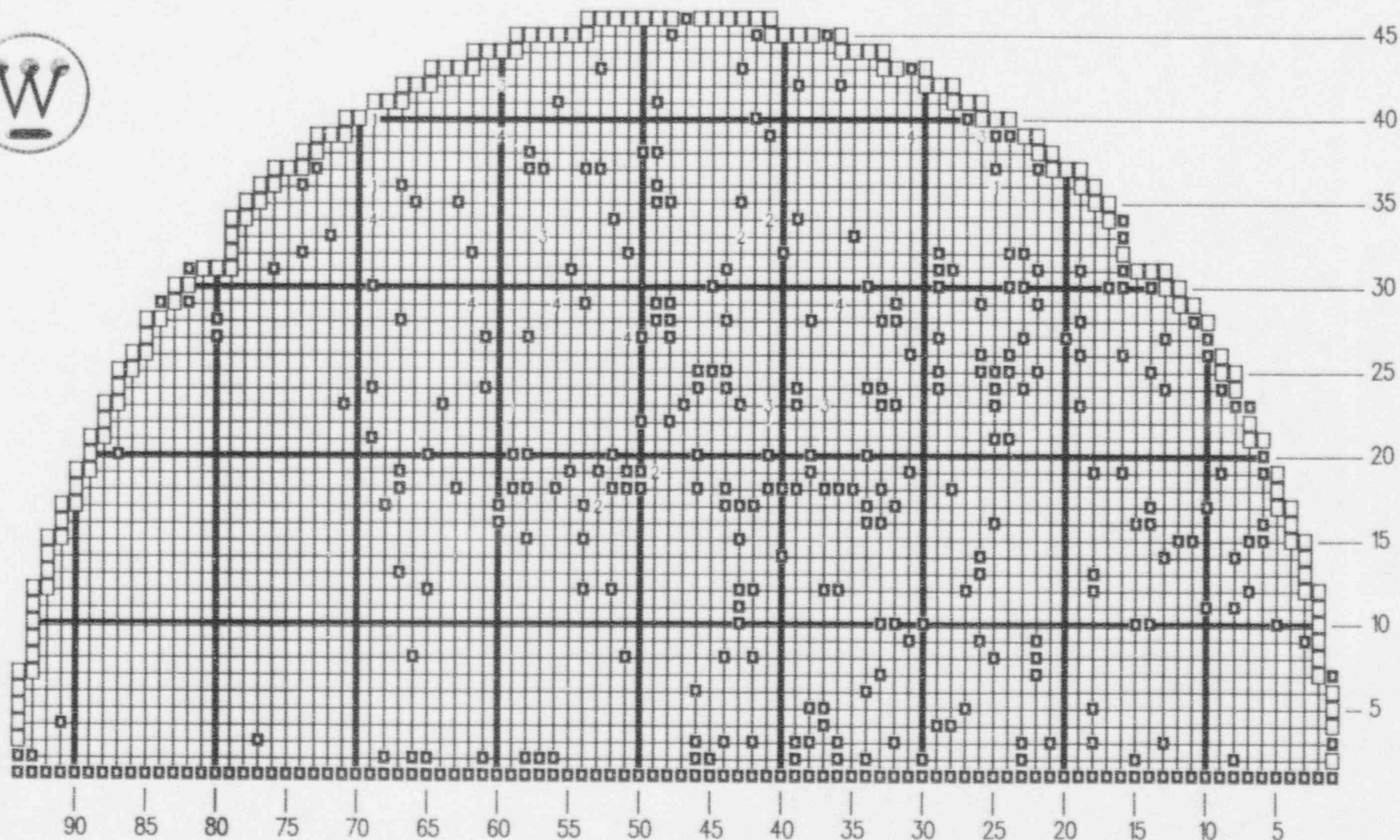
4 : 7 INDICATION 40 TO 49%
 3 : 5 INDICATION 30 TO 39%
 2 : 4 INDICATION 20 TO 29%
 1 : 3 INDICATION 10 TO 19%

■ : 374 EXISTING PLUGGED TUBE

10-11-1993

23:33 HRS.

SUPERTUBIN



NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
2	2	DI	1H	plugged
2	2	PCI	1H	plugged
2	2	PAI	1H	plugged
3	2	DI	1H	plugged
3	2	DIN	2H	plugged
3	2	PCI	1H	plugged
10	2	NQN	TSH	
4	3	SAI	2H	plugged
5	3	NQN	TSH	
10	3	36	TSH	
13	3	38	TSH	
13	3	NQN	TSH	
8	4	27	1H	plugged @
9	4	SAI	TSH	plugged
11	4	SCA	1H	plugged @
12	4	DIN	2H	
12	4	SCL	1H	
14	4	DI	1H	plugged @
14	4	18	1H	plugged @
14	4	SCA	1H	plugged @
17	4	DI	1H	plugged
17	4	SCI	1H	plugged
3	5	SAI	2H	plugged
5	5	NQN	TSH	plugged @
5	5	DI	1H	plugged @
5	5	13	1H	plugged @
9	5	DIN	1H	
13	5	SCI	1H	plugged
18	5	PCI	1H	plugged
19	5	DIN	1H	plugged @
19	5	SCA	1H	plugged @
6	6	DIN	1H	plugged @
6	6	SCA	1H	plugged @
7	6	DIN	1H	

