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July 29, 2003
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U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555-0001

Braidwood Station, Unit 1
Facility Operating License No. NPF-72
NRC Docket No. STN 50-456

Subject: Braidwood Station, Unit 1 Tenth Refueling Outage Steam Generator Inservice Inspection Summary Report

In accordance with Technical Specification 5.6.9, "Steam Generator (SG) Tube Inspection Reports," item b, Exelon Generation Company, LLC is reporting the results of the SG inspections, which were completed during the Braidwood Station Unit 1, Cycle 10 Refueling Outage. The attached report is also being submitted in accordance with the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, 1989 Edition, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," Article IWA-6000, "Records and Reports," and Article IV-7000, "Report of Examination," of Mandatory Appendix IV, "Eddy Current Examination of Non-Ferromagnetic Steam Generator Heat Exchanger Tubing."

If there are any questions regarding this submittal, please contact Kelly Root, Regulatory Assurance Manager, at (815) 417-2800.

Respectfully,

Michael J. Pacilio
Site Vice President
Braidwood Station

Attachment: Exelon Braidwood Station, Unit 1 Tenth Refueling Outage Steam Generator Inservice Inspection Summary Report

Cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Braidwood Station
Office of Nuclear Facility Safety – Illinois Department of Nuclear Safety

A047

Exelon Nuclear
BRAIDWOOD STATION UNIT 1
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Braceville, IL 60407

COMMERCIAL OPERATION: 07/29/88

STEAM GENERATOR EDDY CURRENT INSPECTION REPORT

CYCLE 10 REFUELING OUTAGE (A1R10)

April 2003

Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

Document Completion Date: July 17, 2003

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1.0 INTRODUCTION

Braidwood Unit 1 operates with four Babcock & Wilcox Replacement Steam Generators (SGs) in the four loop pressurized water reactor system. The SGs each contain 6633 thermally treated Inconel-690 U-tubes that have a nominal diameter of 0.6875 inches and a nominal thickness of 0.040 inches. The tubes are supported by stainless steel lattice grid structures and fan bars. The tubes are hydraulically expanded into the full depth of the tubesheet. Main Feedwater enters the SGs above the tube bundle through a feedring and J-tubes. The SG configuration is shown in Figures A.1 and A.2. The replacement SGs were installed at the end of Cycle 7.

In compliance with Braidwood Station Technical Specification (TS) 5.5.9, "Steam Generator Tube Surveillance Program," and American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code Section XI 1989 Edition, IWB 2500-1, Examination Category B-Q, Item B16.20, SG eddy current examinations were performed during the Braidwood Station Unit 1 Cycle 10 refueling outage (A1R10). In addition, the inspections were performed consistent with the Electric Power Research Institute (EPRI) "PWR Steam Generator Examination Guidelines: Revision 5" and Nuclear Energy Institute NEI 97-06, "Steam Generator Program Guidelines." The inspections were conducted from April 17, 2003 through April 24, 2003 by Westinghouse Electric Co. Ltd. The following inspections were performed during this outage.

- 100% Full Length Bobbin Coil in SG 1A
- 54% Full Length Bobbin Coil in SGs 1B, 1C, 1D (consisting of 100% of the peripheral tubes with the exception of tubes under the manipulator base plate and 50% of interior tubes)
- 100% Hot Leg Dents/Dings > 5.0 Volts Plus-Point
- Diagnostic Plus-Point Inspections based on Bobbin Coil Results
- 100% Visual Inspection of Previously Installed Tube Plugs
- 100% Visual Inspection of Newly Installed Tube Plugs

2.0 SUMMARY

The requirements of Revision 5 of the EPRI PWR Steam Generator Examination Guidelines (i.e., EPRI Guidelines) were implemented during this inspection. A degradation assessment was performed prior to the inspection to ensure the proper EPRI Appendix H, "Performance Demonstration for Eddy Current Examination," qualified inspection techniques were used to detect any existing and potential modes of degradation. Each technique was evaluated to ensure that the detection and sizing capabilities are applicable to the Braidwood Station Unit 1 site-specific condition in accordance with Section 6.2.4 of the EPRI Guidelines. All data analysts were qualified to Appendix G, "Qualification of Nondestructive Examination Personnel for Analysis of NDE Data," of the EPRI Guidelines (i.e., Qualified Data Analyst (QDA)). All data analyst and acquisition personnel satisfactorily completed site-specific training and testing prior to beginning examinations.

An independent QDA process control review was employed to randomly sample the data to ensure that the analysis resolution process was properly performed and that the field calls were properly reported. An analysis feedback process was implemented that required the data analysts to review their missed calls and overcalls on a daily basis.

As a result of the eddy current inspection of the SGs, a total of 21 tubes were removed from service by mechanical tube plugging. The 21 tubes were removed from service due to either having wear associated with secondary side foreign objects or were required to be removed from service in order to bound locations where the secondary side foreign object could not be retrieved. One tube in SG 1A had tube wear greater than the Technical Specification Plugging Limit of $\geq$ 40%. Pursuant to Technical Specification 5.5.9.c, "Inspection Results Classification," the 1A SG was classified as inspection category C-2 and examination scope was increased from 54% full-length bobbin to 100% full-length bobbin. The remaining SGs 1B, 1C, 1D were classified as inspection category C-1 and the 54% full-length bobbin inspection was performed. There were no scanning limitations during the eddy current examinations. Table 2.1 provides the total tube plugging history and equivalent plugging levels to-date for the Braidwood Station Unit 1 SGs:

Table 2.1
Equivalent Tube Plugging Level

	SG A	SG B	SG C	SG D	Total
Tubes Plugged at Factory	1	2	0	0	3
Tubes Plugged in A1R08	1	0	0	0	1
Tubes Plugged in A1R10	8	10	3	0	21
Total Tubes Plugged	10	12	3	0	25
Total Tubes Plugged (%)	0.15%	0.18%	0.045%	0%	0.094%

Note: Steam Generator Inspections Were Not Performed During A1R09.

3.0 CERTIFICATIONS

3.1 Procedures/Examinations/Equipment

3.1.1 The examination and evaluation procedures used during the SG eddy current inspection were approved by personnel qualified to Level III in accordance with the 1984 Edition of SNT-TC-1A, "Personnel Qualification and Certification in Nondestructive Testing." Exelon Generation Company, LLC (i.e., Exelon) Special Process Procedures Manual (SPPM) NDT-E-2, "Multifrequency Eddy Current Data Acquisition of Steam Generator Tubing at Braidwood and Byron Nuclear Stations," Revision 4 and Exelon Procedure ER-AP-335-040, "Evaluation of Eddy Current Data for Steam Generator Tubing," Revision 0, were used for data acquisition and analysis.

3.1.2 The examinations, equipment and personnel were in compliance with the requirements of Exelon and Westinghouse Quality Assurance Programs for Inservice Inspection, Braidwood Station Technical Specification 5.5.9, 1989 Edition of ASME Boiler and Pressure Vessel Code Sections XI, "Rules for Inservice Inspection of Nuclear power Plant Components," and V, "Nondestructive Examination," Revision 5 of the EPRI PWR SG Examination Guidelines and NEI 97-06, "Steam Generator Program Guidelines," Revision 1.

3.1.3 Certification packages for examiners, data analysts and equipment are available at Braidwood Station. Tables A.1 and A.2 of Attachment A lists all personnel who performed, supervised or evaluated the data during this SG Inservice inspection.

3.1.4 R/D Tech Incorporated TC6700 Remote Data Acquisition Units (RDAUs) with Westinghouse ANSER computer software was used to acquire the eddy current data. Analysis was performed with Westinghouse ANSER 8.3 Rev 94 computer software. Secondary analysis was performed with CoreStar Eddyvision 32 Release 5.0 computer software.

3.1.5 The bobbin coil examinations of the SGs were performed with Westinghouse 0.560 inch diameter probes. For low row U-Bend tubing, a 0.540 inch diameter probe was utilized to achieve the complete full tube examination in tubes where there was difficulty using the 0.560 inch diameter probe.

3.1.6 The rotating coil examinations were performed with Zetec 0.560-inch diameter three coil plus-point probes. The coils within this probe were a 0.115-inch diameter pancake coil, a shielded 0.080-inch diameter pancake coil and a standard plus-point coil.

3.2 Personnel

3.2.1 The personnel who performed the SG eddy current inspections were qualified to Level I and Level II certification in accordance with the 1984 Edition of SNT-TC-1A. The Level I personnel performed the inspections under the direct supervision of Level II or Level III personnel. A list of the certified eddy current personnel who performed data acquisition for the examination is contained in Table A.1 of Attachment A.

3.2.2 The personnel who performed the SG eddy current data analysis were qualified to a minimum of Level II, with special analysis training (i.e., Level IIA) in accordance with the 1984 Edition of SNT-TC-1A and Article IV-2000 of ASME Section XI, 1989 Edition. A list of the certified eddy current personnel who performed data analysis for the examination is contained in Table A.2 of Attachment A.

3.2.3 All eddy current data analysts were qualified in accordance with EPRI Appendix G for Qualified Data Analysts (QDAs). In addition, all data analysts were trained and tested in accordance with a site specific performance demonstration program in both the bobbin coil and plus-point inspection data analysis. Resolution analysts were also trained and tested specifically for the performance of data resolution. All analysts were required to achieve a score of 80% or greater on both the written and practical examinations prior to analyzing data.

3.2.4 All SG eddy current data acquisition personnel were trained and tested in accordance with a site specific performance demonstration program. The data acquisition operators were required to achieve a written test score of 80% or greater prior to acquiring data.

3.2.5 The SG eddy current analysis was subject to two independent analyses. Primary analysis of all data was performed by Westinghouse and sub-contractors. An independent company, CoreStar International, performed the secondary analysis. Primary and Secondary analysis was performed by an automated data screening analysis system as described in Section 6.3 of the EPRI PWR Steam Generator Examination Guidelines, Revision 5. The analysis systems were operated in the manual interactive mode. Each system was required to successfully pass the site specific performance demonstration practical examination prior to analyzing field data.

3.2.6 An independent SG eddy current Level III QDA was employed to serve as a process control reviewer, in accordance with EPRI Guidelines, Section 6.3.3.4, to randomly sample the data to ensure the resolution process was properly performed and that the field calls were properly reported. The Independent Level III QDA also provided data acquisition oversight to ensure that the data collection process was in compliance with appropriate procedures, that all essential variables were set in accordance with the applicable Examination Technique Specification Sheet (ETSS) and to provide a data quality check of acquired data. The Independent Level III QDA reported directly to the Exelon Level III inspector.

4.0 EXAMINATION TECHNIQUES AND EXAMINATION SCOPE

All SG eddy current examination techniques used were qualified in accordance with Appendix H of the EPRI PWR SG Examination Guidelines. Each examination technique was evaluated to be applicable to the tubing and conditions of the Braidwood Station Unit 1 SGs.

4.1 Examination Techniques

4.1.1 The bobbin coil examinations performed during this inspection were performed with a 0.560-inch diameter probe as described in Section 3.1.5 of this report. For low row U-Bend regions where there was difficulty using the 0.560 inch diameter probe, a 0.540 inch diameter probe was utilized to achieve the full tube inspection. Nominal probe inspection speed was 40 inches per second for tubes in row 10 and higher and 24 inches per second low row tubes. Sufficient sampling rates were used to maintain a minimum digitizing rate of 30 samples per inch. The bobbin probes were operated in both the differential and absolute modes at frequencies of 650 kHz, 320kHz, 160 kHz, and 35 kHz. The following suppression mixes were used to enhance the inspection: 650/160 kHz differential mix, 320/160 kHz absolute mix, and a 650/320 kHz differential mix.

4.1.2 Diagnostic examinations were performed on non-quantifiable indications and hot leg dents/dings greater than 5.0 volts that may be detected by the bobbin coil examination. The diagnostic examinations were to utilize a plus-point probe as described in Section 3.1.6. Axial probe inspection speed was 0.5 inches per second for straight tubing and 0.15 inches per second for U-bend region of the tubing and dents/dings. Sample rates and rotation speeds were used to maintain a minimum digitizing rate of 30 samples per inch (i.e., 25 samples per inch for the axial direction and 30 samples per inch for the circumferential direction). The rotating probes were operated in the absolute test mode at frequencies of 300 kHz, 200kHz, 100 kHz and 20 kHz. In addition to the four base frequencies, three process channels were used to display axial indications in the positive trace.

4.1.3 The eddy current calibration standards used for the bobbin coil and plus-point inspections met the requirements of Section 6.2.7 of the EPRI PWR Steam Generator Examination Guidelines, Revision 5 and Sections V and XI of the ASME B&PV Code, 1989 Edition.

4.1.4 The SG eddy current examination techniques used during this inspection were equivalent to the EPRI Appendix H techniques listed in Table 4.1. Each Examination Technique Specification Sheet (ETSS) was evaluated and determined to be applicable to site conditions.

Table 4.1
EPRI Appendix H Techniques

EPRI Technique ETSS	Probe	Description
96004.3	Bobbin	Fan Bar/Lattice Grid/Foreign Object Wear and Free Span Flaws
96910.1	Plus-Point	Foreign Object Wear/Free Span Flaws (Wear Like Flaws)
96703.1	Plus-Point	Dents/Dings – Primary Water Stress Corrosion Cracking (PWSCC)
21998.1	Plus-Point	Foreign Object Wear Sizing (Pit Like Flaws)
21409.1	Plus-Point	Outer Diameter Stress Corrosion Cracking (Axial ODSCC)
21410.1	Plus-Point	Outer Diameter Stress Corrosion Cracking (Circ ODSCC)
20511.1	Plus-Point	Inside Diameter Stress Corrosion Cracking (Axial PWSCC)
20510.1	Plus-Point	Inside Diameter Stress Corrosion Cracking (Cric PWSCC)
96010.1	Bobbin	Manufacturing Burnish Marks

4.2 Steam Generator Inspection Scope

4.2.1 The original inspection scope called for approximately 54% full-length bobbin inspection of the tubing in all 4 SGs. The 54% was comprised of 100% of the peripheral tubes with the exception of tubes under the manipulator base plate and 50% of the interior tubes. In SG 1A the inspection scope was increased from 54% to 100% based upon the steam generator being classified as inspection category C-2 in accordance with Technical Specification 5.5.9.c, "Inspection Results Classification."

4.2.2 Diagnostic examinations were performed on all non-quantifiable indications, locations of foreign object wear, and hot leg dents/dings greater than 5.0 volts that were detected by the bobbin coil examination. Diagnostic examinations were also conducted in the vicinity of potential foreign objects to determine the extent of tubes potentially affected by the objects. These special examinations were performed with the three coil plus-point probe described in Section 4.1.2 above. See Section 5.1 for further detail. No hot leg dents or dings greater than 5.0 volts by the bobbin coil technique were detected.

