

April 11, 1986

Dr. J. Nelson Grace
Regional Administrator
Region II
U. S. Nuclear Regulatory Commission
Suite 2900
101 Marietta St., N.W.
Atlanta, Georgia 30323

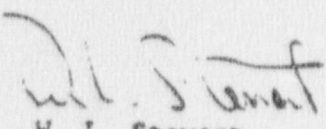
Serial No. 86-145
FPB/acm
Docket No. 50-339
License No. NPF-7

Dear Dr. Grace:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNIT 2
STEAM GENERATOR TUBE PLUGGING REPORT

Attached is the Steam Generator Tube Plugging Report for North Anna Unit 2 as required by the provisions of Technical Specification 4.4.5.5.a. This report is a summary of the tubes plugged as a result of the inspection that occurred during the recent Unit 2 refueling outage. Should you require more detailed information, the entire report is maintained on file at North Anna Power Station and the Corporate office.

Very truly yours,


W. L. Stewart

Enclosure:

Virginia Electric and Power Company
North Anna Power Station Unit 2
Steam Generator Tube Plugging Report
Refueling Outage-February, 1986

8710140038 871008
PDR FOIA PDR
BAUMANB7-461

FOIA-87-461

D/2

bc: Mr. E. W. Harrell - NAPS EWH per JNL 4-11-86
Mr. E. R. Smith, Jr. - NAPS ERS per JNL
Mr. G. E. Kane - NAPS GEM per JNL
Mr. R. O. Enfinger - NAPS
Mr. J. A. Stall - NAPS JAS per JNL
Ms. L. N. Hartz - NAPS LNH per JNL
Mr. J. C. Paul - NAPS
~~Ms. M. E. Clark - OJRP5~~ *na*
Mr. R. J. Hardwick - OJRP5
Mr. J. L. Wilson - OJRP5 *JLW 4/1/86*
Mr. J. W. Ogren - OJRP5 *JO 4/3/86*
Mr. G. L. Pannell - OJRP5 *GLP 4/1/86*
Dr. E. J. Lozito - OJRP5
Mr. D. J. VandeWalle - OJRP5 *DJV 4-10-86*
Dr. B. L. Shriver - RP5
Mr. E. W. Throckmorton - OJRP7
Mr. D. J. Fortin - OJRP5 *DF 4-3-86*
Mr. F. P. Bresee - OJRP5 *FPB 4-3-86*
NOD Tech Library (bc original)
GOV 02-54B
POW-36-76-14

cc: Mr. Lester S. Rubenstein, Director
PWR Project Directorate #2
Division of PWR Licensing-A

Mr. Larry King
NRC Resident Inspector
North Anna Power Station

Mr. Leon B. Engle
NRC North Anna Project Manager
PWR Project Directorate #2
Division of PWR Licensing-A

ENCLOSURE

VIRGINIA ELECTRIC AND POWER COMPANY

NORTH ANNA POWER STATION UNIT 2

STEAM GENERATOR TUBE PLUGGING REPORT

REFUELING OUTAGE - FEBRUARY, 1986

STEAM GENERATOR EXAMINATION
VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNIT NO. 2

STEAM GENERATORS A,B,&C
1986 REFUELING OUTAGE
TUBES PLUGGED SUMMARY

The attached plots indicate tubes out of service for each generator:

- Plot No. 1: Indicates the tubes out of service prior to the outage.
Plot No. 2: Indicates tubes taken out of service this outage.
Plot No. 3: Indicates total tubes out of service following the outage for an overall view of tubes out of service.

The following table lists the tubes plugged in North Anna Unit 2, this outage.

STEAM GENERATOR A

<u>Tube</u>	<u>X TWD</u>	<u>Tube</u>	<u>X TWD</u>
R45C36	39	R03C06	86

STEAM GENERATOR B

<u>Tube</u>	<u>X TWD</u>
R02C05	96

STEAM GENERATOR C

<u>Tube</u>	<u>X TWD</u>	<u>Tube</u>	<u>X TWD</u>
R02C36	73	*R02C56	89
*R02C58	80	*R02C56	89
*R02C58	80	*R02C56	91
*R02C58	94	*R02C56	91
*R02C57	85	*R02C56	92
*R02C57	95	*R02C56	93
*R02C57	98	*R02C56	94
*R02C57	98	R02C46	95
		R02C08	96

*Denotes tube with multiple indications

STEAM GENERATOR "A" PLOTS

Plot #1

Tubes Plugged Prior to the February 1976 Refueling Outage

PLANT: NOK-1 ANNA UNIT 2

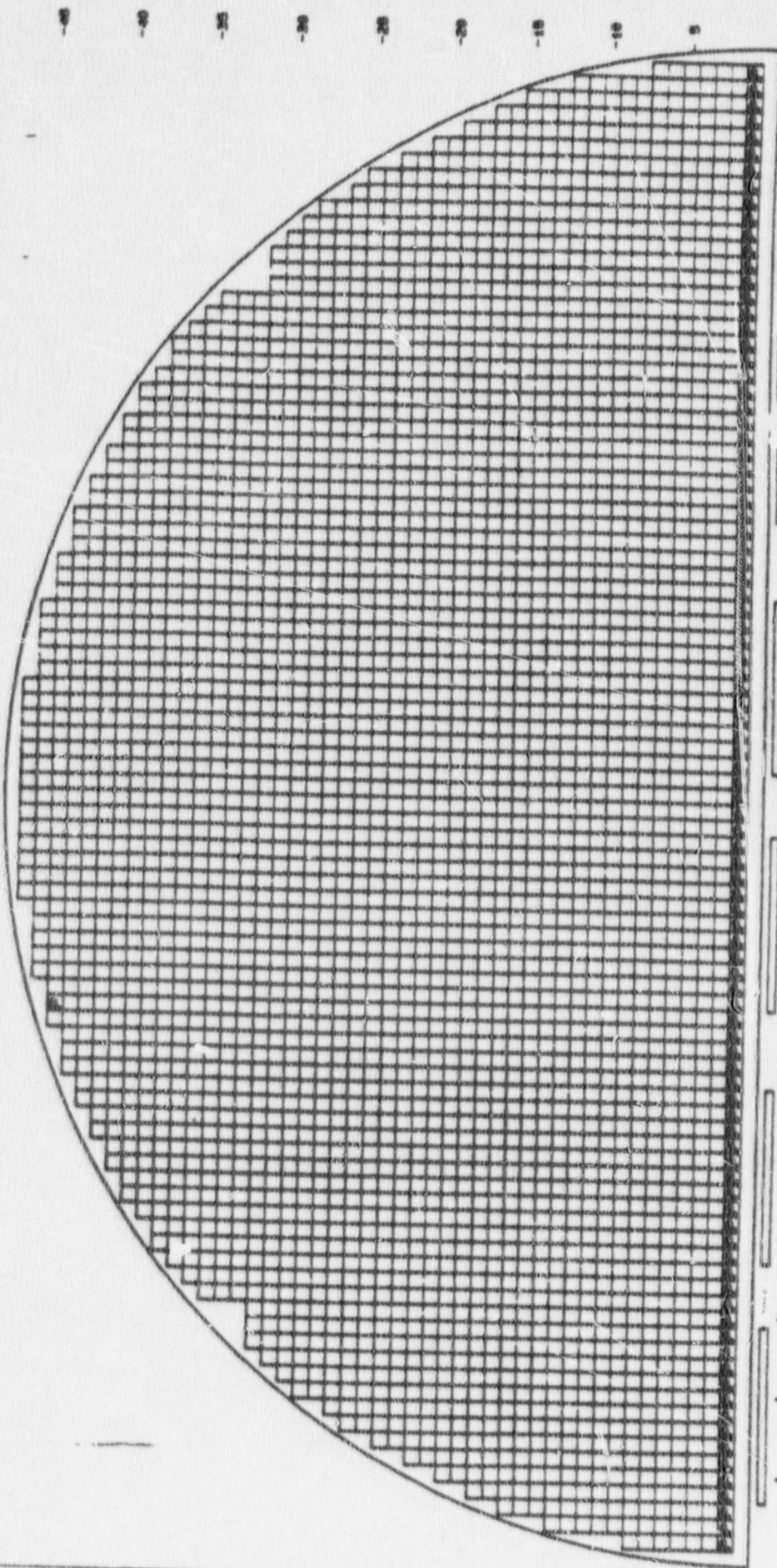
TUBE LOCATIONS PER GENERATOR (CR: 3388)