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
11	6	20	TSH	
12	6	DIN	1H	
12	6	SCA	1H	
17	6	27	TSH	
21	6	SCI	1H	plugged
21	6	SCA	4H	plugged
9	7	PCI	2H	plugged
10	7	DI	1H	plugged
10	7	SCA	1H	plugged
10	7	PCI	1H	plugged
13	7	17	TSH	
13	7	SCA	2H	
3	8	DIN	1H	
25	8	SCI	2H	plugged
3	9	SCI	2H	plugged
7	9	SCA	1H	plugged @
10	9	20	TSH	
10	9	SAA	1H	
10	9	SCA	2H	
15	9	DIN	1H	
15	9	SAA	2H	
4	10	SCI	1H	plugged
15	10	28	TSH	
15	10	SCA	3H	
15	10	SCL	4H	
16	10	DIN	1H	
16	10	SCA	2H	
24	10	DIN	2H	plugged @
24	10	SCA	4H	plugged @
3	11	DI	4H	plugged
3	11	MCI	1H	plugged
3	11	PCI	1H	plugged
3	11	PCI	3H	plugged
3	11	SCI	3H	plugged
3	11	SCI	4H	plugged
3	11	SCL	5H	plugged

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
4	11	NQN	1H	plugged
4	11	DIN	1H	plugged
4	11	SCA	1H	plugged
4	11	PCI	2H	plugged
9	11	SCI	1H	plugged
9	11	SCL	1H	plugged
11	11	PCN	2H	
11	11	SCL	2H	
16	11	DIN	1H	plugged
16	11	SCI	2H	plugged
16	11	SCA	1H	plugged
17	11	SCI	3H	plugged
19	11	PCN	2H	
3	12	DI	1H	plugged
3	12	SCI	1H	plugged
3	12	SCL	3H	plugged
3	12	SCA	3H	plugged
11	12	NQN	TSH	
11	12	NQN	1H	
11	12	DIN	1H	
11	12	SCA	4H	
13	12	34	1H	
13	12	DIN	1H	
13	12	SCA	4H	
21	12	SCI	1H	plugged
21	12	MCI	1H	plugged
23	12	SCA	4H	plugged @
4	13	PCI	1H	plugged
11	13	DIN	1H	
13	13	DIN	3H	
13	13	SCA	2H	
15	13	DIN	1H	
29	13	DIN	2H	
14	14	DIN	3H	
14	14	SCA	2H	
19	14	DIN	1H	

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
21	14	PCI	1H	plugged
21	14	SCI	1H	plugged
31	14	5	2C	
9	15			plugged **
11	15			plugged **
21	15	SCI	1H	plugged
27	15	22	1H	
9	16			plugged **
10	16	DIN	1H	plugged
10	16	SCA	1H	plugged
10	16	SCL	1H	plugged
10	16	SCI	4H	plugged
10	16	SAI	4H	plugged
10	16	PMM	4H	plugged
10	16	SAA	5H	plugged
11	16			plugged **
15	16	PCI	3H	plugged
28	16	PCI	1H	plugged
32	16	DI	1H	plugged
32	16	DI	2H	plugged
32	16	DIN	5H	plugged
32	16	PCI	1H	plugged
32	16	PCI	2H	plugged
32	16	SCI	2H	plugged
9	17			plugged **
10	17	SAI	2H	plugged
11	17			plugged **
16	17	SCI	1H	plugged
16	17	PAN	2H	plugged
16	17	SAA	2H	plugged
27	17	SCI	1H	plugged
32	17	SCI	1H	plugged
15	18	PCI	1H	plugged
15	18	SCI	1H	plugged
18	18	DIN	2H	
18	18	SCA	2H	

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
23	18	DI	1H	plugged *
23	18	PCI	1H	plugged *
23	18	SCI	2H	plugged *
23	18	SCA	3H	plugged *
23	18	PCI	4H	plugged *
24	18	DIN	1H	
24	18	SCA	2H	
25	18	DIN	2H	
25	18	SCL	2H	
28	18	SCA	1H	plugged @
2	19	SAI	TSH	plugged
4	19	DIN	1H	
4	19	DIN	5H	
9	19	SCA	2H	plugged *, @
12	19	DIN	1H	
12	19	SCA	2H	
16	19	DIN	1H	
16	19	DIN	2H	
16	19	SCA	1H	
17	19	SCI	1H	plugged
30	19	DI	1H	plugged
30	19	DI	2H	plugged
30	19	PCI	1H	plugged
30	19	PCI	2H	plugged
32	19	DIN	1H	
5	20	NQN	1H	
6	20	DIN	1H	
12	20	DIN	3H	
12	20	SCL	1H	
12	20	SCA	1H	
14	20	SCA	1H	
14	20	PCN	2H	
14	20	PCN	3H	
14	20	SCA	2H	
14	20	SCA	3H	
30	20	DIN	1H	
31	20	PCI	2H	plugged

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
4	21	SCI	2H	plugged
7	21	DIN	1H	plugged
7	21	SAI	2H	plugged
20	21	SCI	4H	plugged
25	21	34	1H	
25	21	SCL	4H	
34	21	SAI	3H	plugged
3	22	PAI	1H	plugged *
3	22	PCI	1H	plugged *
11	22	SCI	1H	plugged
12	22	SCI	1H	plugged
14	22	PCN	2H	
14	22	SCA	2H	
17	22	SAA	2H	plugged
17	22	PCI	3H	plugged
17	22	SCI	4H	plugged
24	22	DIN	1H	
24	22	SCA	4H	
4	23	SAI	1H	plugged
5	23	31	1H	plugged
5	23	PCI	2H	plugged
9	23	21	1H	plugged @
9	23	PCI	1H	plugged @
10	23	DI	1H	plugged
10	23	SCI	1H	plugged
10	23	PCI	4H	plugged
18	23	DI	1H	plugged @
18	23	19	3H	plugged @
18	23	PCI	1H	plugged @
19	23	DIN	2H	
19	23	SAA	2H	
31	23	SCI	2H	plugged
31	23	PCI	3H	plugged
31	23	PCI	2H	plugged
35	23	DIN	1H	