4.2.3 See Attachment B for tubesheet maps detailing the inspection scope for each SG.

4.3 Recording of Examination Data

Results of the SG eddy current data analysis were recorded on optical disks. The data was then loaded into a Westinghouse Eddy Current Data Management System, "ST2000" version 1.11.03. The system was used to track the completion of the examinations and was used to generate the final SG eddy current report summaries.

4.4 Witness and Verification of Examination

SG eddy current inspections were witnessed and/or verified by the Authorized Nuclear Inservice Inspectors, Mr. L. Malabanan of the Hartford Steam Boiler Inspection and Insurance Company of Hartford Connecticut, Chicago Branch, 2443 Warrenville Road, Suite 500, Lisle, Illinois 60532-9871.

5.0 EXAMINATION RESULTS

5.1 Eddy Current Inspection

Full-length bobbin coil examination was performed on 100% of the tubes in SG 1A and 54% in SGs 1B, 1C, 1D.

5.1.1 Fan Bar Wear – A total of 7 tubes showed indications of Fan Bar wear. The largest indication of Fan Bar wear was 10% through wall. The EPRI Appendix H bobbin coil technique 96004.3 was utilized in this inspection for depth sizing of all Fan Bar wear. Refer to Attachment B for detailed locations and sizing for all Fan Bar wear.

5.1.2 Lattice Grid Wear –A total of 5 tubes showed indications of Lattice Grid wear. The largest indication of Lattice Grid wear was 12% through wall. The EPRI Appendix H bobbin coil technique 96004.3 was utilized in this inspection for depth sizing of all Lattice Grid wear. Refer to Attachment B for detailed locations and sizing for all Lattice Grid wear.

5.1.3 Foreign Object Wear – A total of 15 tubes were plugged due to wear associated with 3 foreign objects. An additional 6 tubes which did not have any signs of tube wear were also plugged in order to bound foreign objects that were not able to be successfully removed from the SG. Of the 15 tubes with foreign object wear the largest was 48% through wall. The EPRI Appendix H plus-point technique 21988.1 was utilized in this inspection for depth sizing of all foreign object wear. All tubes with foreign object wear were removed from service by mechanical tube plugging regardless of percent through wall. Table 5.1.3 below provides a summary of the foreign object wear found during this SG inspection. Refer to Attachment B for additional details.

Table 5.1.3
Foreign Object Wear Summary

Object	SG	Row	Col	+PT Call	%TW	Plug	Stabilize
1	A	45	134	SVI	15	Y	N
1	A	42	135	SVI	25	Y	N
1	A	44	135	SVI	48	Y	Y
1	A	46	135	SVI	12	Y	Y
1	A	45	136	SVI	20	Y	Y
1	A	44	137	SVI	5	Y	Y
1	A	46	137	SVI	14	Y	Y
2	B	90	29	SVI	7	Y	Y
2	B	92	29	SVI	17	Y	Y
2	B	93	30	SVI	7	Y	Y
3	B	52	11	SVI	11	Y	N
3	B	54	11	SVI	13	Y	N
3	B	51	12	SVI	7	Y	N
3	B	53	12	SVI	12	Y	N
3	B	52	13	SVI	4	Y	N

5.1.4 Visual Inspection of Installed Tube Plugs – All previously installed tube plugs were visually inspected for signs of degradation and leakage. In addition, all plugs installed during this outage (A1R10) were also visually inspected and the installation parameters were reviewed for acceptable installation. No anomalies were found.

5.1.5 Attachment B contains tube lists with axial elevations of all imperfections that contain measurable through wall depth that were found during the A1R10 eddy current inspection.

6.0 REPAIR SUMMARY

Repairs were conducted in accordance with ASME Section XI, 1989 Edition. All repairs were performed using Inconel-690 mechanical tube plugs. All repairs were performed in accordance with Westinghouse approved procedures. Tubes in locations where secondary side foreign objects could not be retrieved were stabilized prior to tube plugging. Table 6.0 summarizes the repairs performed during A1R10. No tube sleeving was performed.

Table 6.0
Summary of A1R10 Tube Plugging

REPAIRS PERFORMED	SG 1A	SG 1B	SG 1C	SG 1D	TOTAL
Tubes Plugged	8	10	3	0	21
Tubes Stabilized	6	5	3	0	14

7.0 DOCUMENTATION

All original optical disks have been provided to Exelon and are maintained at Braidwood Station. The final data sheets and pertinent tube sheet plots are contained in the Westinghouse Outage Report for Braidwood Unit 1, Tenth Refueling Outage, and are also maintained at Braidwood Station.

NOTE: The ASME Section XI NIS-1 Form. "Owner's Report for Inservice Inspections," for steam generator inspections performed during the Braidwood Unit 1 Tenth Refueling Outage is contained in the "Braidwood Station, Unit 1 Inservice Inspection Summary Report," letter number BW030057.

8.0 FIGURES/TABLES/ATTACHMENTS

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Table A.1 Data Acquisition Personnel Certification List

Table A.2 Data Analysis Personnel Certification List

Figure A.1 Babcock & Wilcox Replacement Steam Generator Braidwood Unit 1 Configuration

Figure A.2 Babcock & Wilcox Replacement Steam Generator Braidwood Unit 1 Tubesheet Configuration

Attachment B Contents

Attachment B.1	As-tested Bobbin Inspection Maps
Attachment B.2	As-tested Plus Point Special Interest Inspection Maps
Attachment B.3	Tubes Damaged by Secondary Side Foreign Objects
Attachment B.4	Tubes Containing Fan Bar Wear
Attachment B.5	Tubes Containing Lattice Grid Wear
Attachment B.6	Tubes Repaired During A1R10

Attachment A

Personnel Certifications

TABLE A.1
A1R10
Data Acquisition Personnel Certifications

No.	Name	Company	Level	QDA (Y/N)
1	Atcheson, T.	Spec/TMP	I-T	N
2	Schaffner, K.	Spec/TMP	I	N
3	Bolt, W.	Westinghouse	II	N
4	Bradley, G.	Westinghouse	II	N
5	Dequevy, J.	Westinghouse	I	N
6	Evering, D.	Westinghouse	II	N
7	Fore, S.	Westinghouse	II	N
8	Gallik, M.	Westinghouse	I	N
9	Gault, W.	Westinghouse	II	N
10	Greenawalt, L.	Westinghouse	I	N
11	Groh, T.	Westinghouse	II	N
12	Hopper, J.	Westinghouse	II	N
13	Jury, L.	Westinghouse	I	N
14	Koeser, S.	Westinghouse	II	N
15	Miller, G.	Westinghouse	II	N
16	Organai, S.	Westinghouse	I	N
17	Parris, J.	Westinghouse	II-A	Y
18	Parris, T.	Westinghouse	II	N
19	Patton, B.	Westinghouse	II	N
20	Pope, W.	Westinghouse	I	N
21	Shipley, E.	Westinghouse	II	N
22	Stitt, A.	Westinghouse	II	N
23	Vernon, D.	Westinghouse	II	N
24	Walsh, M.	Westinghouse	II	N

TABLE A.2
A1R10
Data Analysis Personnel Certifications

No.	Name	Company	Level	QDA (Y/N)
1	Brack, M.	Anatec	III	Y
2	Miller, M.	Anatec	III	Y
3	Stanger, D.	Anatec	III	Y
4	Bowser, C.	Corestar	III	Y
5	Causby, G.	Corestar	III	Y
6	Croyle, R.	Corestar	III	Y
7	Humphery. R.	Corestar	III	Y
8	Kirk, M.	Corestar	III	Y
9	Martin, A.	Corestar	IIA	Y
10	McChesney, D.	Corestar	III	Y
11	Miller, H.	Corestar	III	Y
12	Overly, E.	Corestar	IIA	Y
13	Seutter, A.	Corestar	IIA	Y
14	Smith, J.	Corestar	IIA	Y
15	Stach, G.	Corestar	IIA	Y
16	Stump, T.	Corestar	III	Y
17	Thuilen, T.	Corestar	III	Y
18	Turner, D.	Corestar	IIA	Y
19	Zevchak, J.	Corestar	IIA	Y
20	Anderson, D.	NDE Tech	IIA	Y
21	* Brown, M.	NDE Tech	III	Y
22	Ethridge, G.	NDE Tech	III	Y
23	Haynes, W.	NDE Tech	III	Y
24	Lewis, C.	NDE Tech	IIA	Y
25	Lewis, D.	NDE Tech	III	Y
26	Lohner, E.	NDE Tech	III	Y
27	Looper, R.	NDE Tech	III	Y
28	Mast, M.	NDE Tech	III	Y
29	Nelson, D.	NDE Tech	III	Y
30	Sheldon, J.	NDE Tech	III	Y
31	Siegel, R.	NDE Tech	III	Y
32	Thompson, K.	NDE Tech	IIA	Y
33	Wheeler, C.	NDE Tech	III	Y
34	Drumm, R.	Vern & James	III	Y
35	Hutchinson, J.	Vern & James	IIA	Y
36	McLeod, E.	Vern & James	IIA	Y
37	Moore, R.	Vern & James	IIA	Y
38	Owens, S.	Vern & James	IIA	Y
39	Schmitz, K.	Vern & James	III	Y
40	Wilkerson, B.	Vern & James	IIA	Y
41	Gootz, T.	Westinghouse	III	Y

* Independent Qualified Data Analyst

FIGURE A.1
Babcock & Wilcox Replacement Steam Generator
Braidwood Unit 1 Configuration

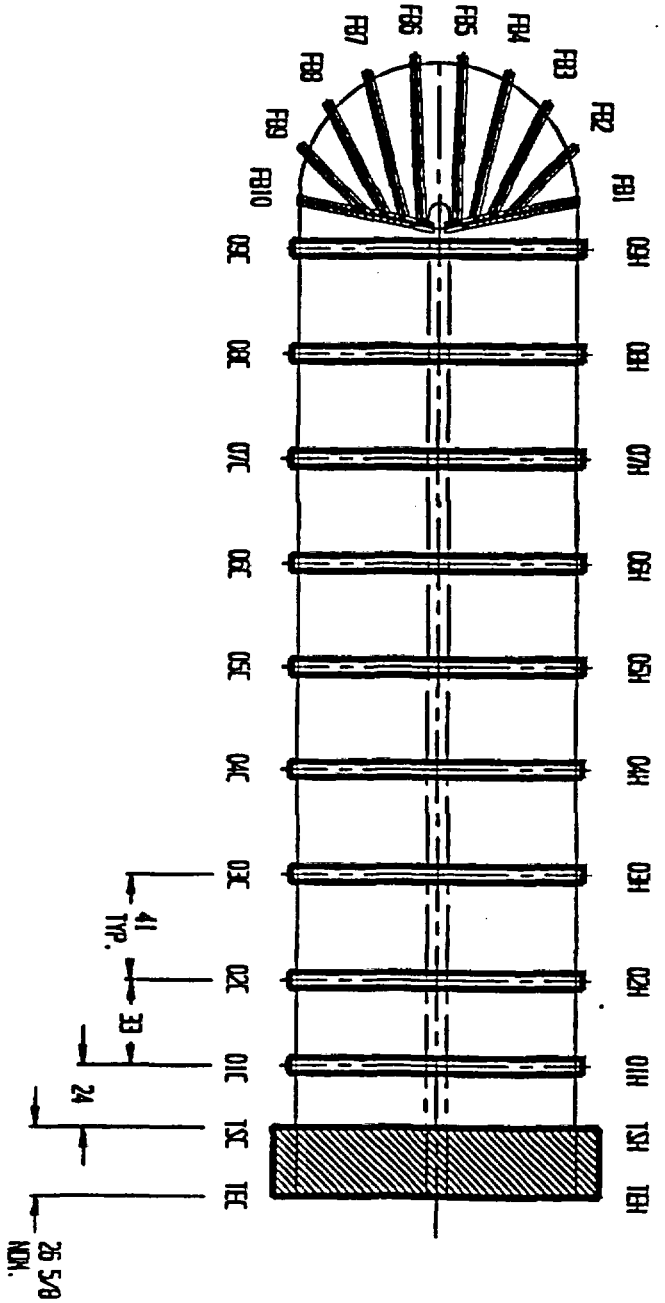
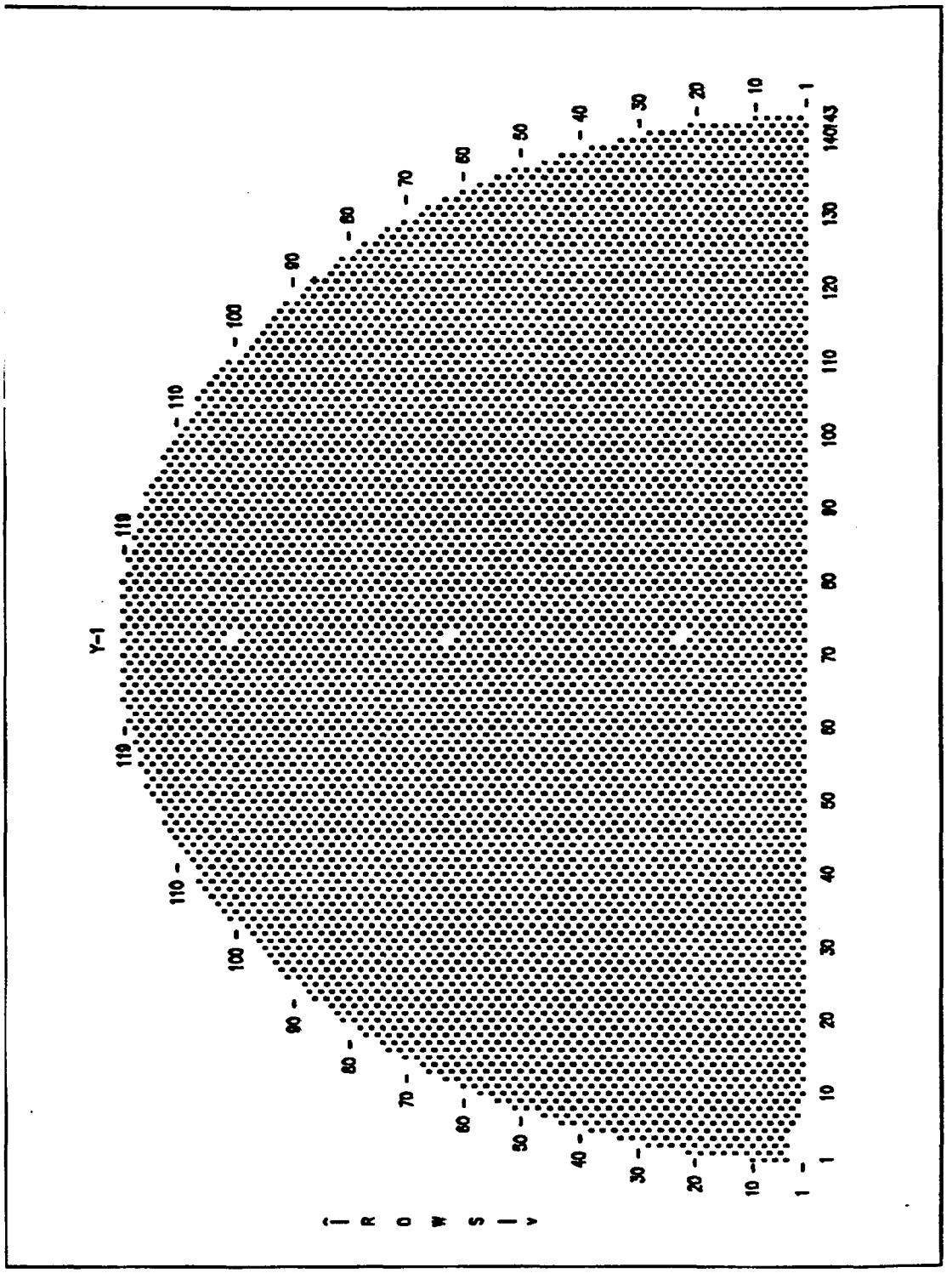