GENERATOR: A

A - FIRST LIST
D - FOURTH LIST
G - SEVENTH LIST

B - SECOND LIST
E - FIFTH LIST
S - PROFILOMETRY LIST

C - THIRD LIST
F - SIXTH LIST
P - TUBE PLUGGED



--- NOZZLE

VEPCO TURBOSTAT (TNG DATA BASE (VER. 1.1) Tuesday April 1, 1986 12:53 PM BY THE BAROCCO & WILCOX CO.

MANWAY -->

Plot #2

Tubes Plugged During the February 1988 Refueling Outage

PLANT: NORTH ANNA UNIT 2

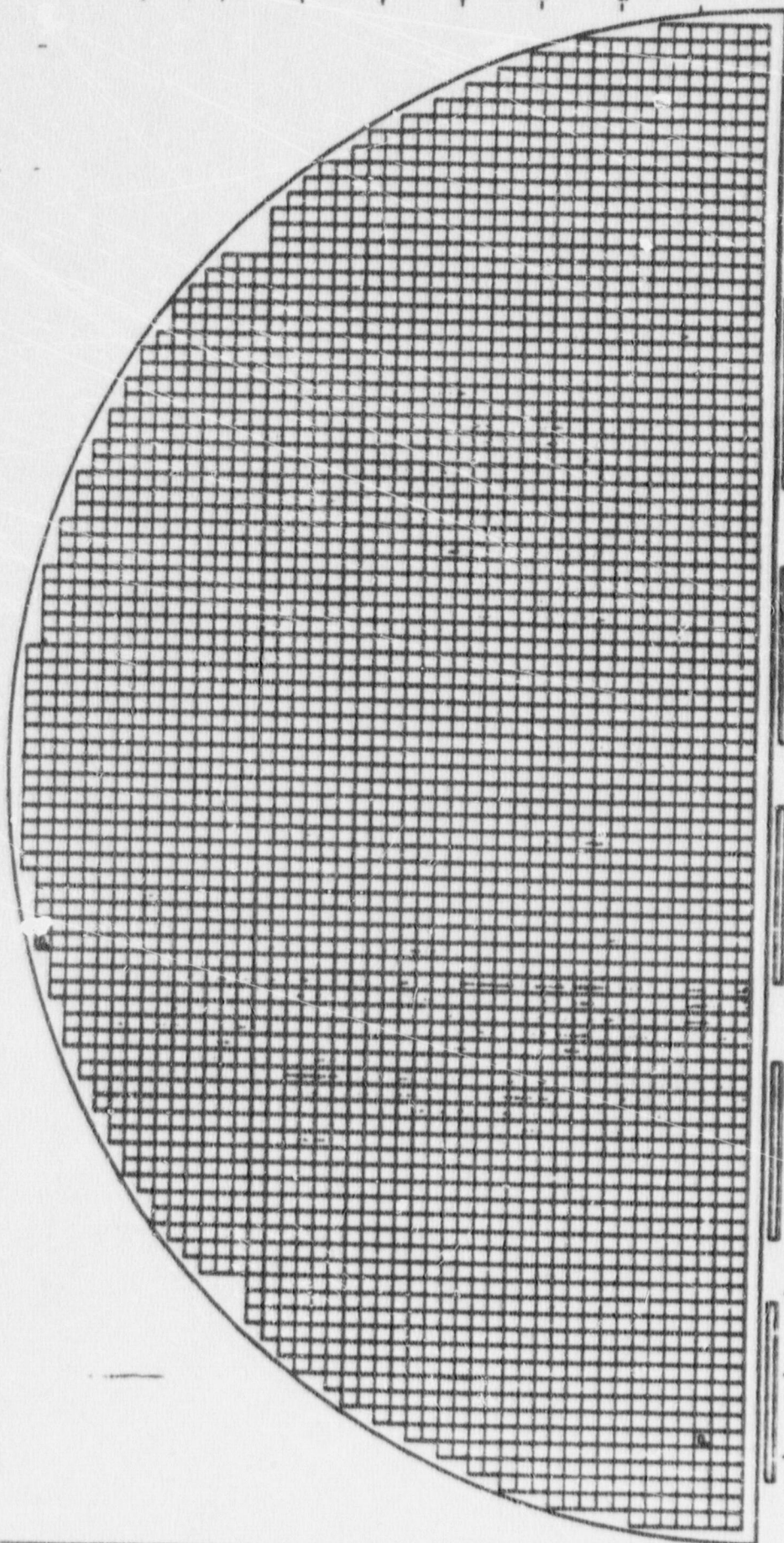
TUBE LOCATIONS PER GENERATOR 3388

GENERATOR A

- A - FIRST LIST
- D - FOURTH LIST
- G - SEVENTH LIST

- B - SECOND LIST
- E - FIFTH LIST
- S - PROFILOMETRY LIST

- C - THIRD LIST
- F - SIXTH LIST
- P - TUBE PLANNED



NOZZLE

VEPCO TURBOSTAY (THE DATA BASE (V/29.1.1) Tuesday Apr-11 1. 1988 1:11 PM BY THE BARDOCK & WILCOX CO.