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
3	24	DI	1H	plugged
3	24	PCI	1H	plugged
4	24	SCI	1H	plugged
6	24	DI	1H	plugged
6	24	DIN	2H	plugged
6	24	SCI	1H	plugged
18	24	55	TSH	plugged #
18	24	SCA	2H	plugged #
31	24	SCI	2H	plugged
31	24	PCI	1H	plugged
31	24	PCI	2H	plugged
35	24	SCI	1H	plugged
38	24	SCI	1H	plugged
3	25	DIN	3H	
5	25	PCI	1H	plugged
6	25	SAI	1H	plugged
12	25	28	1H	plugged @
12	25	SCI	1H	plugged @
13	25	34	TSH	
22	25	SCI	1H	plugged
22	25	PAI	1H	plugged
36	25	13	AV1	
36	25	16	AV2	
18	26	SCI	2H	plugged
19	26	SCI	1H	plugged
20	26	38	TSH	plugged @
20	26	SCI	1H	plugged @
20	26	SCA	1H	plugged @
20	26	14	3H	plugged @
28	26	DIN	1H	plugged
28	26	SCI	2H	plugged
31	26			plugged **
32	26	PAI	5H	plugged
33	26			plugged **

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
39	26	39	AV2	
39	26	30	AV3	
18	27	SCI	2H	plugged
18	27	PCI	2H	plugged
20	27	38	1H	
25	27	SCI	2H	plugged
25	27	SCA	2H	plugged
28	27	PCI	1H	plugged
28	27	SCA	2H	plugged
31	27			plugged **
32	27	SCL	5H	plugged
32	27	SCA	5H	plugged
32	27	PCI	7H	plugged
33	27			plugged **
38	27	SCI	1H	plugged
11	28	SCI	1H	plugged
11	28	SCL	2H	plugged
11	28	SCI	3H	plugged
11	28	PCI	1H	plugged
14	28	18	TSH	
14	28	SCA	1H	
15	28	SAI	1H	plugged
17	28	SCI	1H	plugged
19	28	SCA	2H	plugged
19	28	MCI	1H	plugged
19	28	SCI	1H	plugged
19	28	SCA	1H	plugged
19	28	SCL	1H	plugged
20	28	PCI	1H	plugged *
20	28	SCA	2H	plugged *
20	28	PAI	1H	plugged *
20	28	SCI	1H	plugged *
20	28	SCA	1H	plugged *
24	28	35	TSH	
24	28	SCA	4H	
28	28	24	TSH	
28	28	SCA	2H	
29	28	SCL	2H	plugged @

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
32	28			plugged **
33	28			plugged **
36	28	SCI	1H	plugged
36	28	PCI	1H	plugged
36	28	SAA	1H	plugged
38	28	23	TSH	plugged
38	28	PCI	1H	plugged
38	28	SCI	1H	plugged
7	29	SCI	2H	plugged
9	29	PCI	1H	plugged
26	29	TIN	TSH	
26	29	SAA	TSH	
28	29	DI	2H	plugged
28	29	SCI	2H	plugged
41	29	SCI	2H	plugged
3	30	DIN	3H	
18	30	PCI	3H	plugged
23	30	SCI	1H	plugged
28	30	PCI	TSH	plugged *
28	30	SCI	1H	plugged *
28	30	SCL	1H	plugged *
28	30	SAA	2H	plugged *
28	30	SCA	2H	plugged *
28	30	SCI	TSH	plugged *
29	30	SCA	1H	plugged
29	30	SCL	1H	plugged
29	30	PCI	2H	plugged
30	30	SCI	1H	plugged
30	30	SCL	1H	plugged
30	30	SCA	1H	plugged
37	30	SCI	2H	plugged
39	30	SCL	1H	plugged @
41	30	SCI	2H	plugged
42	30	PCI	2H	plugged
42	30	SCI	2H	plugged

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
10	31	NQN	TSH	plugged @
10	31	DIN	1H	plugged @
10	31	DIN	2H	plugged @
10	31	SCA	2H	plugged @
11	31	DI	1H	plugged
11	31	DIN	2H	plugged
11	31	SCI	1H	plugged
12	31	DIN	1H	
13	31	DIN	3H	
15	31	26	TSH	plugged
15	31	SAI	1H	plugged
17	31	PCI	1H	plugged
18	31	DIN	1H	
29	31	DIN	4H	
34	31	DIN	1H	
38	31	PCI	1H	plugged
38	31	PCI	2H	plugged
39	31	40	AV2	plugged
39	31	34	AV3	plugged
5	32	SCI	2H	plugged
5	32	SCI	3H	plugged
5	32	PCI	3H	plugged
15	32	27	TSH	
18	32	TIN	TSH	
18	32	SCA	1H	
19	32	TIN	TSH	plugged
19	32	SCL	3H	plugged
19	32	SCI	4H	plugged
36	32	PCN	6H	
43	32	DIN	2H	
9	33	SCA	1H	plugged
9	33	SCI	2H	plugged
12	33	25	TSH	
12	33	INR	TSC	
13	33	INF	TSC	plugged
13	33	SCI	1H	plugged

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
17	33	36	TSH	plugged
17	33	INF	TSC	plugged
17	33	PCI	1H	plugged
22	33	INR	TSC	
22	33	SCL	2H	
27	33	SCI	1H	plugged
27	33	PCI	1H	plugged
38	33	SCA	1H	plugged
38	33	PCI	1H	plugged
38	33	SCI	1H	plugged
10	34	PCI	1H	plugged
10	34	SCI	1H	plugged
11	34	SCI	TSH	plugged
14	34	SCA	2H	plugged
14	34	SCA	3H	plugged
14	34	SCI	1H	plugged
15	34	SCI	1H	plugged
18	34	31	TSH	plugged @
18	34	SAA	TSH	plugged @
18	34	SAA	1H	plugged @
18	34	SCA	1H	plugged @
18	34	SCL	2H	plugged @
18	34	SCL	3H	plugged @
18	34	SCA	4H	plugged @
28	34	18	1H	plugged
28	34	SCI	2H	plugged
28	34	PCI	2H	plugged
32	34	PCI	4H	plugged
36	34	23	1H	plugged
36	34	SCI	2H	plugged
37	34	38	1H	
37	34	NON	1H	
37	34	SCA	1H	
37	34	SCL	2H	
43	34	PCI	2H	plugged
3	35	DIN	1H	plugged
3	35	PCI	4H	plugged
4	35	DIN	3H	
4	35	SAA	TSH	