FIGURE A.2
Babcock & Wilcox Replacement Steam Generator
Braidwood Unit 1 Tubesheet Configuration



Attachment B

Inspection Scope / Results

Attachment B.1

As-tested Bobbin Inspection Maps

SG - A COLD LEG .540 BOBBIN INSPECTION PROGRAM

AS TESTED

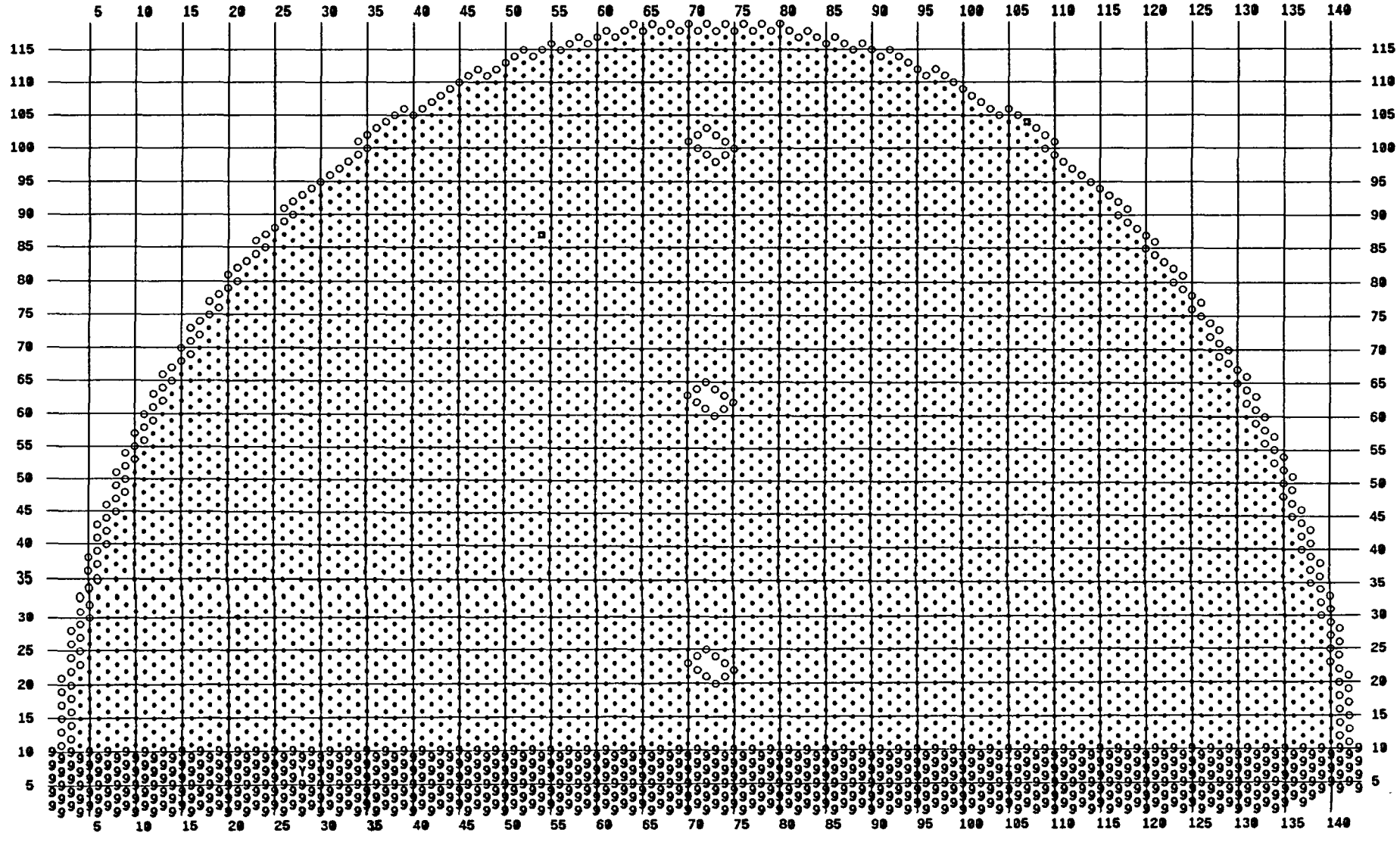
Braidwood A1R10 CCE 7720

9 704 TESTED 09H THROUGH TEC

Z 1 TESTED 08H THROUGH TEC

Y 1 TESTED 07H THROUGH TEC

▫ 2 PLUGGED TUBE



Westinghouse Electric Company LLC - NSBU ST2000 04/24/2003 23:47:35

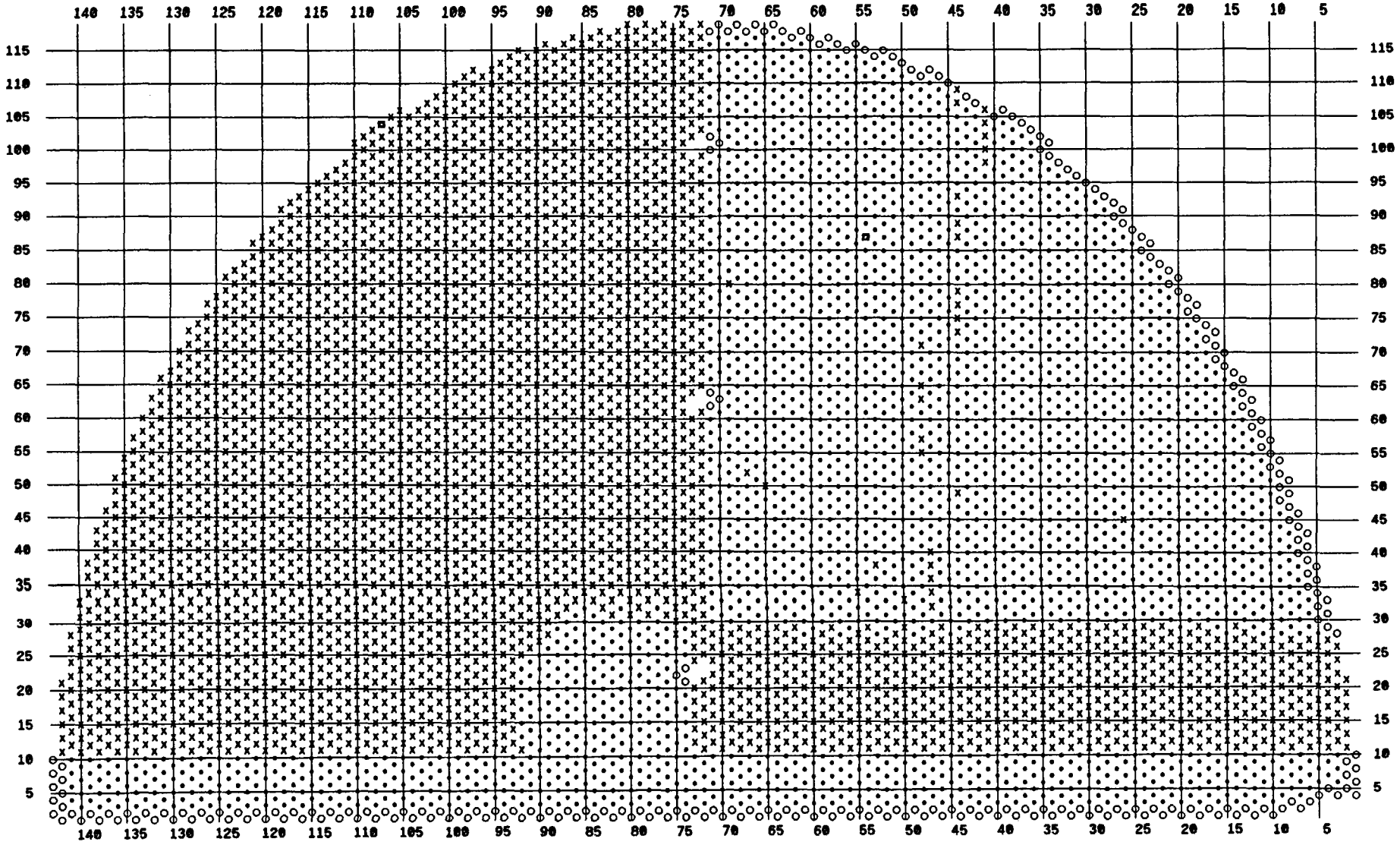
SG - A FULL LENGTH BOBBIN INSPECTION PROGRAM

AS TESTED FROM THE HOT LEG

Braidwood A1R10 CCE 7720

x 3476 TESTED TEC THROUGH TEH

◘ 2 PLUGGED TUBE



Westinghouse Electric Company LLC - NSBU ST2000 04/24/2003 23:54:40

SG - A FULL LENGTH BOBBIN INSPECTION PROGRAM

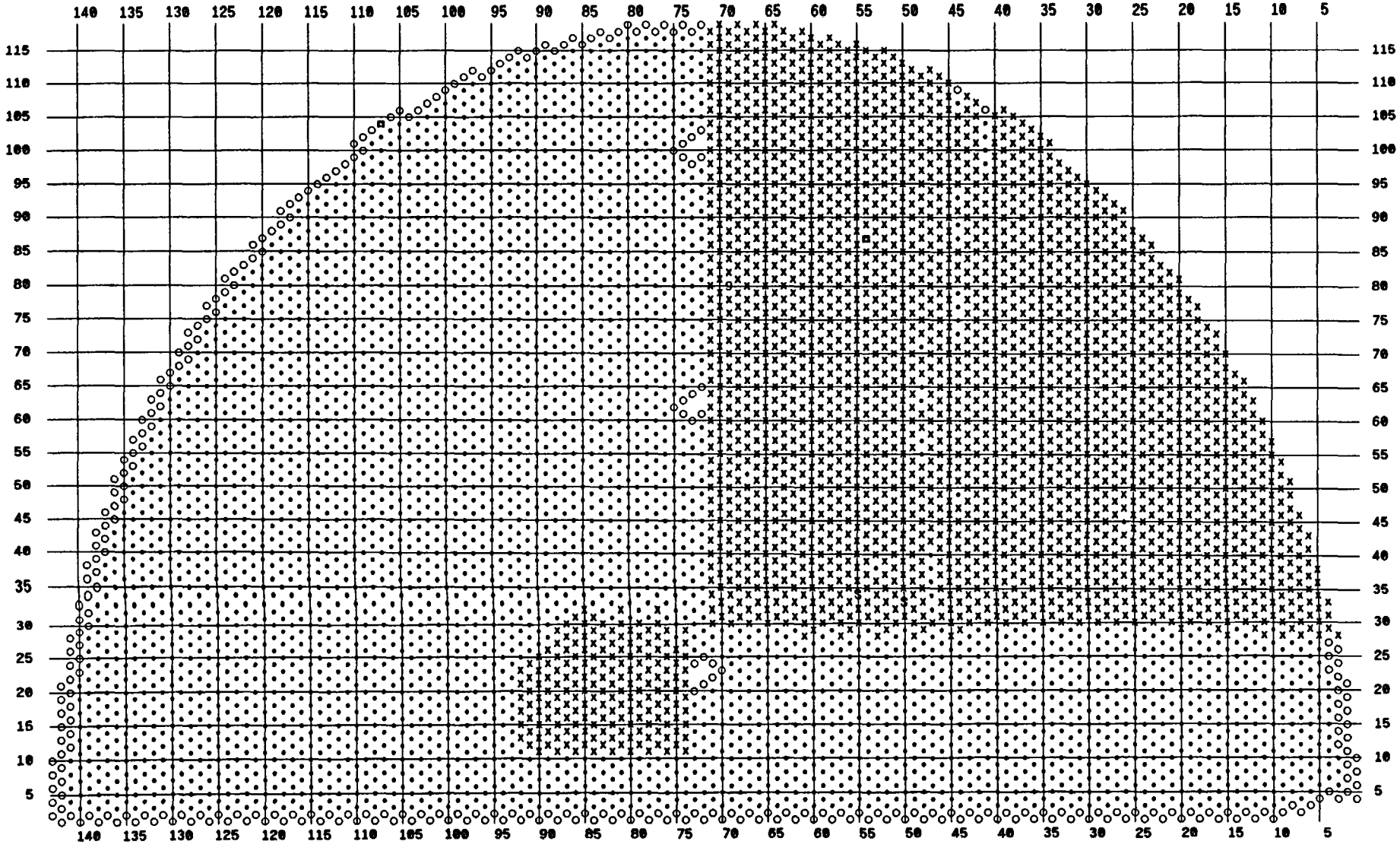
AS TESTED FROM THE COLD LEG
Braidwood A1R10 CCE 7720