BARBAY -->

Plot #3

Tube Plugged as of the February 1986 Refueling Outage

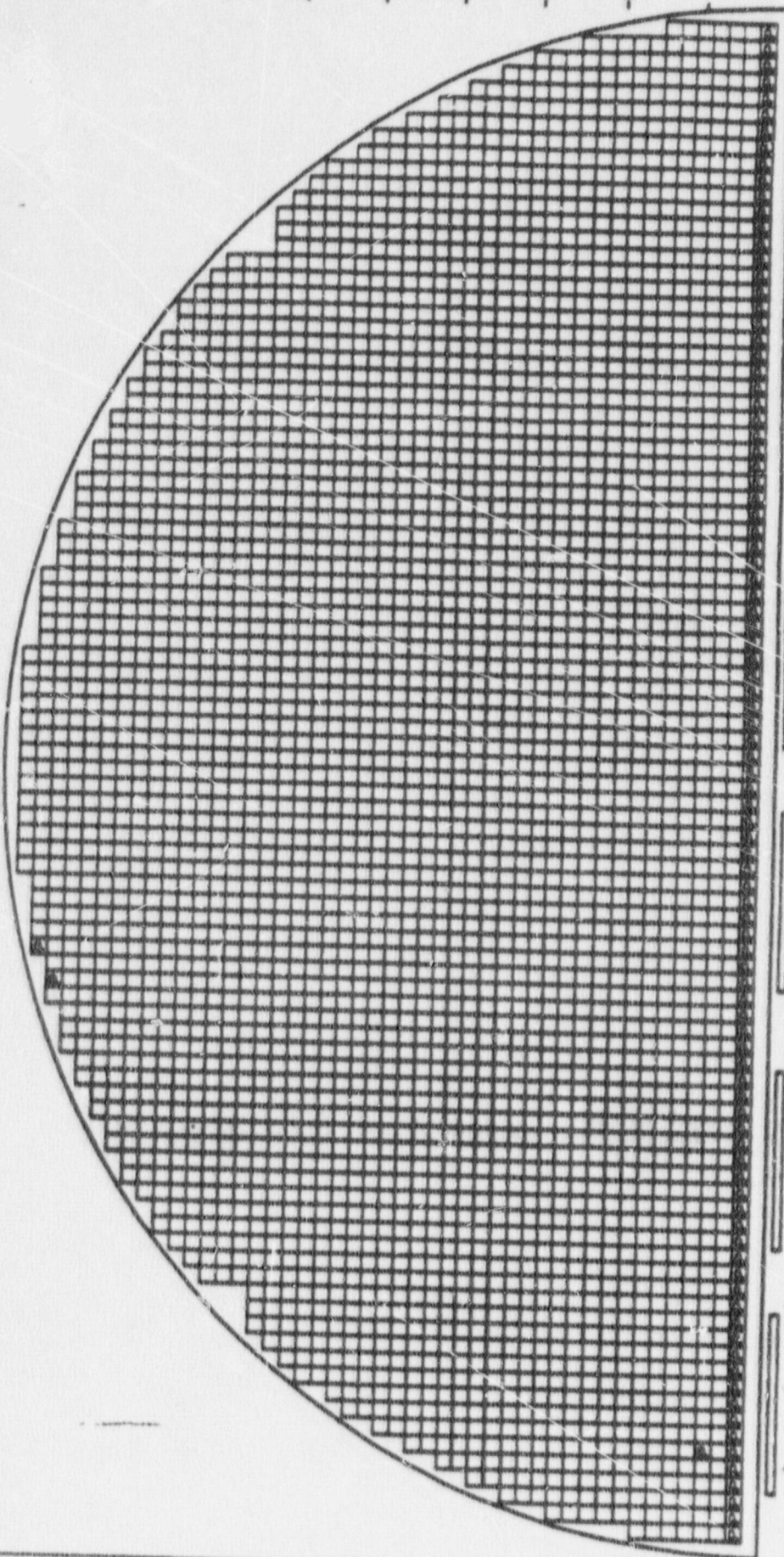
PLANT: NORTH ANNA UNIT 2

TUBE LOCATIONS PER GENERATOR 3368

A - FIRST LIST
D - FOURTH LIST
G - SEVENTH LIST

B - SECOND LIST
E - FIFTH LIST
S - PROFILOMETRY LIST

GENERATOR A
C - THIRD LIST
F - SIXTH LIST
P - TUBE PLUGGED

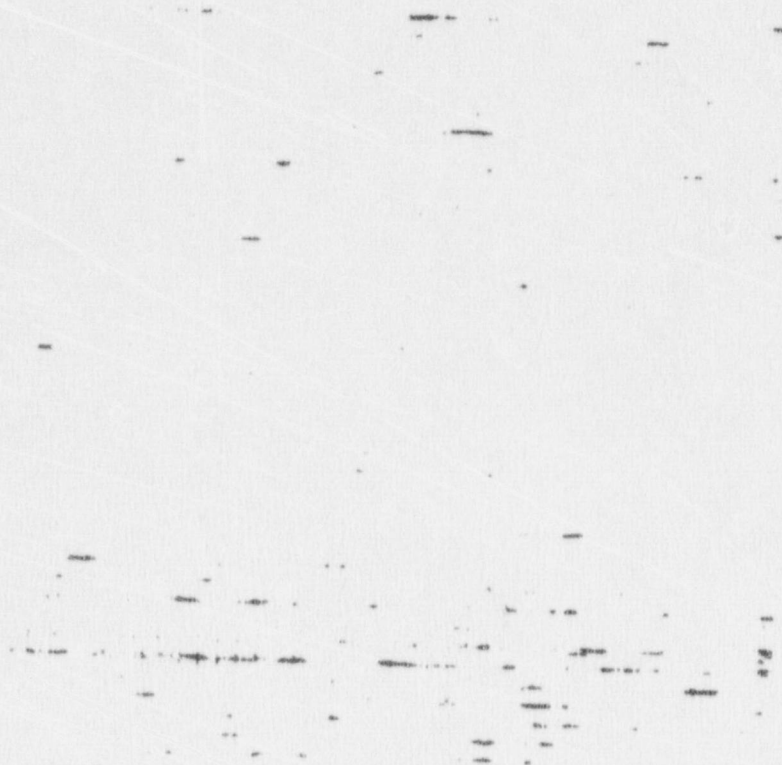


← NOZZLE

VEPCO TURBOSTAT (THE DATA BASE) (VER. 1.1) Tuesday Apr-11 1, 1986 1:21 PM BY THE SMOKE & SMOKE CO.