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
5	35	DIN	3H	
5	35	DIN	6H	
5	35	DEP	3H	
6	35	MCI	1H	plugged
6	35	SCI	1H	plugged
20	35	NQN	TSH	
24	35	16	TSH	plugged
24	35	SCI	1H	plugged
24	35	PCI	2H	plugged
27	35	NQN	1H	
32	35	PCI	1H	plugged *
32	35	SCI	1H	plugged *
32	35	MCI	1H	plugged *
5	36	DI	2H	plugged
5	36	PCI	2H	plugged
7	36	DIN	2H	
8	36	DIN	1H	plugged
8	36	DIN	2H	plugged
8	36	SAI	3H	plugged
15	36	25	TSH	
19	36	39	TSH	
19	36	SCA	1H	
21	36	NQN	TSH	plugged
21	36	DI	1H	plugged
21	36	PCI	1H	plugged
21	36	SCA	3H	plugged
22	36	SCI	3H	plugged
24	36	NQN	TSH	
25	36	NQN	TSH	
26	36	20	1H	plugged @
29	36	41	AV3	plugged
29	36	24	AV4	plugged
34	36	PCI	1H	plugged
34	36	SCI	1H	plugged
36	36	PCI	1H	plugged

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
45	36	29	1C	
6	37	DIN	2H	
11	37	DI	1H	plugged
11	37	DIN	2H	plugged
11	37	PAI	1H	plugged
11	37	PCI	1H	plugged
13	37	DI	1H	plugged
13	37	SCI	1H	plugged
23	37	NQN	TSH	
23	37	26	AV1	
23	37	31	AV2	
23	37	25	AV3	
23	37	SCL	5H	
23	37	SCL	3H	
23	37	SCA	4H	
23	37	SCL	4H	
27	37	30	TSH	plugged
27	37	PCI	2H	plugged
27	37	SCL	3H	plugged
28	37	NQN	TSH	
31	37	SCI	1H	plugged
36	37	SCI	1H	plugged
36	37	PCI	1H	plugged
10	38	SAA	2H	plugged @
11	38	PCI	1H	plugged
11	38	SCA	3H	plugged
11	38	SCL	3H	plugged
11	38	SCA	1H	plugged
13	38	PCI	2H	plugged
39	38	PVN	4C	plugged
39	38	SCI	1H	plugged
39	38	SCI	2H	plugged
41	38	SCA	TSH	plugged *,@
44	38			plugged **
45	38			plugged **
8	39	SCI	1H	plugged

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
11	39	27	TSH	
11	39	SCA	1H	
11	39	SCA	3H	
16	39	26	TSH	
21	39	SCI	1H	plugged
30	39	DI	1H	plugged
30	39	35	1H	plugged
30	39	PCI	1H	plugged
30	39	SAI	2H	plugged
30	39	PCI	2H	plugged
30	39	PCI	4H	plugged
30	39	SCI	1H	plugged
30	39	SCA	4H	plugged
35	39	PCI	3H	plugged
44	39			plugged **
45	39	SCL	7H	plugged @
15	40	DIN	3H	
17	40	SCI	TSH	plugged
19	40	DI	1H	plugged
19	40	SAI	1H	plugged
19	40	SCL	1H	plugged
19	40	SCI	2H	plugged
19	40	SCA	4H	plugged
26	40	DIN	1H	plugged
26	40	SCI	TSH	plugged
26	40	SCI	4H	plugged
43	40	SCI	1H	plugged
44	40			plugged **
45	40			plugged **
19	41	SCI	1H	plugged
21	41	SCI	1H	plugged
23	41	20	AV1	
23	41	23	AV2	
23	41	31	AV3	
24	41	PCI	TSH	plugged
27	41	SCI	3H	plugged

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
30	41	DI	1H	plugged
30	41	SCI	1H	plugged
30	41	SCA	2H	plugged
34	41	24	AV1	
46	41	DIN	1H	
4	42	SCI	TSH	plugged
11	42	16	TSH	
19	42	TIN	TSH	
19	42	NQN	TSH	
19	42	DIN	1H	
20	42	SCI	1H	plugged
21	42	DIN	2H	
29	42	SCI	1H	plugged
38	42	SCI	3H	plugged
46	42	33	2C	
7	43	DIN	5H	
18	43	26	TSH	
19	43	29	2H	plugged @
24	43	38	TSH	
26	43	PCI	2H	plugged
33	43	17	AV1	
33	43	21	AV2	
45	43	16	1C	
5	44	DIN	1H	
5	44	SCA	1H	
13	44	SCI	3H	plugged
13	44	SCI	TSH	plugged
20	44	TIN	TSH	plugged
20	44	SCI	2H	plugged
21	44	SCA	TSH	plugged * @
22	44	SCA	TSH	plugged @
23	44	SAI	2H	plugged

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9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
27	44	85	TSH	plugged
32	44	SCA	TSH	plugged * @
40	44	SCA	TSH	plugged * @
4	45	SAI	TSH	plugged
5	45	DIN	3H	
12	45	SCI	TSH	plugged *
12	45	SCL	1H	plugged *
12	45	SCA	1H	plugged *
12	45	SCL	3H	plugged *
12	45	SCL	4H	plugged *
21	45	23	TSH	plugged
21	45	SCA	2H	plugged
21	45	PAI	3H	plugged
24	45	11	TSH	
24	45	SCL	1H	
31	45	DIN	1H	
40	45	DIN	2H	
42	45	20	TSH	
42	45	29	1H	
7	46	SCA	1H	plugged *,@
10	46	DIN	1H	
10	46	DIN	2H	
19	46	DIN	1H	
19	46	DIN	2H	
21	46	TIN	TSH	
27	46	PCI	1H	plugged
34	46	29	TSH	plugged
34	46	37	1H	plugged
34	46	DI	1H	plugged
34	46	NQN	1H	plugged
34	46	SCI	1H	plugged
42	46	PCI	1H	plugged
43	46	PCI	1H	plugged *
43	46	SCI	1H	plugged *
44	46	DIN	3H	