x 2449 TESTED TEH THROUGH TEC

S 2 TESTED TSH THROUGH TEC

9 1 TESTED 09C THROUGH TEC

◘ 2 PLUGGED TUBE



SG - A HOT LEG LOW ROW BOBBIN INSPECTION PROGRAM

AS TESTED
Braidwood A1R10 CCE 7720

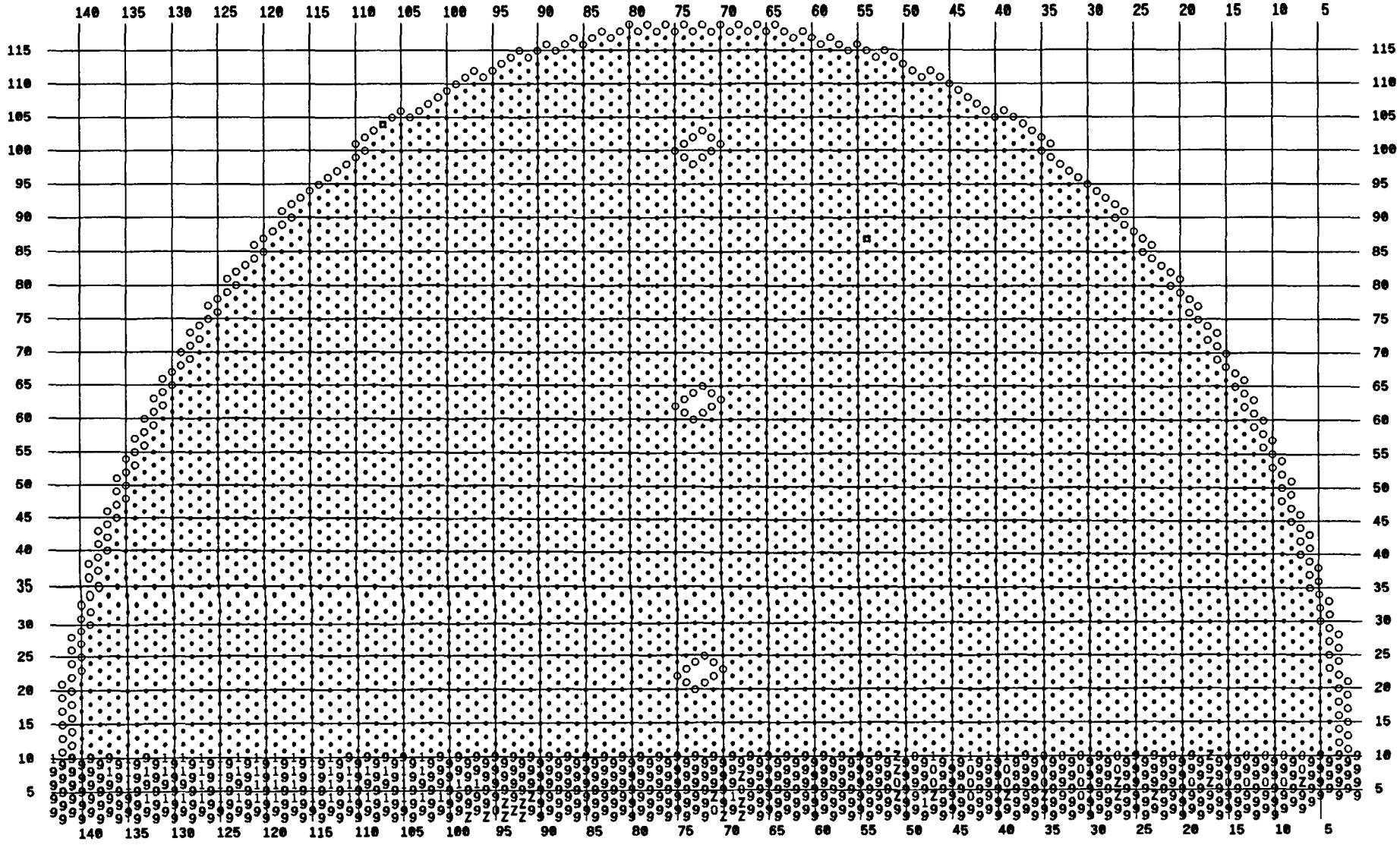
9 580 TESTED 09H THROUGH TEH WITH .560 BOBBIN PROBE