NUMBER →

STEAM GENERATOR "B" PLOTS



Plot #1

Tubes Plugged Prior to the February 1988 Refueling Outage

PLANT: NORTH ANNA UNIT 2

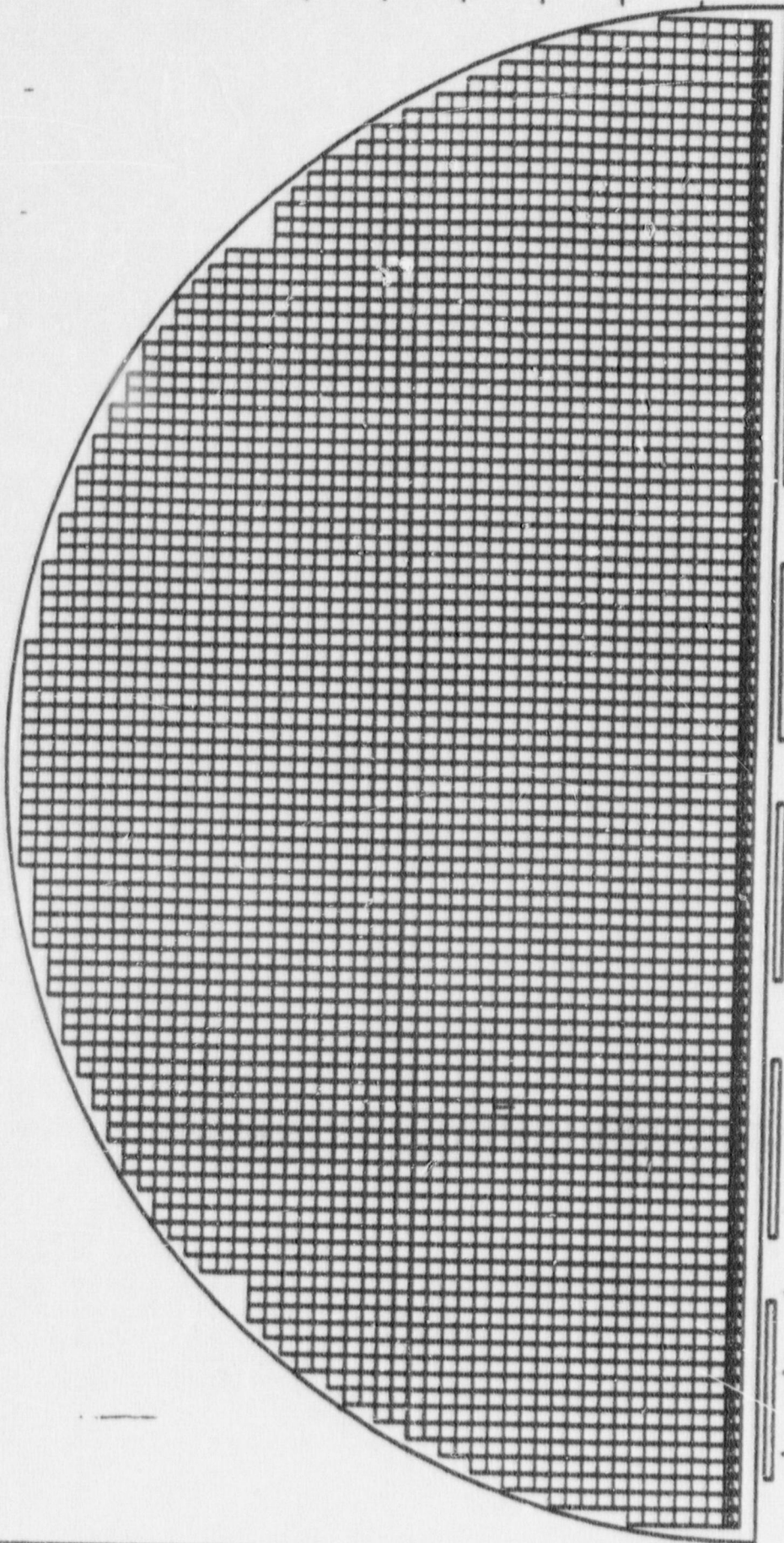
TUBE LOCATIONS PER GENERATOR: 3308

GENERATOR: B

- A - FIRST LIST
- D - FOURTH LIST
- G - SEVENTH LIST

- B - SECOND LIST
- E - FIFTH LIST
- S - PROFLOMETRY LIST

- C - THIRD LIST
- F - SIXTH LIST
- P - TUBE PLUGGED



4-88 10/23/88

VERCO TUBSTAT (The DATA BASE Ver. 1.1) Tuesday April 11, 1988 11:28 PM BY TVE BASHORE G WELLS (G)