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9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
15	47	SCI	TSH	plugged
15	47	SCL	1H	plugged
20	47	SCI	TSH	plugged
21	47	SCI	1H	plugged
21	47	SCI	3H	plugged
22	47			plugged **
24	47	SAA	TSH	plugged
24	47	SCI	2H	plugged
30	47	SCI	TSH	plugged
34	47	29	1H	plugged @
34	47	SCA	TSH	plugged @
34	47	SCA	1H	plugged @
11	48	SCI	1H	plugged
12	48	SCA	1H	
12	48	SCL	2H	
21	48			plugged **
23	48	SCI	TSH	plugged
25	48	SCI	TSH	plugged
26	48	DIN	1H	plugged
26	48	SAI	TSH	plugged
26	48	PCI	2H	plugged
42	48	30	1H	
42	48	NQN	1H	
42	48	DEP	1H	
15	49	30	TSH	
16	49	NQN	TSH	
16	49	SCL	5H	
19	49	26	AV1	
19	49	23	AV4	
20	49	SCI	2H	plugged
21	49	SCL	2H	plugged
21	49	SCL	3H	plugged
21	49	SCL	5H	plugged
21	49	SCI	2H	plugged
21	49	41	2H	plugged

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
22	49			plugged **
23	49	SCI	TSH	plugged
24	49	SCI	TSH	plugged
24	49	SCI	2H	plugged
26	49	SCL	TSH	plugged @
26	49	22	1H	plugged @
39	49	SCI	2H	plugged
39	50	PCI	1H	plugged
39	50	SCA	3H	plugged
15	51	PCI	1H	plugged
15	51	SCI	1H	plugged
21	51	33	1H	plugged
21	51	26	2H	plugged
21	51	SAA	TSH	plugged
21	51	61	TSH	plugged
21	51	SCI	1H	plugged
21	51	SCI	2H	plugged
24	51	23	TSH	
24	51	SCA	1H	
24	51	SCA	2H	
24	51	SCL	2H	
27	51	42	AV4	plugged
27	51	30	AV3	plugged
29	51	31	TSH	
29	51	SCL	2H	
33	51	SCI	2H	plugged
38	51	SCI	2H	plugged *
38	51	SCL	3H	plugged *
38	51	PCI	3H	plugged *
16	52	PCI	1H	plugged
19	52	PCI	1H	plugged
19	52	SCI	1H	plugged
22	52	PCI	2H	plugged
24	52	SCI	2H	plugged
27	52	26	2H	plugged @
27	52	SCL	3H	plugged @
27	52	PAI	2H	plugged @

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
31	52	SCI	1H	plugged
31	52	PCI	1H	plugged
37	52	SCI	1H	plugged
42	52	SCI	1H	plugged
8	53	DI	2H	plugged
8	53	DI	3H	plugged
8	53	SCA	1H	plugged
8	53	PCI	2H	plugged
8	53	SAI	3H	plugged
8	53	SCL	5H	plugged
8	53	SCA	3H	plugged
8	53	PMM	3H	plugged
16	53	SCI	2H	plugged
16	53	SCA	1H	plugged
17	53	15	TSH	
17	53	24	AV2	
17	53	27	AV3	
17	53	19	AV4	
18	53	SCI	1H	plugged
18	53	SCI	2H	plugged
18	53	PCI	3H	plugged
20	53	SCI	1H	plugged
25	53	PCI	1H	plugged
30	53	PCI	2H	plugged
9	54	DIN	4H	
19	54	PCI	2H	plugged
15	55	NQN	TSH	plugged @
15	55	SCA	2H	plugged @
15	55	1	3H	plugged @
15	55	32	6H	plugged @
15	55	SCI	1H	plugged @
15	55	SCI	3H	plugged @
15	55	SCI	6H	plugged @
16	55	SCI	1H	plugged
16	55	PCI	1H	plugged
17	55	SCI	TSH	plugged
17	55	PCI	1H	plugged
17	55	SCA	2H	plugged
21	55	DIN	1H	
21	55	SCA	1H	

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
22	55	SCI	1H	plugged
39	55	PCI	2H	plugged
42	55	32	1H	
44	55			plugged **
45	55	PCI	2H	plugged
4	56	PAI	1H	plugged
16	56	SCI	1H	plugged
16	56	PCI	2H	plugged
17	56	DIN	1H	
17	56	SCL	1H	
17	56	SCA	3H	
19	56	PCI	2H	plugged
19	56	TIN	TSH	plugged
22	56	PCI	2H	plugged
22	56	PCI	3H	plugged
22	56	PCI	6H	plugged
29	56	18	AV1	plugged
29	56	31	AV2	plugged
29	56	41	AV3	plugged
29	56	21	AV4	plugged
33	56	DIN	2H	plugged
33	56	PCI	1H	plugged
33	56	SCI	1H	plugged
36	56	PCI	1H	plugged
43	56	DI	2H	plugged
43	56	SCL	1H	plugged
43	56	PCI	2H	plugged
44	56	18	1C	plugged **
45	56	SCI	1H	plugged
45	56	PCI	1H	plugged
45	56	SCA	7H	plugged
9	57	PCI	1H	plugged
9	57	SCI	1H	plugged
9	57	PCI	2H	plugged
12	57	SCI	4H	plugged