1 67 TESTED F01 THROUGH TEH WITH .560 BOBBIN PROBE

Z 25 TESTED 09C THROUGH TEH WITH .560 BOBBIN PROBE

◘ 2 PLUGGED TUBE

0 34 TESTED F10 THROUGH TEH WITH .560 BOBBIN PROBE



SG - B COLD LEG .540 BOBBIN INSPECTION PROGRAM

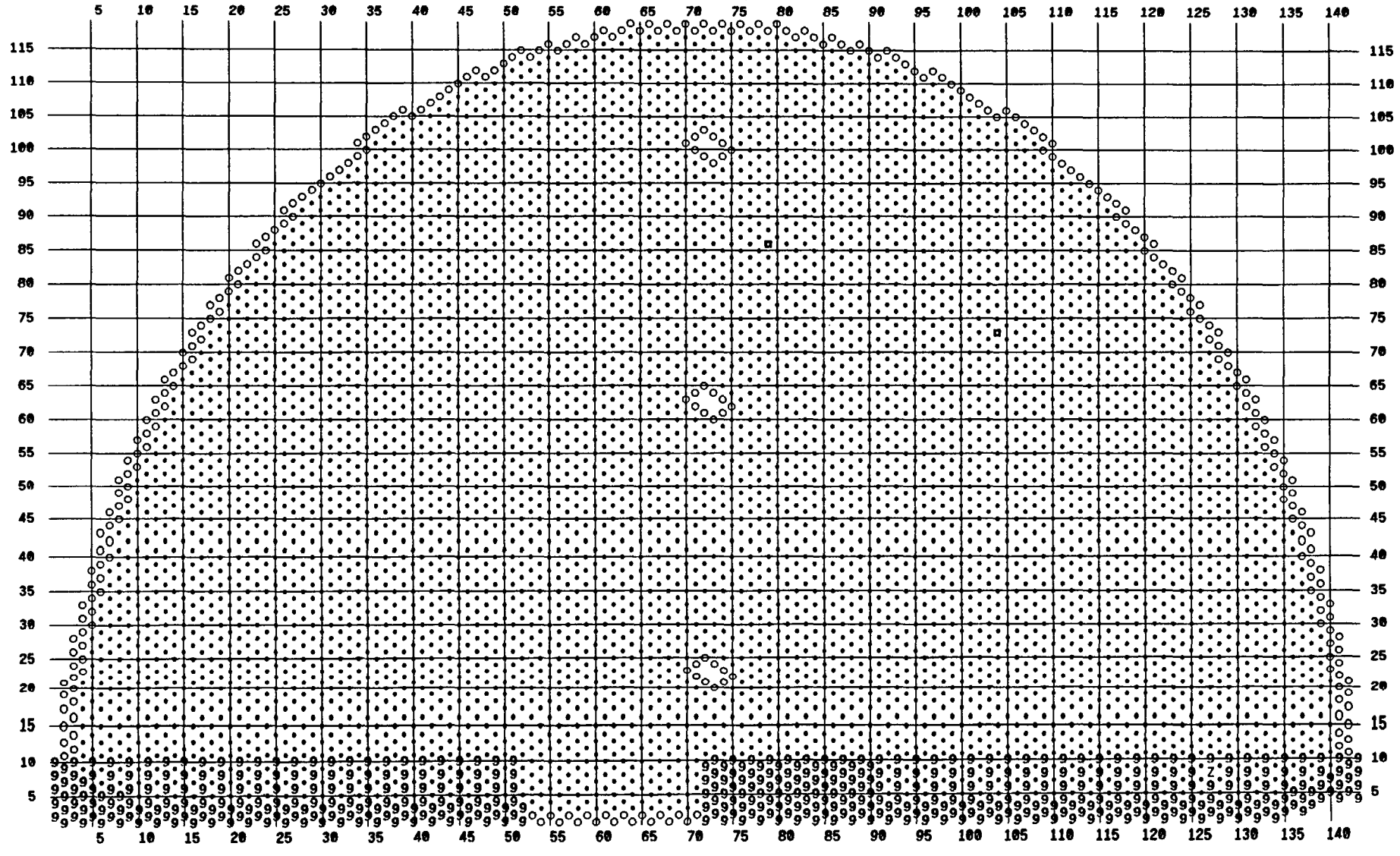
AS TESTED

Braidwood A1R10 CCE 7720

9 468 TESTED 09H THROUGH TEC

Z 1 TESTED 08H THROUGH TEC

▫ 2 PLUGGED TUBE



Westinghouse Electric Company LLC - NSBU ST2000 04/25/2003 01:13:03

SG - B FULL LENGTH BOBBIN INSPECTION PROGRAM

AS TESTED FROM THE HOT LEG

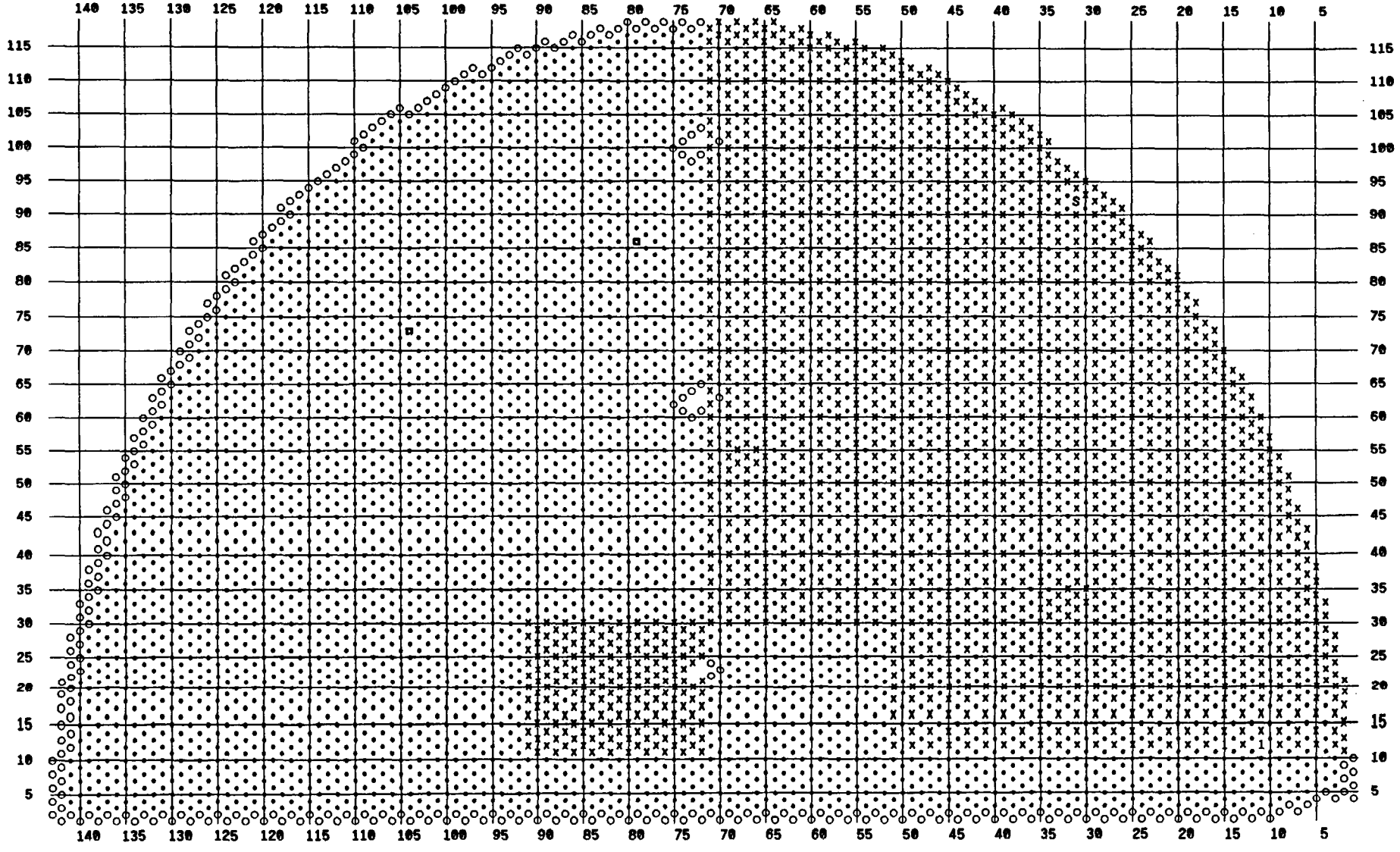
Braidwood A1R10 CCE 7720

x 1684 TESTED TEC THROUGH TEH

1 2 TESTED F10 THROUGH TEH

S 1 TESTED TEC THROUGH TSH

▫ 2 PLUGGED TUBE



Westinghouse Electric Company LLC - NSBU ST2000 04/25/2003 01:25:43

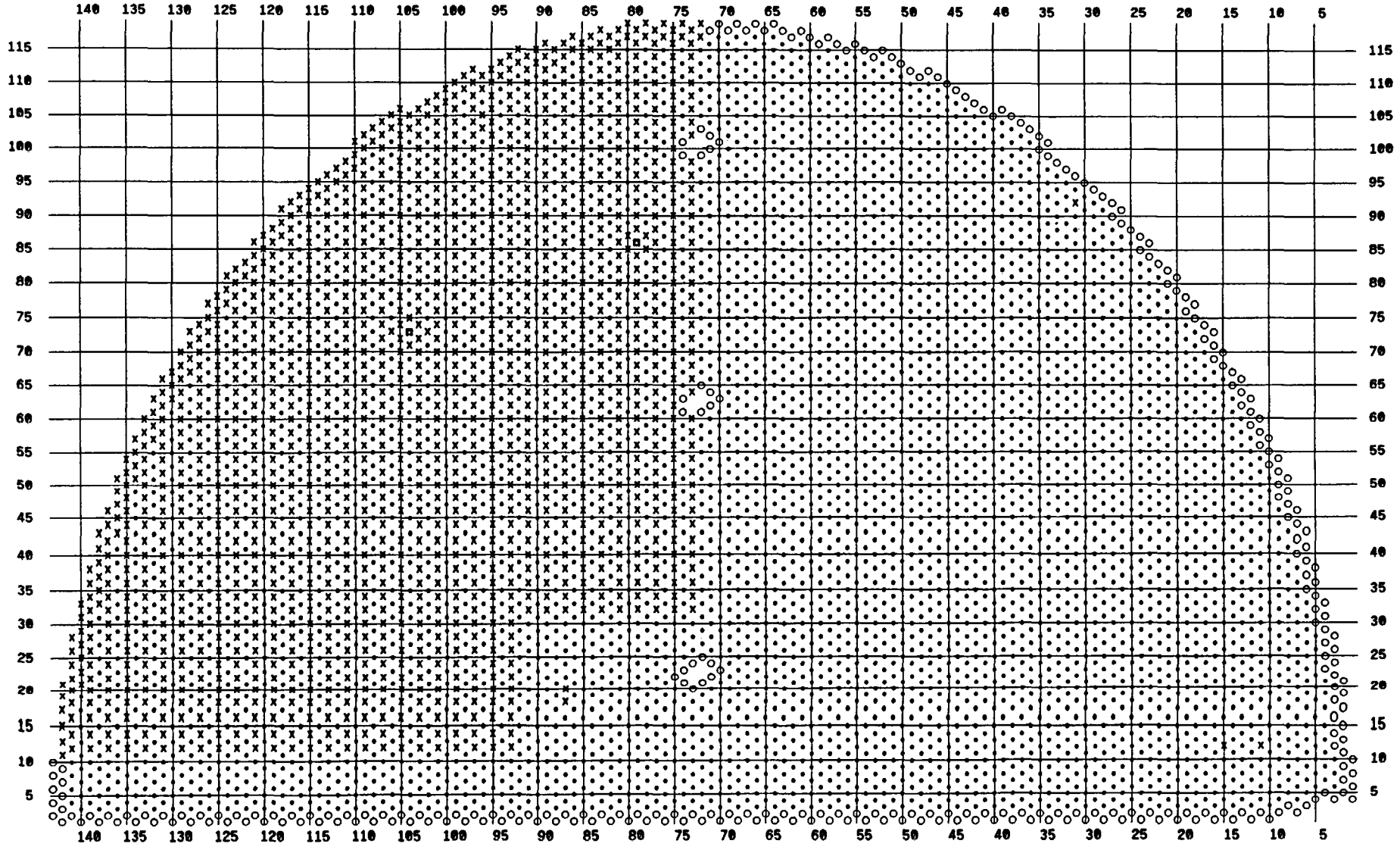
SG - B FULL LENGTH BOBBIN INSPECTION PROGRAM

AS TESTED FROM THE COLD LEG

Braidwood A1R10 CCE 7720

x 1484 TESTED TEH THROUGH TEC

▫ 2 PLUGGED TUBE



Westinghouse Electric Company LLC - NSBU ST2000 04/25/2003 01:36:41

SG - B HOT LEG LOW ROW BOBBIN INSPECTION PROGRAM

AS TESTED

Braidwood A1R10 CCE 7720

9 451 TESTED 09H THROUGH TEH WITH .560 BOBBIN PROBE

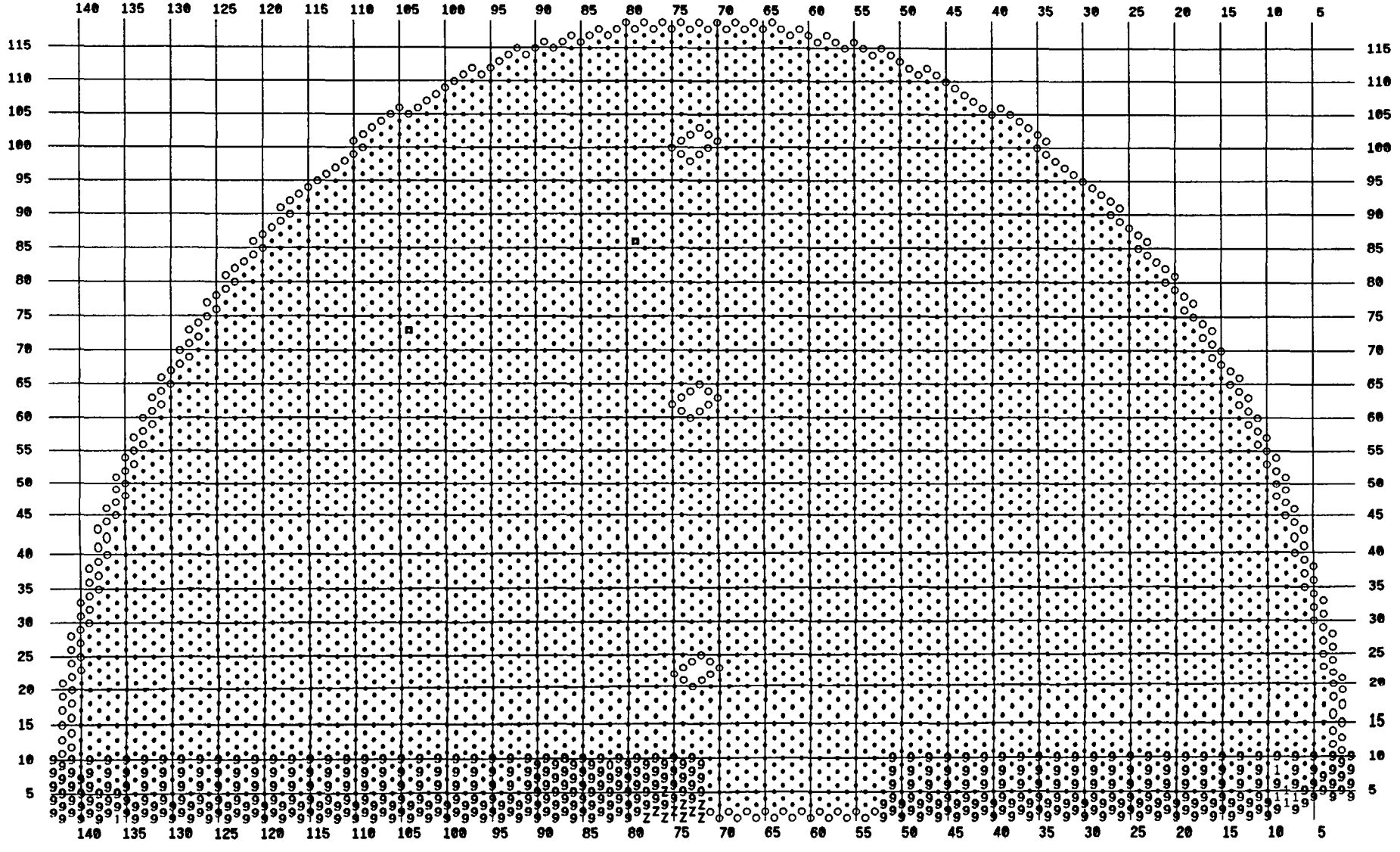
Z 10 TESTED 09C THROUGH TEH WITH .560 BOBBIN PROBE

8 1 TESTED 08C THROUGH TEH WITH .560 BOBBIN PROBE

1 6 TESTED F01 THROUGH TEH WITH .560 BOBBIN PROBE

0 1 TESTED F10 THROUGH TEH WITH .560 BOBBIN PROBE

□ 2 PLUGGED TUBE

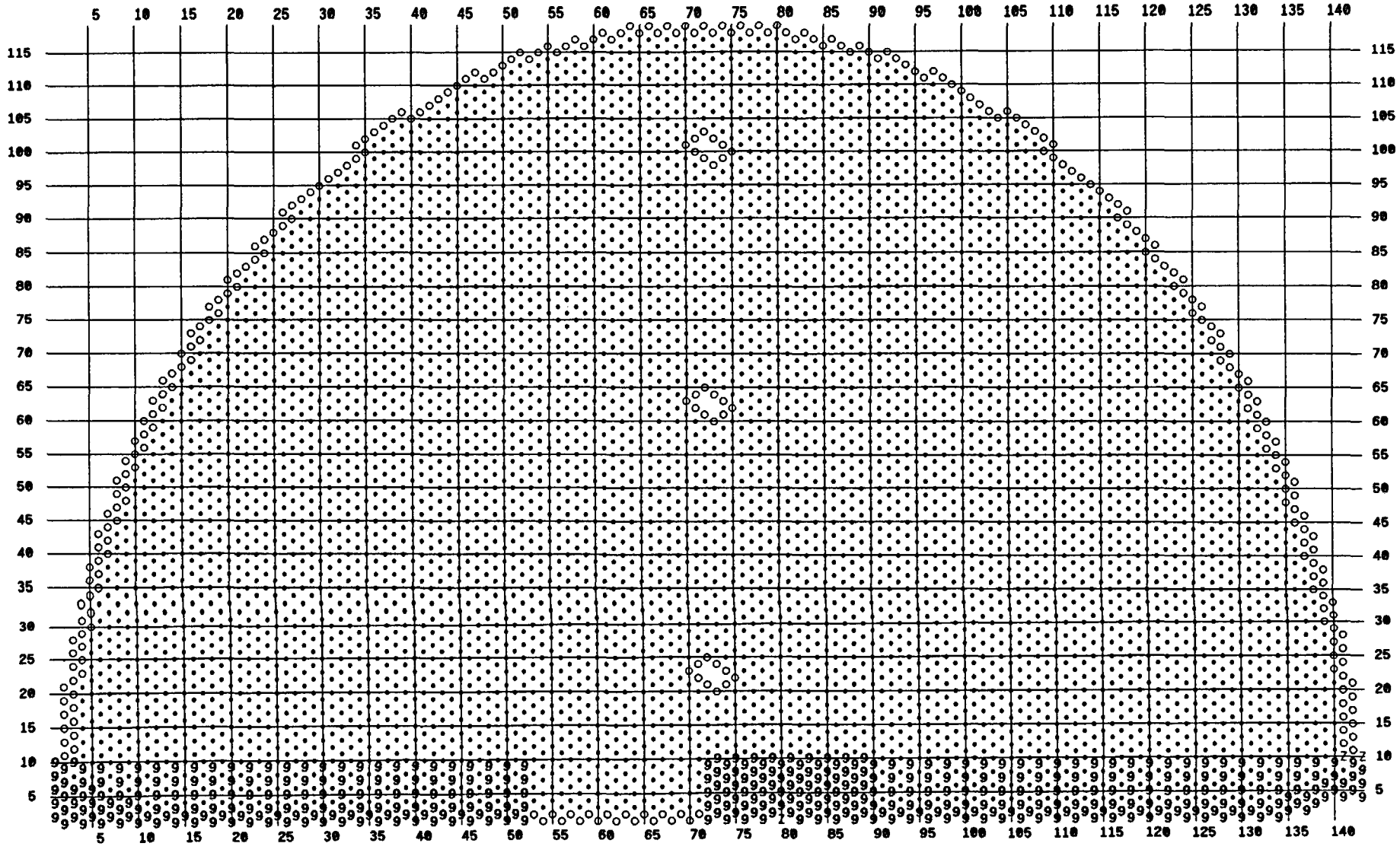


SG - C COLD LEG .540 BOBBIN INSPECTION PROGRAM

AS TESTED
Braidwood A1R10 CCE 7720

9 418 TESTED 09H THROUGH TEC

Z 3 TESTED 08H THROUGH TEC



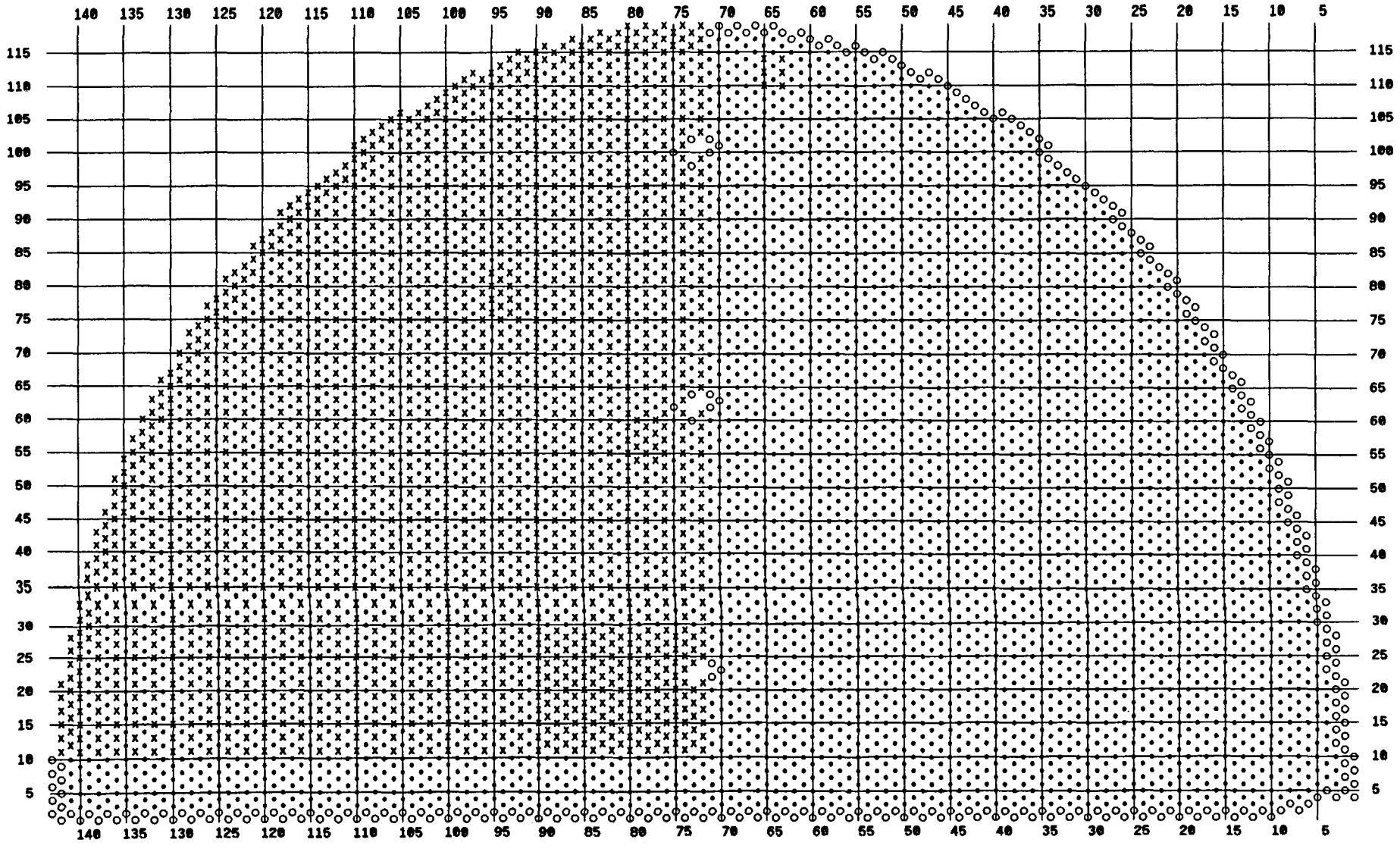
Westinghouse Electric Company LLC - NSBU ST2000 04/24/2003 19:22:21