MARCH 1988

Plot #2

Tubes Plugged During the February 1986 Refueling Outage

PLANT: NORTH ANNA UNIT 2

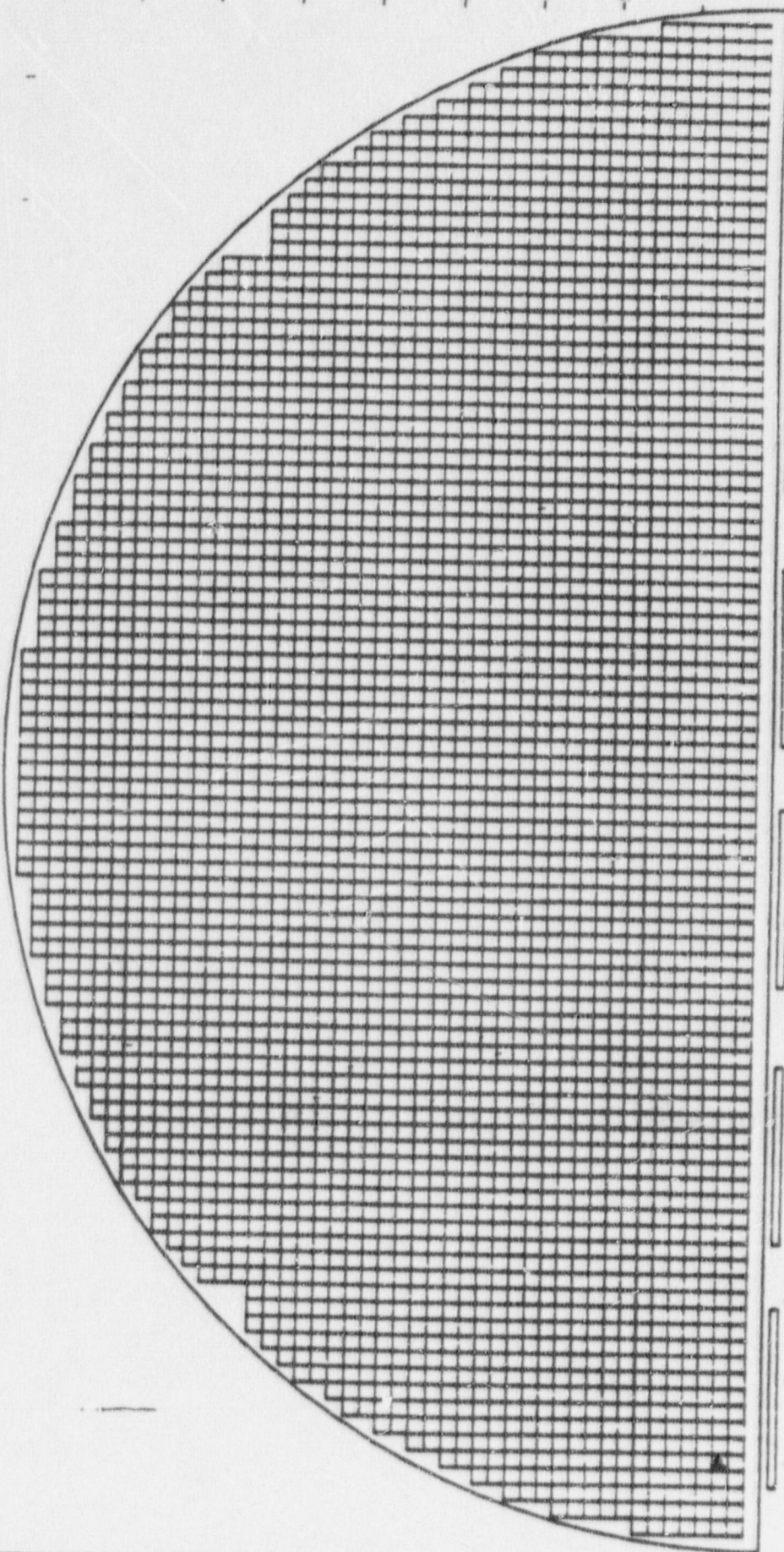
TUBE LOCATIONS PER GENERATOR: 3388

GENERATOR: B

A - FIRST LIST
D - FOURTH LIST
G - SEVENTH LIST

B - SECOND LIST
E - FIFTH LIST
S - PROFILOMETRY LIST

C - THIRD LIST
F - SIXTH LIST
P - TUBE PLUGGED



--- NOZZLE

VEPCO TURBOSTAT (THE DATA BASE (VER. 1.1) Tuesday April 1, 1986 1:36 PM BY THE S-SOONK & WILSON CO.