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
14	57	SCA	2H	plugged
14	57	SCI	3H	plugged
18	57	PCI	1H	plugged
18	57	SCI	1H	plugged
18	57	PCI	4H	plugged
20	57	SCI	1H	plugged
21	57	SAA	3H	plugged @
23	57	SCA	TSH	plugged
23	57	SCI	1H	plugged
23	57	SAL	2H	plugged
23	57	PCI	3H	plugged
25	57	PCI	1H	plugged
29	57	SCI	2H	plugged
33	57	28	AV1	
33	57	26	AV2	
33	57	34	AV3	
33	57	38	AV4	
44	57			plugged **
45	57	DIN	1H	plugged **
3	58	PCI	1H	plugged
8	58	SAI	4H	plugged
12	58	SCI	2H	plugged
17	58	PCI	1H	plugged
17	58	PCI	2H	plugged
17	58	MCI	3H	plugged
17	58	PCI	4H	plugged
21	58	SCI	2H	plugged
21	58	PCI	2H	plugged
22	58	SCI	2H	plugged
26	58	36	TSH	
26	58	SCA	3H	
31	58	DI	1H	plugged
31	58	DI	3H	plugged
31	58	SAI	1H	plugged
31	58	PCI	2H	plugged
31	58	PCI	3H	plugged
42	58	18	5C	

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
21	59	PCI	1H	plugged
37	59	11	1H	plugged @
37	59	SCA	2H	plugged @
37	59	SCA	3H	plugged @
37	59	PCI	1H	plugged @
43	59			plugged **
44	59			plugged **
45	59			plugged **
8	60	PCI	3H	plugged
8	60	SCI	3H	plugged
11	60	SAI	TSH	plugged
11	60	SCL	2H	plugged
11	60	SCL	3H	plugged
19	60	PCI	1H	plugged
23	60	SCA	2H	
23	60	SCA	4H	
23	60	25	TSH	
27	60	PCI	1H	plugged
36	60	PCI	2H	plugged
36	60	NON	1H	plugged
36	60	SCI	2H	plugged
39	60	41	AV1	plugged
39	60	40	AV2	plugged
39	60	36	AV3	plugged
39	60	SAA	TSH	plugged
42	60	38	AV3	
42	60	37	AV4	
43	60			plugged **
44	60	SCA	TSH	plugged @
5	61	SCI	1H	plugged
10	61	SCI	1H	plugged
18	61	PCI	1H	plugged
18	61	SCI	1H	plugged
21	61	22	TSH	plugged
21	61	PCI	1H	plugged

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
23	61	SCI	1H	plugged
23	61	PCI	4H	plugged
23	61	SCI	4H	plugged
29	61	SCI	2H	plugged
33	61	DIN	5H	
33	61	SCL	1H	
42	61	30	TSH	
43	61	35	1H	plugged **
44	61			plugged **
2	62	SCI	7H	plugged
3	62	PCI	2H	plugged
15	62	SAA	2H	plugged @
19	62	PAI	4H	plugged
19	62	SCI	4H	plugged
25	62	SCI	2H	plugged
29	62	31	AV1	plugged
29	62	44	AV2	plugged
29	62	36	AV3	plugged
29	62	SCA	4H	plugged
17	63	SAI	3H	plugged
19	63	SCI	1H	plugged
20	63	SCI	1H	plugged
21	63	19	2H	plugged @
21	63	17	4H	plugged @
21	63	PCI	2H	plugged @
23	63	30	TSH	
23	63	SAL	1H	
25	63	SCI	2H	plugged
25	63	SCA	5H	plugged
39	63	DIN	1H	
42	63	36	TSH	
43	63	SAA	1H	plugged @
2	64	SC	7H	plugged

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
13	64	PAI	2H	plugged
13	64	DIN	1H	plugged
13	64	SAI	2H	plugged
17	64	8	2H	plugged @
17	64	SCA	5H	plugged @
17	64	TIN	TSH	plugged @
20	64	SCI	1H	plugged
20	64	SCL	5H	plugged
22	64	SCI	1H	plugged
27	64	SCI	1H	plugged
28	64	SCL	1H	plugged
28	64	SAA	4H	plugged
28	64	PCI	5H	plugged
28	64	SCI	5H	plugged
31	64	28	2H	plugged @
31	64	8	4H	plugged @
31	64	10	5H	plugged @
31	64	SCI	2H	plugged @
34	64	32	TSH	plugged
34	64	PCI	2H	plugged
34	64	SAA	5H	plugged
34	64	SCI	2H	plugged
8	65	SCL	1H	plugged
8	65	SCI	3H	plugged
8	65	PCI	3H	plugged
15	65	SAI	1H	plugged
15	65	PCI	1H	plugged
15	65	SCI	2H	plugged
15	65	SCI	1H	plugged
16	65	SCI	1H	plugged
16	65	TIN	TSH	plugged
17	65	PAI	1H	plugged
17	65	PCI	1H	plugged
17	65	DI	1H	plugged
17	65	SAI	1H	plugged
17	65	SCI	1H	plugged
19	65	TIN	TSH	
19	65	SCL	2H	
19	65	SCL	3H	
21	65	22	2H	plugged
21	65	SCI	2H	plugged

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
24	65	SCA	1H	plugged *
24	65	SCI	1H	plugged *
25	65	SCI	TSH	plugged
25	65	SAA	3H	plugged
41	65			plugged **
42	65			plugged **
43	65			plugged **
3	66	DI	1H	plugged
3	66	SCI	1H	plugged
17	66	DI	1H	plugged
17	66	SCI	1H	plugged
19	66	TIN	TSH	
20	66	SCA	2H	plugged
20	66	SCI	2H	plugged
20	66	TIN	TSH	plugged
22	66	SCI	1H	plugged
24	66	SCI	1H	plugged
24	66	SCA	1H	plugged
24	66	PCI	2H	plugged
24	66	PCI	1H	plugged
27	66	DI	2H	plugged
27	66	DI	4H	plugged
27	66	SCI	2H	plugged
27	66	PCI	4H	plugged
28	66	PCI	2H	plugged
28	66	SCA	5H	plugged
29	66	SCI	1H	plugged
37	66	31	TSH	
37	66	NQN	1H	
41	66			plugged **
42	66	SCA	1H	plugged @
15	67	SCI	2H	plugged
23	67	SCI	TSH	plugged
26	67	PCI	2H	plugged
32	67	SCI	4H	plugged
32	67	PCI	4H	plugged