SG - C FULL LENGTH BOBBIN INSPECTION PROGRAM

AS TESTED FROM THE HOT LEG

Braidwood A1R10 CCE 7720

x 1719 TESTED TEC THROUGH TEH



Westinghouse Electric Company LLC - NSBU ST2000 04/24/2003 19:33:35

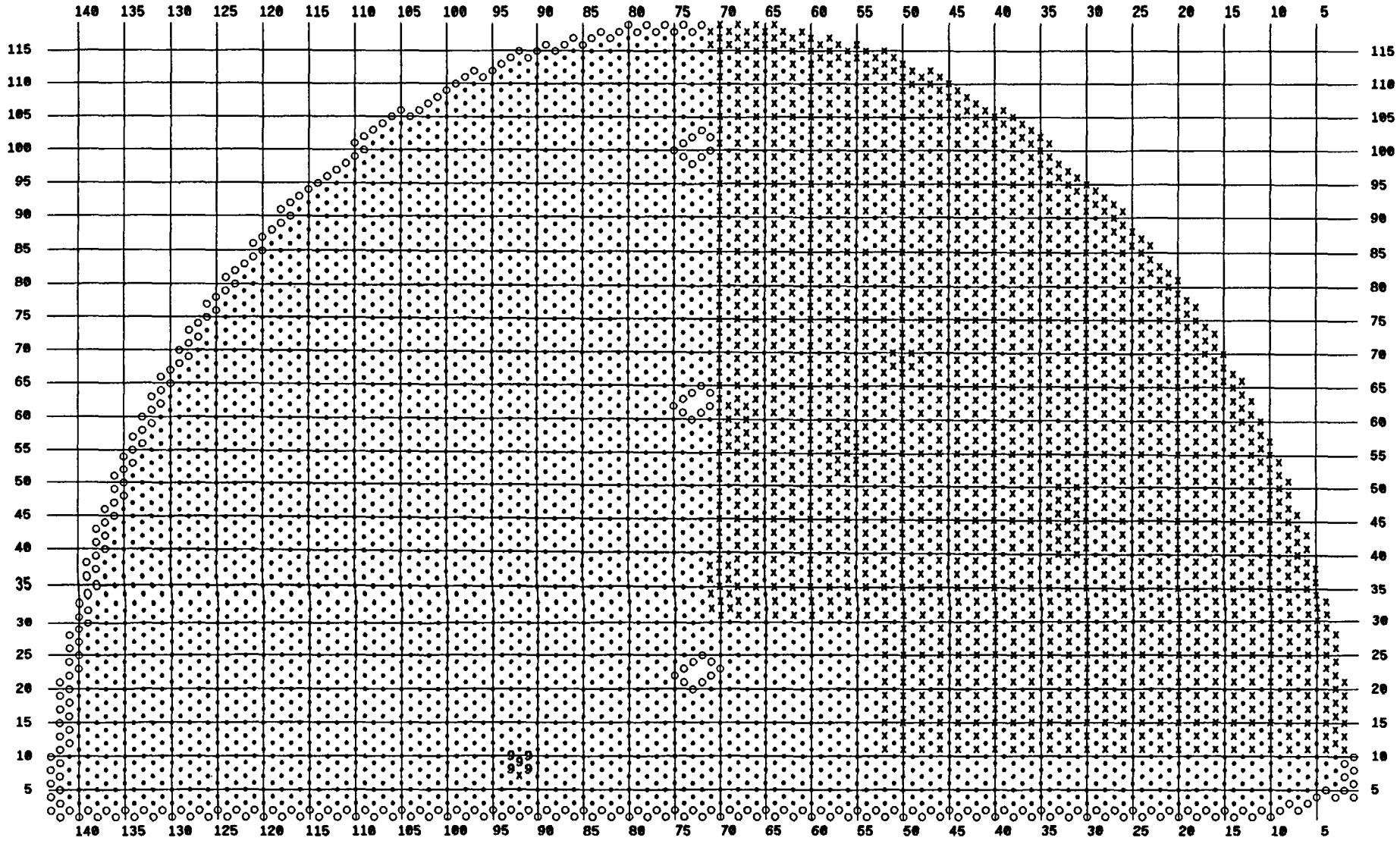
SG - C FULL LENGTH BOBBIN INSPECTION PROGRAM

AS TESTED FROM THE COLD LEG

Braidwood A1R10 CCE 7720

x 1515 TESTED TEH THROUGH TEC

9 5 TESTED 09C THROUGH TEC



SG - C HOT LEG LOW ROW BOBBIN INSPECTION PROGRAM

AS TESTED
Braidwood A1R10 CCE 7720

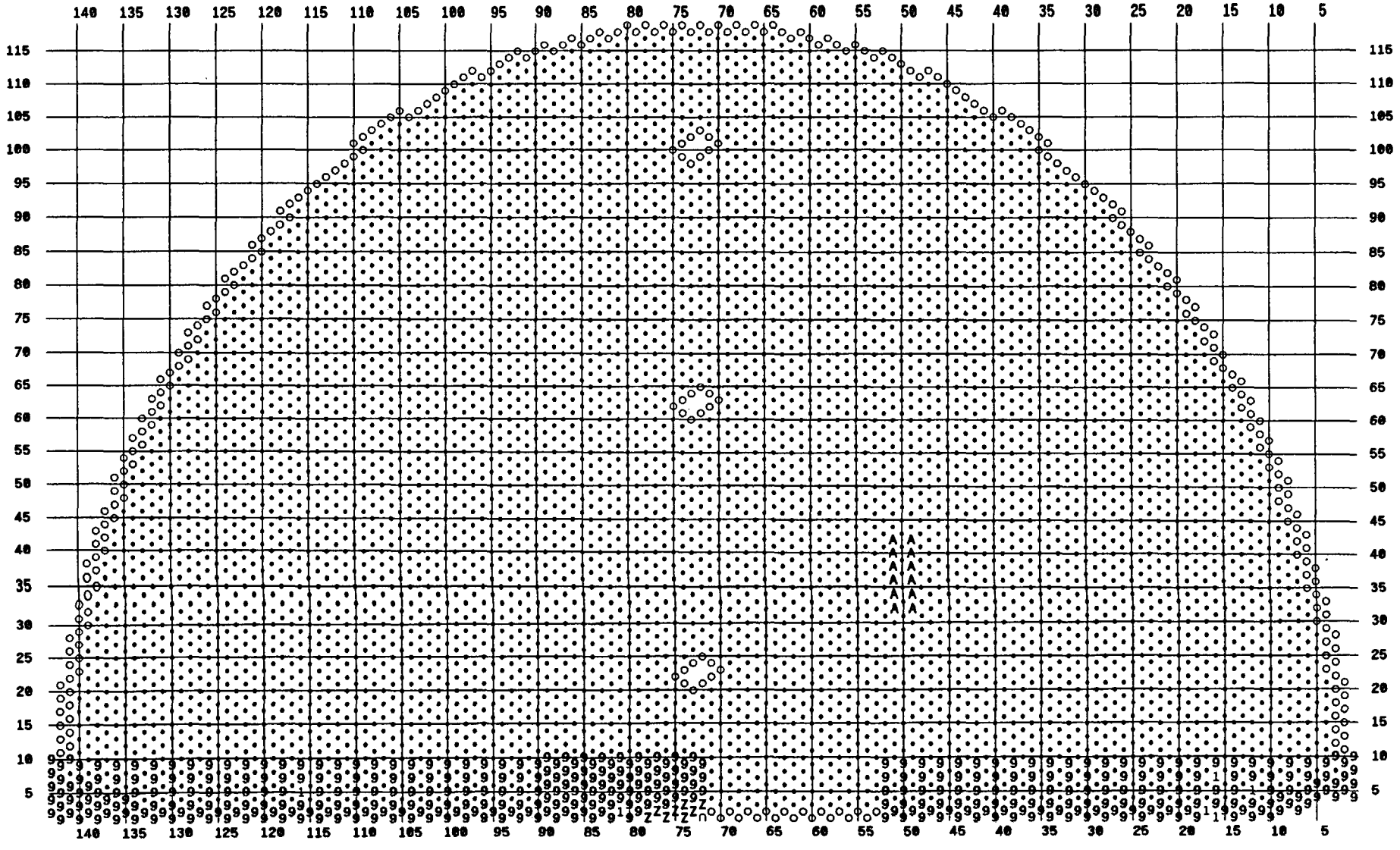
9 406 TESTED 09H THROUGH TEH WITH .560 BOBBIN PROBE

1 6 TESTED F01 THROUGH TEH WITH .560 BOBBIN PROBE

Z 8 TESTED 09C THROUGH TEH WITH .560 BOBBIN PROBE

∩ 1 TESTED F10 THROUGH TEH WITH .560 BOBBIN PROBE AND TESTED 09C THROUGH TEH WITH .540 BOBBIN PROBE

A 12 TESTED 01H THROUGH TEH WITH .560 BOBBIN PROBE



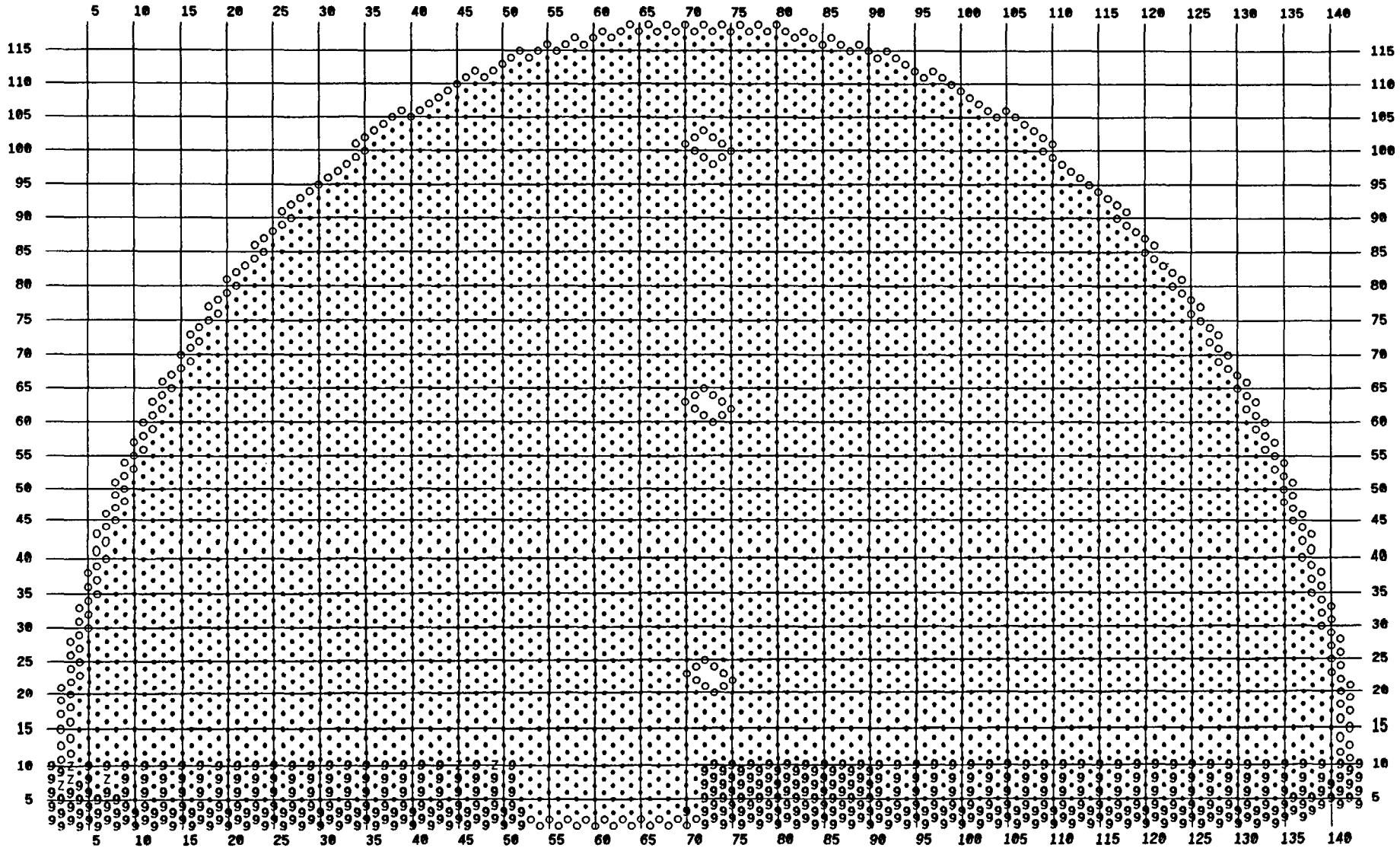
SG - D COLD LEG .540 BOBBIN INSPECTION PROGRAM

AS TESTED

Braidwood A1R10 CCE 7720

9 464 TESTED 09H THROUGH TEC

Z 6 TESTED 08H THROUGH TEC



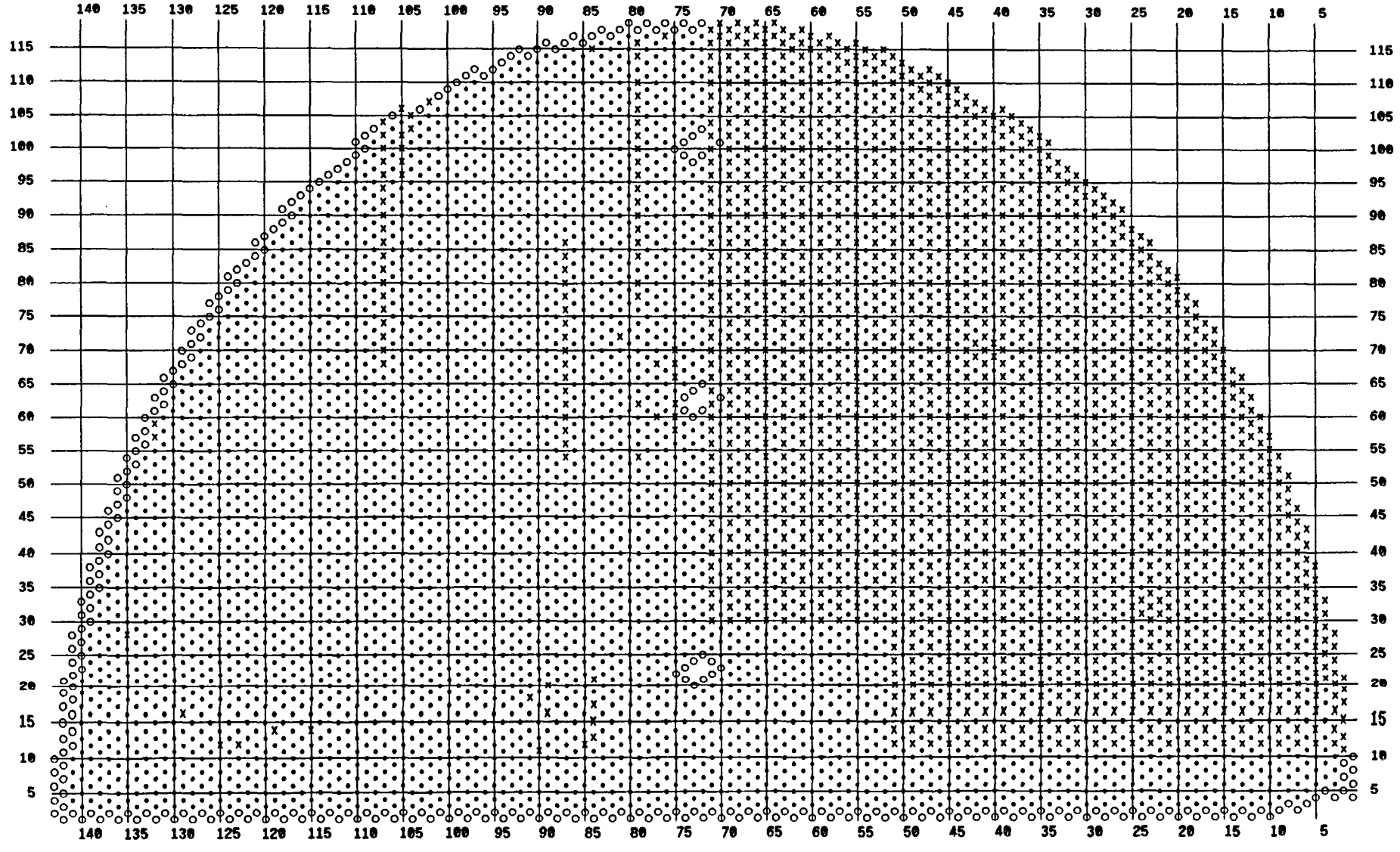
Westinghouse Electric Company LLC - NSBU ST2000 04/24/2003 14:25:47