MARSHAY

Plot #3

Tubes Plugged as of the February 1986 Refueling Outage

PLANT: NORTH ANNA UNIT 2

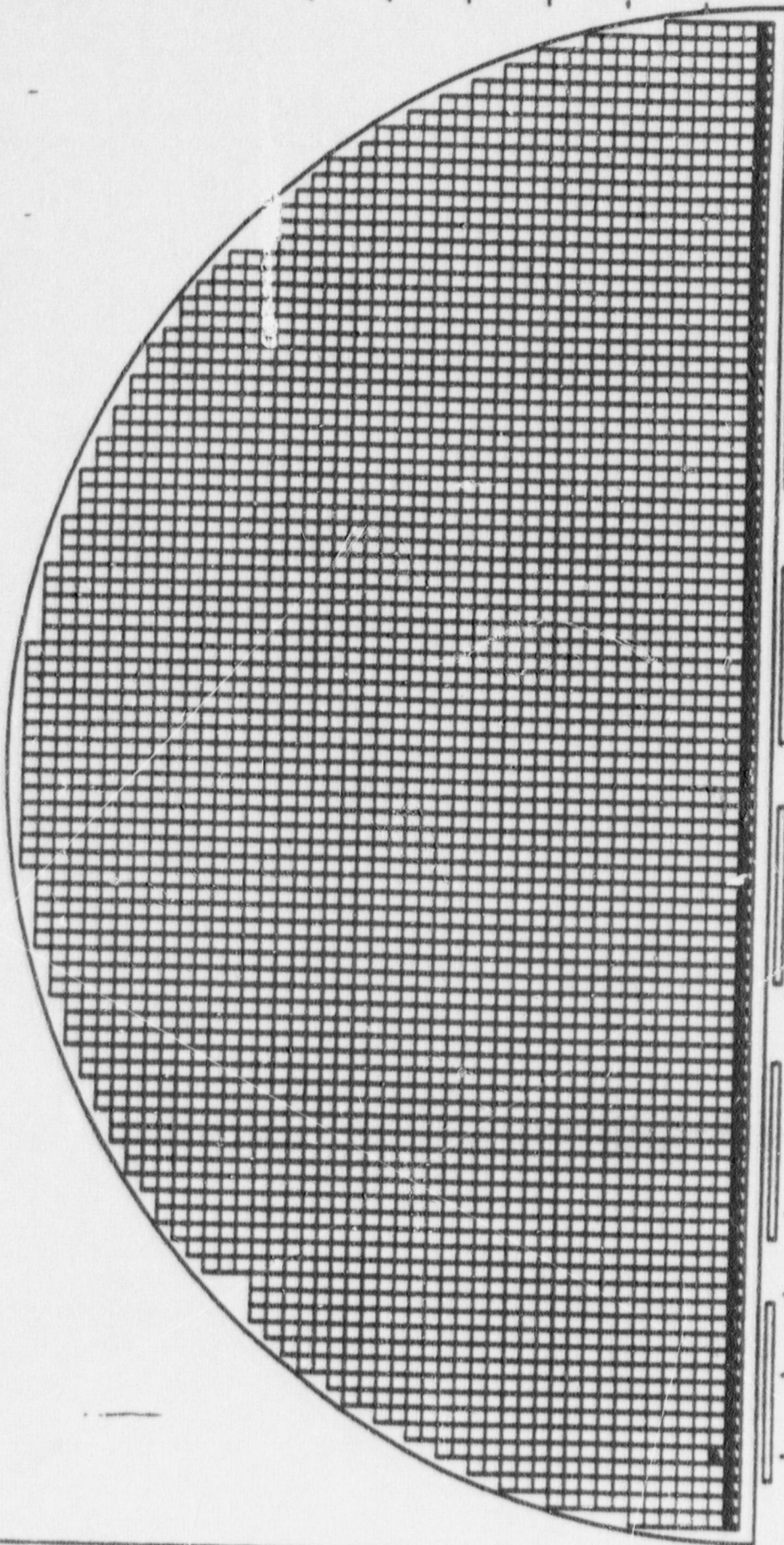
TUBE LOCATIONS PER GENERATOR: 3368

GENERATOR: B

A - FIRST LIST
D - FOURTH LIST
G - SEVENTH LIST

B - SECOND LIST
E - FIFTH LIST
S - PROFILOMETRY LIST

C - THIRD LIST
F - SIXTH LIST
P - TUBE PLUGGED



--- 4032.2

VERLO TURSTAT (TNG DATA BASE FROM 1.1) Tuesday Apr-11 A. 1986 1:00 PM BY THE BARON 6 WILSON ON

MARSHAY -->

STEAM GENERATOR "C" PLOTS

Plot #1

Planes Plugged Prior to the February 1966 Refueling Outage

PLANT: NORTH ANNA UNIT 2

TUBE LOCATIONS PER GENERATOR: 3388

GENERATOR: C

- A - FIRST LIST
- D - FOURTH LIST
- G - SEVENTH LIST

- B - SECOND LIST
- E - FIFTH LIST
- S - PROFILOMETRY LIST

- C - THIRD LIST
- F - SIXTH LIST
- P - TUBE PLUGGED



← NOZZLE

VERIFIED TUBE LIST (THE DATA BASE (VER. 1.1)) Tuesday April 11, 1966 1:00 PM BY THE ENGINEER & WELDER CO.

NOZZLE →

Plot #2

Tubes Plugged During the February 1966 Refueling Outage

PLANT: NORTH ANNA UNIT 2

TUBE LOCATIONS PER GENERATOR: 3388

GENERATOR: C

A - FIRST LIST

D - FOURTH LIST

G - SEVENTH LIST

B - SECOND LIST

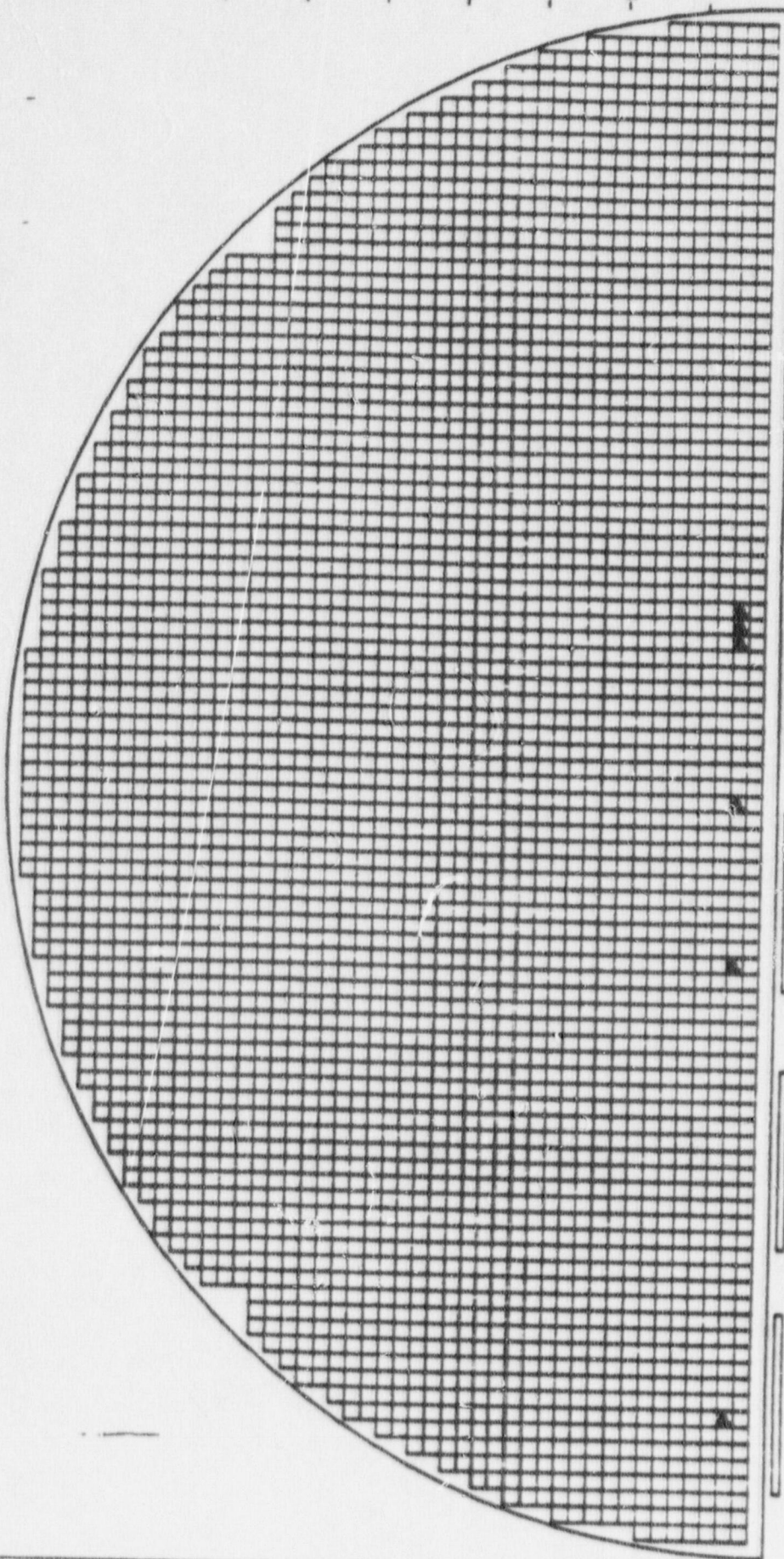
E - FIFTH LIST

S - PROFILOMETRY LIST

C - THIRD LIST

F - SIXTH LIST

P - TUBE PLUGGED



--- NOZZLE

VEPCO TURBOSTAY (TNG DATA BASE (VER. 1.1) Tuesday Apr-11 5, 1966 2:07 PM BY THE BARCLOCK & WELLOCK CO.