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
41	67	18	1H	plugged **
41	67	SAA	1H	plugged **
42	67			plugged **
5	68	SCI	1H	plugged
19	68	PCI	2H	plugged
22	68	PCI	2H	plugged
24	68	DIN	1H	
24	68	SCA	1H	
32	68	PCI	1H	plugged
32	68	PAI	2H	plugged
32	68	SCI	2H	plugged
35	68	SCA	1H	plugged
35	68	SCI	2H	plugged
12	69	SCI	1H	plugged
12	69	SCA	3H	plugged
22	69	PCI	2H	plugged
22	69	SCI	2H	plugged
31	69	PCI	2H	plugged
31	69	SCI	2H	plugged
31	69	SCL	2H	plugged
34	69	43	AV1	plugged
34	69	38	AV2	plugged
34	69	23	AV3	plugged
36	69	16	AV2	
38	69	SAA	TSH	plugged @
40	69	16	AV3	
2	70	SAI	1H	plugged
5	70	SCI	2H	plugged
5	70	PCI	2H	plugged
17	70	SCI	1H	plugged
17	70	SCI	2H	plugged
18	70	SCI	3H	plugged
22	70	SCI	2H	plugged
22	70	SCL	2H	plugged

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
27	70	PCI	2H	plugged
27	70	SCA	2H	plugged
31	70	PCI	1H	plugged
39	70	33	TSH	
39	70	25	1C	
7	71	SCI	1H	plugged
26	71	PCI	2H	plugged
26	71	SCA	3H	plugged
26	71	PAI	2H	plugged
27	71	PCI	2H	plugged
27	71	SCI	2H	plugged
31	71	SCI	1H	plugged
37	71	SAA	TSH	plugged @
38	71	31	1H	
38	71	DIN	1H	
38	71	NQN	1H	
38	71	14	2H	
39	71	NQN	TSH	
3	72	DIN	3H	
26	72	SCL	1H	plugged *,@
30	72	SCA	1H	plugged @
31	72	SCA	1H	
31	72	SCL	1H	
31	72	DIN	1H	
32	72	SAA	6H	plugged @
36	72	MCI	2H	plugged
36	72	PCI	2H	plugged
38	72	38	TSH	
38	72	NQN	TSH	
38	72	25	1H	
38	72	NQN	1H	
38	72	SCA	1H	
39	72	SAA	5H	plugged @
4	73	SAI	2H	plugged
8	73	SCA	2H	plugged
8	73	SCI	2H	plugged

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
15	73	SCI	2H	plugged
2	74	DIN	2H	
5	74	DI	3H	plugged
5	74	SAI	3H	plugged
3	75	PCI	4H	plugged
13	75	DIN	4H	
17	75	SAI	1H	plugged
31	75	DIN	1H	
6	76	SAI	TSH	plugged
10	76	SAA	1H	plugged @
19	76	DI	2H	plugged
19	76	SCI	2H	plugged
20	76	DIN	3H	
24	76	DIN	1H	
32	76	DIN	1H	
34	76	11	1H	
4	77	DIN	1H	plugged @
4	77	28	4H	plugged @
4	77	SCA	5H	plugged @
4	77	SCL	5H	plugged @
4	77	PCI	4H	plugged @
19	77	DIN	2H	
32	77	DIN	1H	
34	77			plugged **
35	77	12	1H	plugged **
35	77	DIN	1H	plugged **
36	77	SCA	TSH	plugged @
17	78	MCI	2H	plugged
25	78	SCI	2H	plugged
29	78	SCI	2H	plugged
30	78	DIN	5H	

NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
33	78	DIN	1H	
34	78			plugged **
35	78	SCI	1H	plugged
35	78	MCI	1H	plugged
30	79	SCI	1H	plugged
34	79			plugged **
3	80	SCI	4H	plugged
3	80	PCI	5H	plugged
5	80	DI	2H	
18	80	SCI	2H	plugged
18	80	PCI	2H	plugged
25	80	PCI	1H	plugged *
27	81	DIN	5H	
29	81	DIN	1H	
5	82	17	2H	
15	82	SCI	2H	plugged
15	82	DIN	1H	plugged
15	82	DI	2H	plugged
23	82	DIN	2H	
25	82	DI	1H	plugged @
25	82	38	4H	plugged @
25	82	23	1H	plugged @
25	82	28	3H	plugged @
25	82	SAI	2H	plugged @
25	82	SCL	2H	plugged @
25	82	PCI	3H	plugged @
28	82	DIN	6H	
25	83	SCI	1H	plugged
25	83	DI	1H	plugged
30	83	SAI	TSH	plugged
3	84	DI	3H	plugged
3	84	SAI	3H	plugged
26	84	DI	2H	plugged @
26	84	35	2H	plugged @
26	84	PAI	2H	plugged @

**NORTH ANNA UNIT #2
9TH REFUELING OUTAGE - FALL 1993
UNIT #2 S/G "C" EXAMINATION SUMMARY**

<u>Row</u>	<u>Col</u>	<u>Ind</u>	<u>Locn</u>	<u>Remarks</u>
24	85	DIN	1H	
2	87	DIN	2H	
15	87	SCA	4H	plugged @
25	87	PCI	2H	plugged
18	88	SCL	2H	plugged
18	88	PCI	3H	plugged
18	88	SCI	3H	plugged
12	89	SCI	1H	plugged
12	89	SCI	2H	plugged
12	89	SCA	3H	plugged
12	89	PCI	1H	plugged
12	89	PCI	2H	plugged
19	89	DIN	1H	
15	90	SCI	2H	plugged
15	90	DI	2H	plugged
15	92	SAI	TSH	plugged
9	93	DI	3H	plugged
9	93	PAI	3H	plugged
3	94	DIN	2H	
5	94	SCI	TSH	plugged

* = Tubes Stabilized and Plugged.