SG - D FULL LENGTH BOBBIN INSPECTION PROGRAM

AS TESTED FROM THE HOT LEG

Braidwood A1R10 CCE 7720

x 1580 TESTED TEC THROUGH TEH



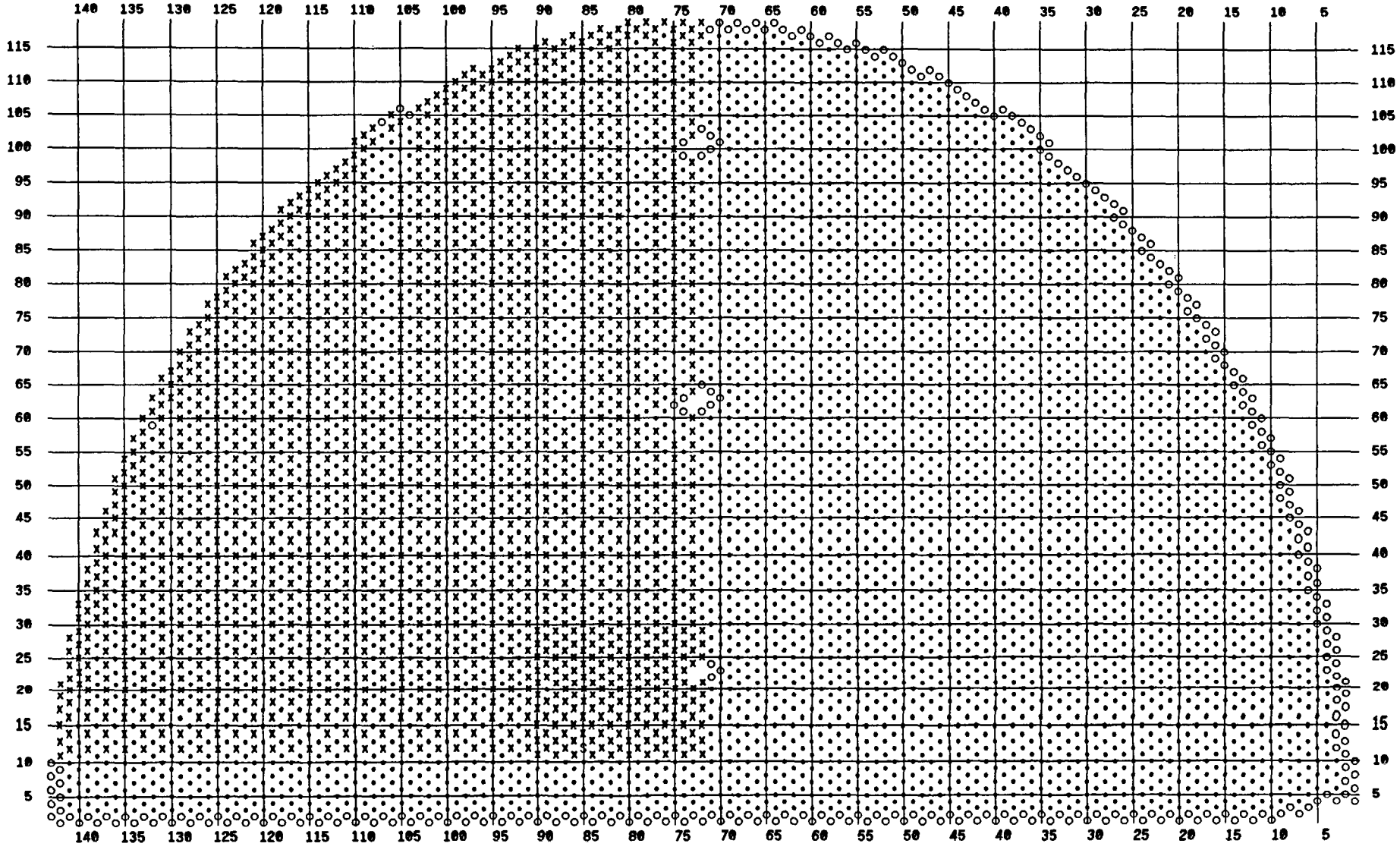
SG - D FULL LENGTH BOBBIN INSPECTION PROGRAM

AS TESTED FROM THE COLD LEG

Braidwood A1R10 CCE 7720

x 1593 TESTED TEH THROUGH TEC

S 1 TESTED TEH THROUGH TSC



Westinghouse Electric Company LLC - NSBU ST2000 04/24/2003 14:46:20

SG - D HOT LEG LOW ROW BOBBIN INSPECTION PROGRAM

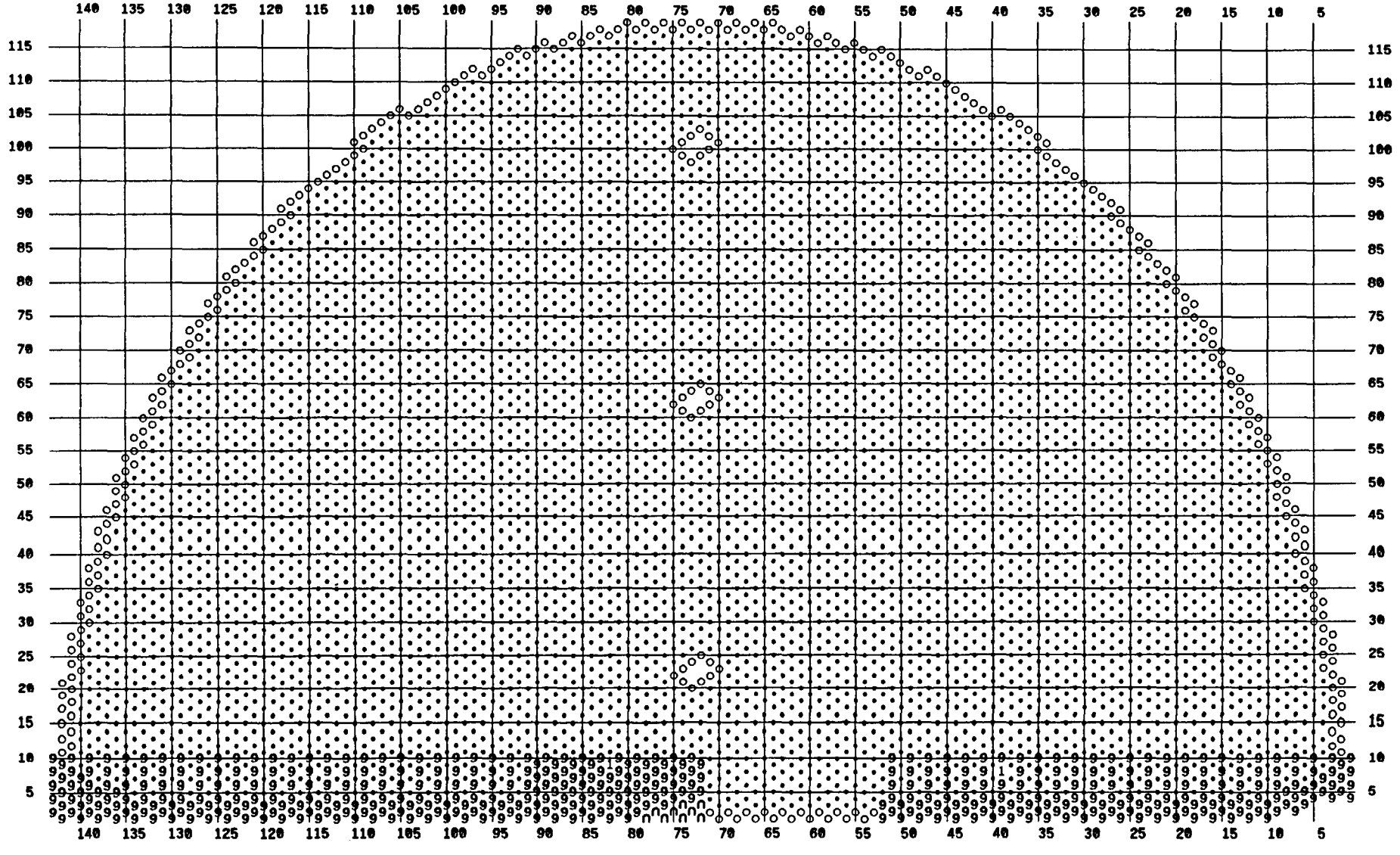
AS TESTED

Braidwood A1R10 CCE 7720

9 458 TESTED 09H THROUGH TEH WITH .560 BOBBIN PROBE

1 2 TESTED F01 THROUGH TEH WITH .560 BOBBIN PROBE

∩ 9 TESTED 09H THROUGH TEH WITH .560 BOBBIN PROBE AND TESTED 09C THROUGH TEH WITH .540 BOBBIN PROBE



Attachment B.2

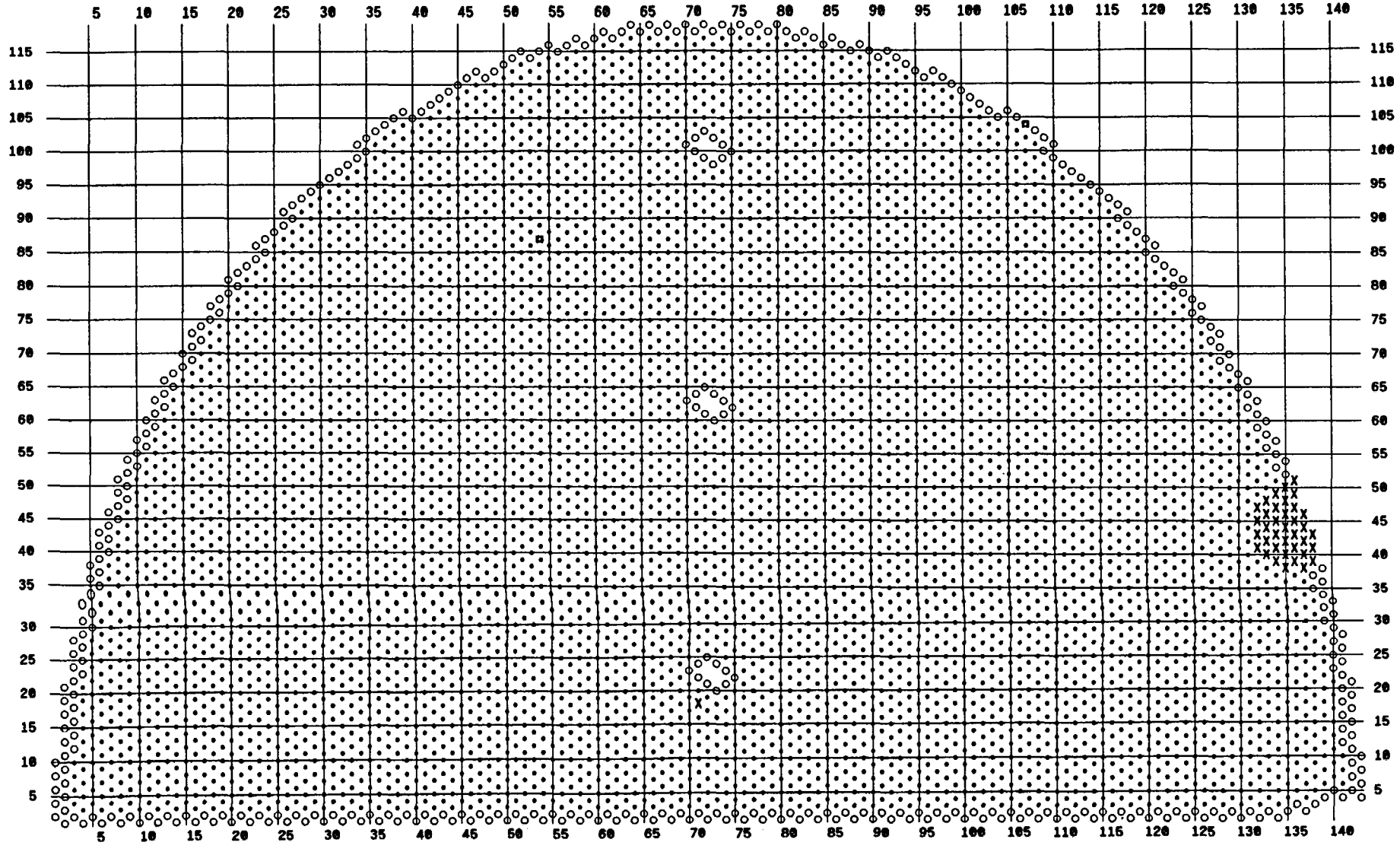
As-tested Plus Point Special Interest Inspection Maps