MANUALY -->

Plot #3

Tubes Plugged as of the February 1966 Refueling Outage

PLANT: NORTH ANNA UNIT 2

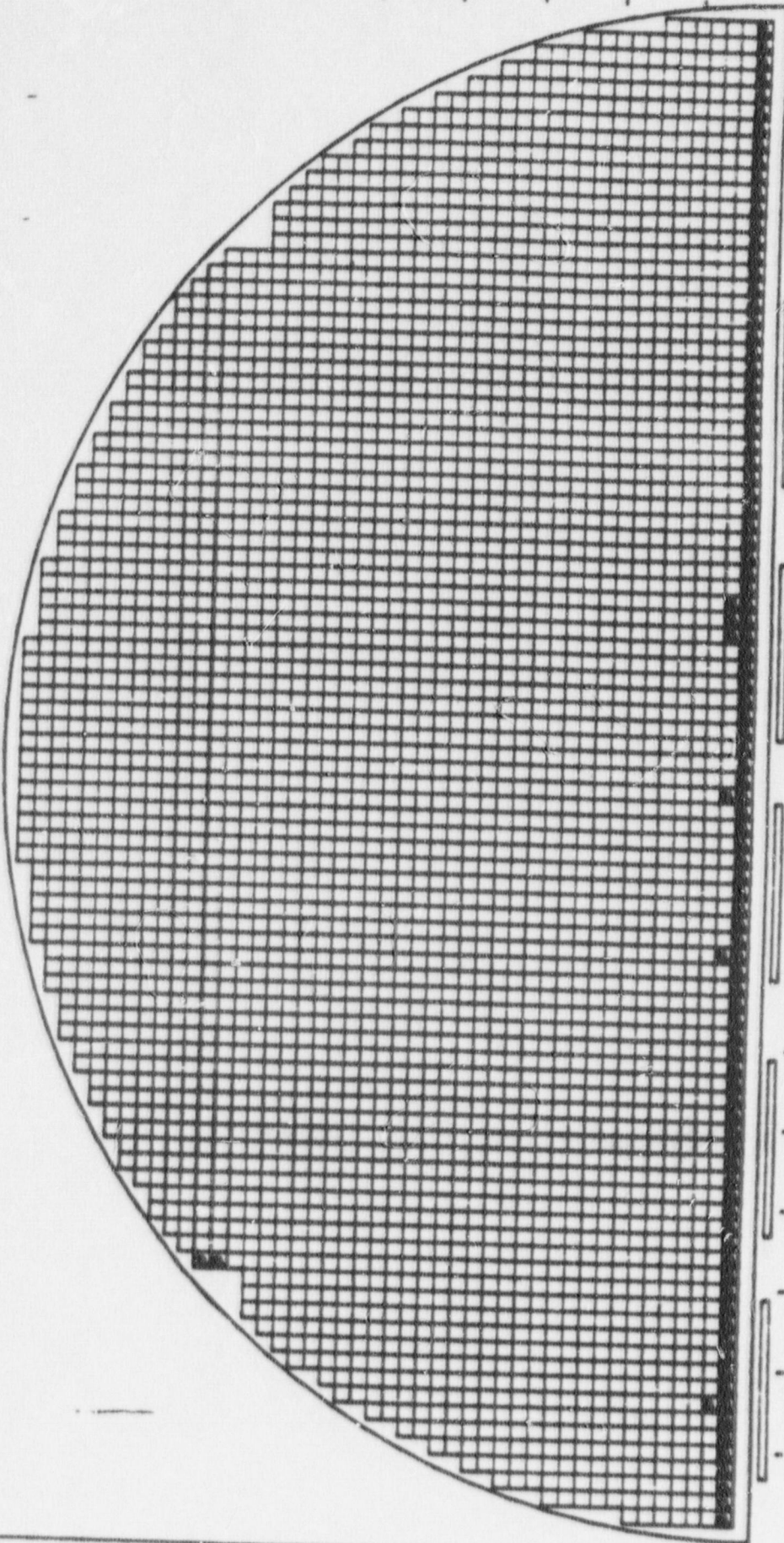
TUBE LOCATIONS PER GENERATOR: 3368

GENERATOR: C

A - FIRST LIST
D - FOURTH LIST
G - SEVENTH LIST

B - SECOND LIST
E - FIFTH LIST
S - PROFILOMETRY LIST

C - THIRD LIST
F - SIXTH LIST
P - TUBE PLUGGED



← NOZZLE

VERCO TURSTAT (THE DATA BASE (VER. 1.1)) Tuesday Apr-11 1966 2:25 PM BY THE BARCODE & WELDER CG.

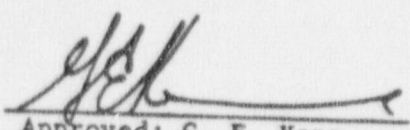
NAME: →

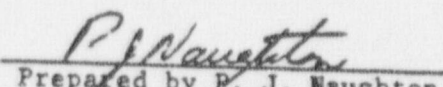
June 2, 1987

North Anna Unit 1
1987 Steam Generator Plugging Summary

<u>Indication</u>	<u>A</u>	<u>B</u>	<u>C</u>
Clear (>40%)	25	14	30
Distorted Indications Exceeding Growth Criteria	31	33	60
Distorted Indications Not Exceeding Growth Criteria	12	4	18
Tube Sheet Possible Indications	15	11	9
Erroneously Plugged (R6 C22)			1
Total	83	62	118

	<u>Previously Plugged</u>	<u>Plugged This Outage</u>	<u>Currently Plugged</u>	<u>Current % Plugged</u>
A	126	83	209	6.17
B	116	62	178	5.25
C	153	118	271	7.99