** = Tubes Preventively Plugged To "Box" Adjacent Tubes Which Could Not Be Stabilized.

@ = Plugged As A Precautionary Measure - These tubes contained a signal judged by the analysis program not to be an indication. However, due to the extent of the signal's vertical component and its location in the steam generator, the tube was plugged. Also included are a number of tubes which the Virginia Power Eddy Current Level III requested to be plugged even though the normal analysis process considered the signal not to be a pluggable indication.

= This tube was erroneously recorded on the indication map as containing a through-wall indication of 40 - 49% instead of the correct category of 50 - 59%.

TOTAL TUBES PLUGGED = 409

**VIRGINIA ELECTRIC AND POWER COMPANY
STEAM GENERATOR EDDY CURRENT TUBE INSPECTION**

GLOSSARY OF TERMS / ANNOTATIONS

AV1	Anti-Vibration Bar 1.
AV2	Anti-Vibration Bar 2.
AV3	Anti-Vibration Bar 3.
AV4	Anti-Vibration Bar 4.
#C	(# = number) of Support Plate in the Cold leg (e.g., 3C, 6C, or 7C).
DEP	Deposit. Signal rotates out of the flaw plane like a deposit.
DI	Distorted indication. A possible tube wall loss condition that is not quantifiable with a numeric percent call due to the existing signal characteristics.
DIN	Distorted Indication Not Confirmed. A possible tube wall loss condition that is not quantifiable with a numeric percent call due to the existing signal characteristics which was tested by the Rotating Pancake Coil (RPC) probe and was not confirmed.
#H	(# = number) of Support Plate in the Hot leg (e.g., 3H, 6H, or 7H).
INF	Indication Not Found. Indicates that a previously reported indication, from current inspection data or historical data, is not found in the data being analyzed. This is also used to address the case where a tube/signal is being retested for positive identification (PID) and the retest data does not show any signal present.
INR	Indication Not Reportable. Indicates that a very small tube wall loss condition exists in the data being analyzed that is below the reportable criteria threshold for this specific inspection. This can be used to address indications called in previous inspections that are still detectable but fall below current criteria
MAI	Multiple Axial Indication. Describes multiple axially oriented indications from RPC Probe data
MCI	Multiple Circumferential Indication. Describes multiple circumferentially oriented indications from RPC Probe data
NQI	Non Quantifiable Indication (retest). Used in lieu of a % thru wall value on a signal located in free span area of the tube which the analyst believes to be an indication but too distorted to quantify. Requires RPC for further clarification.

**VIRGINIA ELECTRIC AND POWER COMPANY
STEAM GENERATOR EDDY CURRENT TUBE INSPECTION**

GLOSSARY OF TERMS / ANNOTATIONS

NQN	Non Quantifiable Indication Not Confirmed. An NQI which was not confirmed by further RPC testing.
PAI	Possible Axial Indication. Any signal having a vertical response lying in a flaw plane that is distorted/influenced by geometry changes. These signals will be subject to additional RPC testing in an attempt to further clarify the signal.
PAN	Possible Axial Indication Not Confirmed by RPC. A PAI signal that was determined to be non-relevant by additional RPC testing.
PCI	Possible Circumferential Indication. Any signal having a vertical response lying in a flaw plane that is distorted/influenced by geometry changes. These signals will be subject to additional RPC testing in an attempt to further clarify the signal.
PCN	Possible Circumferential Indication Not Confirmed by RPC. A PCI signal that was determined to be non-relevant by additional RPC testing.
PMM	Possible Mixed Mode Cracking. If a combination of circumferential and axial indications (I codes and/or SAA/SCA) are reported at an intersection, the isometric plot shall be reviewed for signal orientation that would imply that the signals do (or could) intersect (it is not necessary that they now intersect). If it appears that they do (or could) intersect, an additional report line of "PPM" must be made to allow for further review of the intersection.
SAA	Single Axial Anomaly. Describes a single axially oriented indication that does not meet the PAI code requirements.
SAI	Single Axial Indication. Describes a single axially oriented signal from Rotating Pancake probe data.
SAL	Single Axial Lutoff. Describes a single axially oriented indication signal that does not meet the SAA code requirements
SCA	Single Circumferential Anomaly. Describes a single circumferentially oriented indication that does not meet the PCI code requirements.
SCI	Single Circumferentially Oriented Indication. Describes a single circumferentially oriented indication signal from Rotating Pancake probe data. Circumferentially Oriented Indication (COI) is used if it is impossible to clearly detect the number of signals present.
SCL	Single Circumferential Lutoff. Describes a single circumferentially oriented indication signal that does not meet the SCA code requirements

**VIRGINIA ELECTRIC AND POWER COMPANY
STEAM GENERATOR EDDY CURRENT TUBE INSPECTION**

GLOSSARY OF TERMS / ANNOTATIONS

TEH	Tube End Hot leg.
TEC	Tube End Cold leg.
TI	Possible Tubesheet Indication (retest). Generally used with 8x1 analysis, sometimes with bobbin analysis, and describes a potential tube wall loss condition signal at the tubesheet that typically requires a retest for verification. These indications are sometimes retested with a special probe, e.g., Multiple Rotating Pancake Coil (MRPC), etc.
TIN	Tubesheet Indication Not Confirmed. A possible tube wall loss condition that is not quantifiable with a numeric percent call due to the existing signal characteristics which was tested by the RPC probe and not confirmed.
TSH	Top of Tubesheet Hot leg.
TSC	Top of Tubesheet Cold leg.
55	A number (between 1 and 89) in the indication column shows the % thru wall depth of the indication.

No comment in the remarks column indicates the tube is still in service.