Approved: G. E. Kane


Prepared by P. J. Naughton

FOIA-87-461

D/3

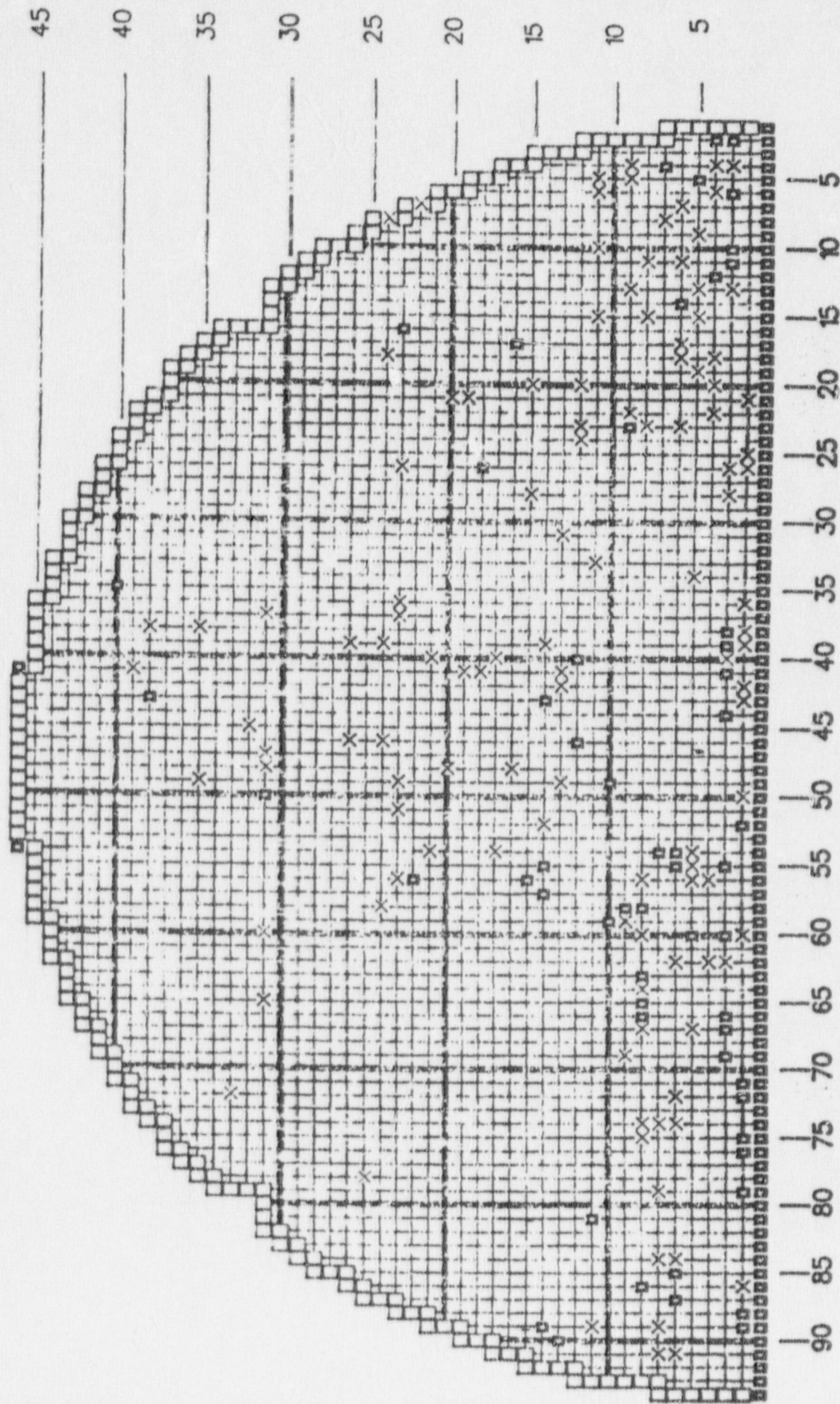
TUBES TO BE PLUGGED

NORTH ANNA #1 VRA--C SERIES 51

05-30-1987 15:05 HRS.

30 CLEAR INDICATIONS
 78 DISTORTED INDICATIONS
 9 POSSIBLE INDICATIONS
 123 EXISTING PLUGS

X =
 X =
 X =
 X =

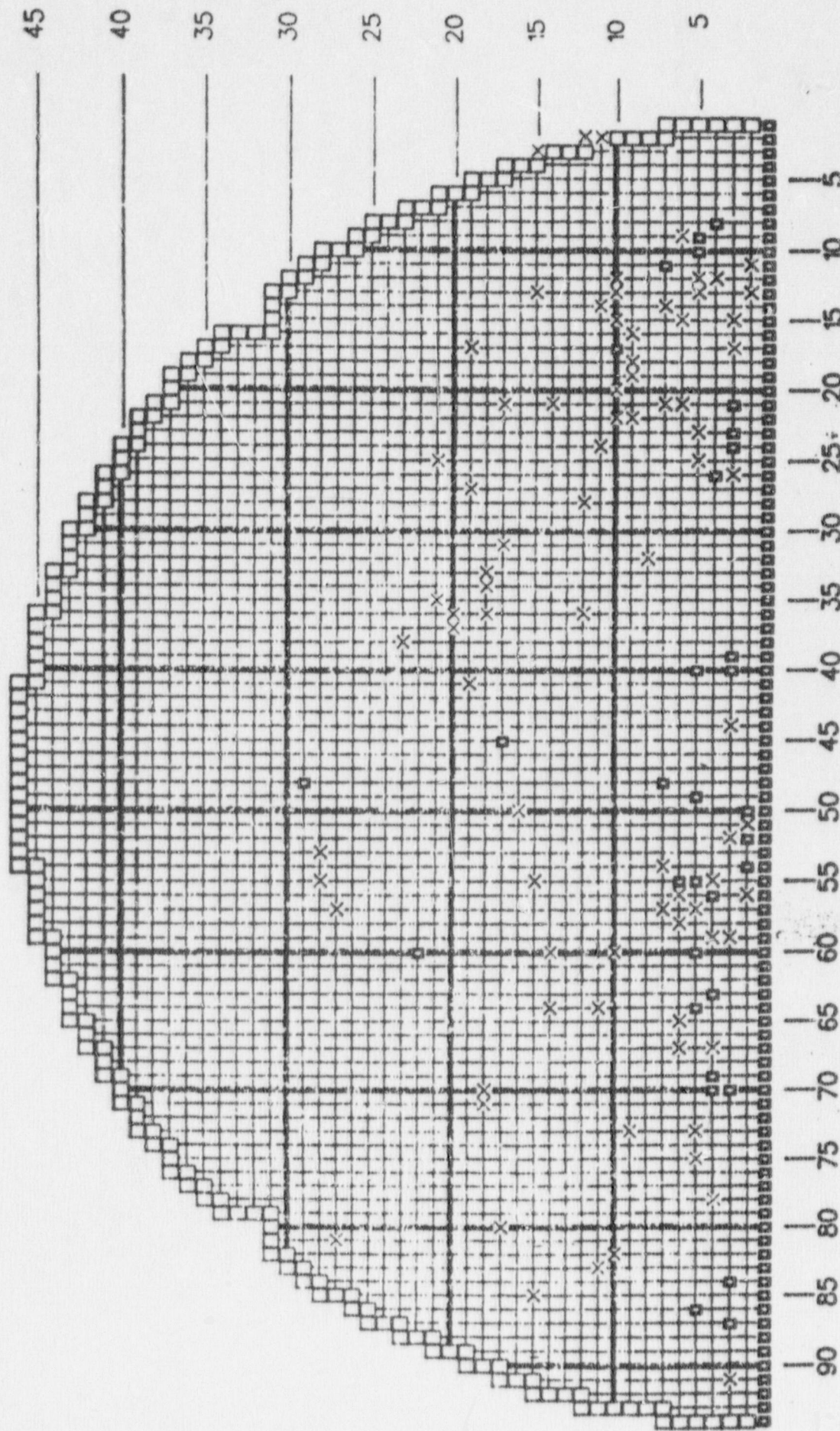


TUBES TO BE PLUGGED

NORTH ANNA #1 VRA-A SERIES 51

05-30-1987 10:28 HRS.

X = 25 CLEAR INDICATIONS
 X = 43 DISTORTED INDICATIONS
 X = 15 POSSIBLE INDICATIONS
 □ = 126 EXISTING PLUGS



TUBES TO BE PLUGGED

NORTH ANNA #1 VRA-B SERIES 51

05-31-1987 09:52 HRS.

14 CLEAR INDICATIONS
 37 DISTORTED INDICATIONS
 11 POSSIBLE INDICATIONS
 116 EXISTING PLUGS

X =
 X =
 X =
 X =