SG - A COLD LEG SPECIAL INTEREST +POINT INSPECTION PROGRAM

Braidwood A1R10 CCE 7720

X 38 TUBE TESTED IN THE COLD LEG
WITH +POINT PROBE FOR SPECIAL
INTEREST

▫ 2 PLUGGED TUBE

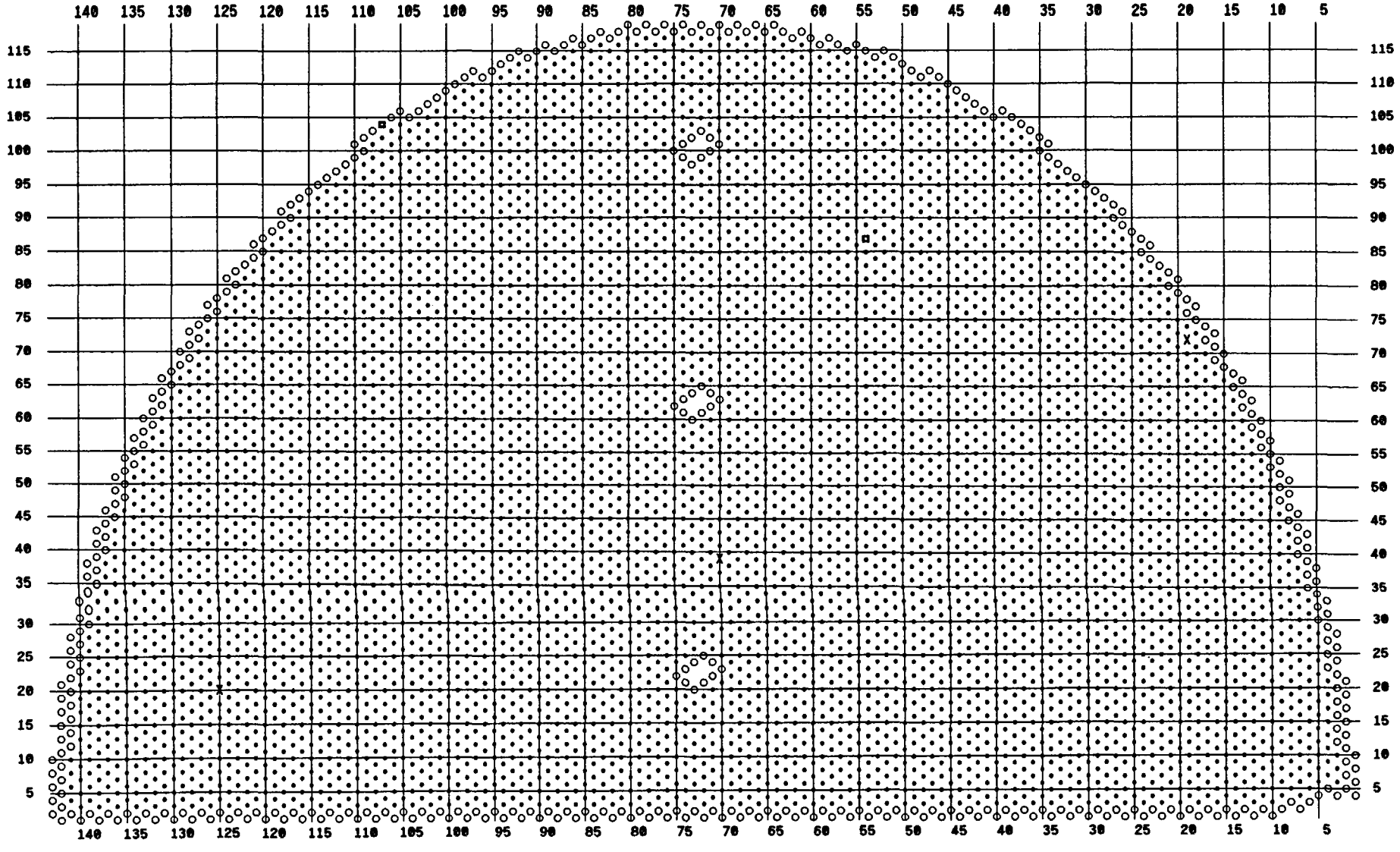


SG - A HOT LEG SPECIAL INTEREST +POINT INSPECTION PROGRAM

Braidwood A1R10 CCE 7720

X 3 TUBE TESTED IN HOT LEG WITH +POINT PROBE FOR SPECIAL INTEREST

◘ 2 PLUGGED TUBE



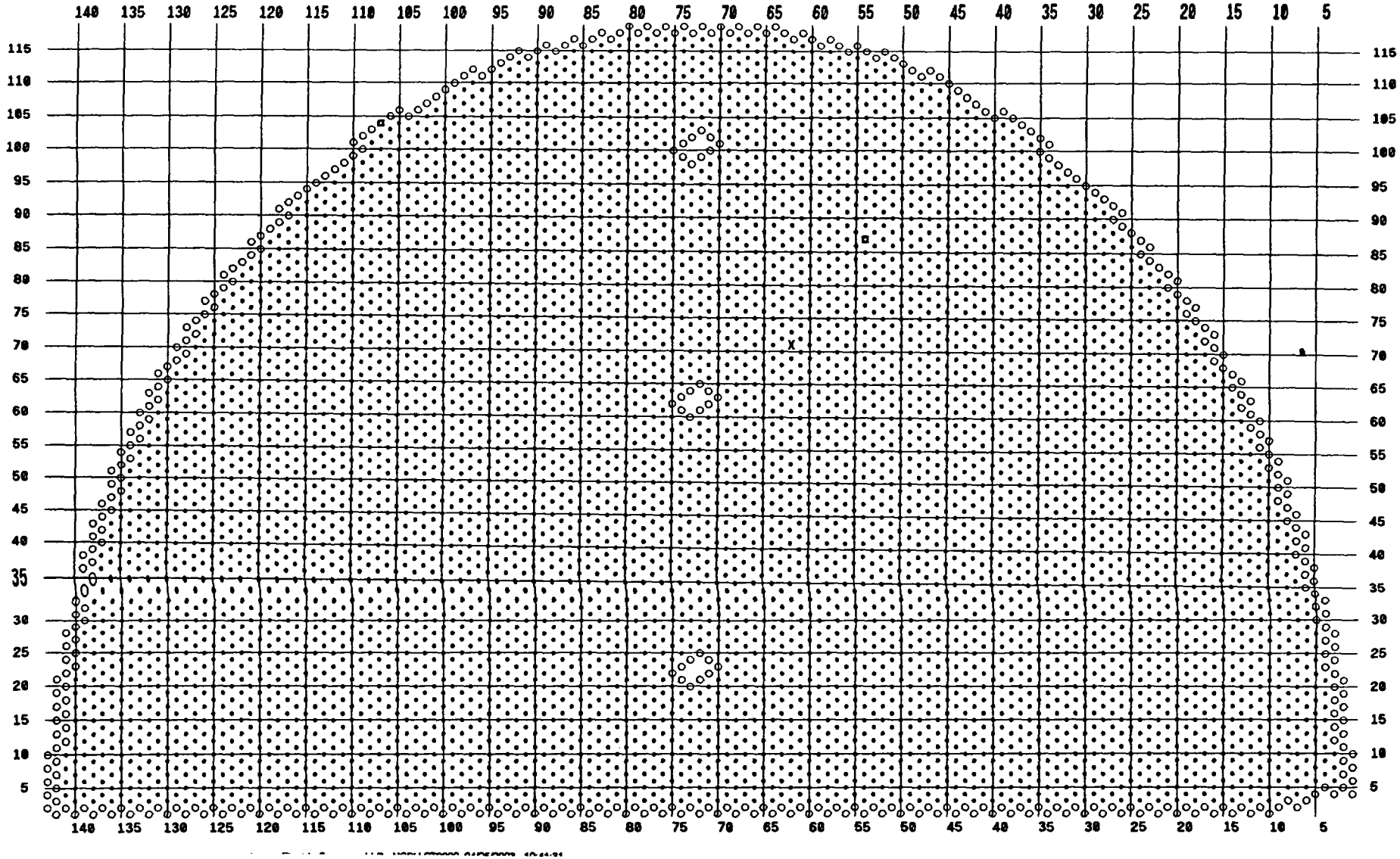
Westinghouse Electric Company LLC - NSBU ST2000 04/25/2003 10:39:24

SG - A HOT LEG U-BEND +POINT SPECIAL INTEREST INSPECTION PROGRAM

Braidwood A1R10 CCE 7720

X 1 TUBE TESTED IN THE U-BEND FROM THE HOT LEG WITH +POINT PROBE

◘ 2 PLUGGED TUBE

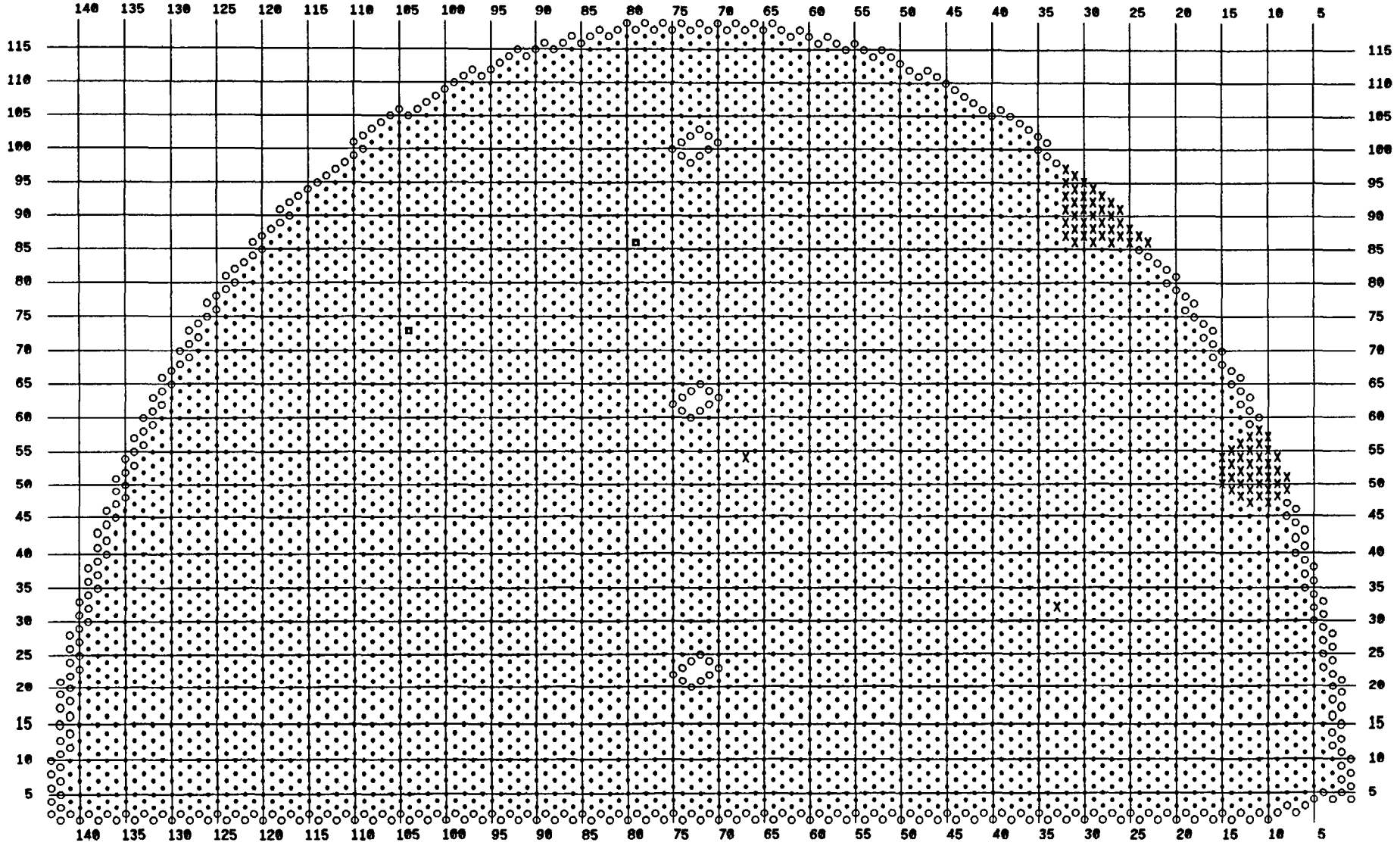


SG - B HOT LEG SPECIAL INTEREST +POINT INSPECTION PROGRAM

Braidwood A1R10 CCE 7720

X 75 TUBE TESTED IN THE HOT LEG
WITH +POINT PROBE FOR SPECIAL
INTEREST

□ 2 PLUGGED TUBE



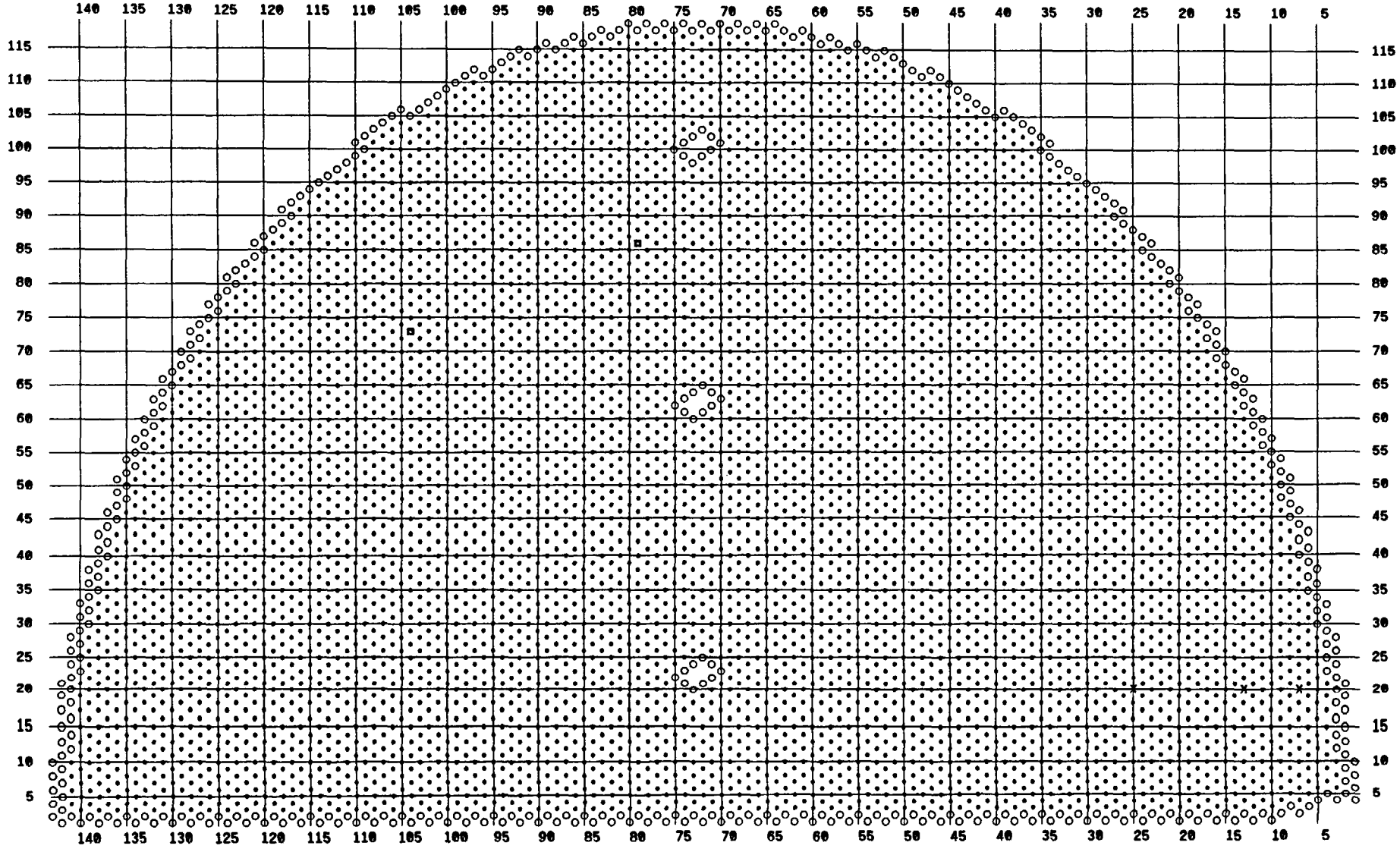
Westinghouse Electric Company LLC - NSBU ST2000 04/25/2003 13:07:49

SG - B HOT LEG U-BEND +POINT SPECIAL INTEREST INSPECTION PROGRAM

Braidwood A1R10 CCE 7720

X 3 TUBE TESTED IN THE U-BEND FROM THE HOT LEG WITH +POINT PROBE

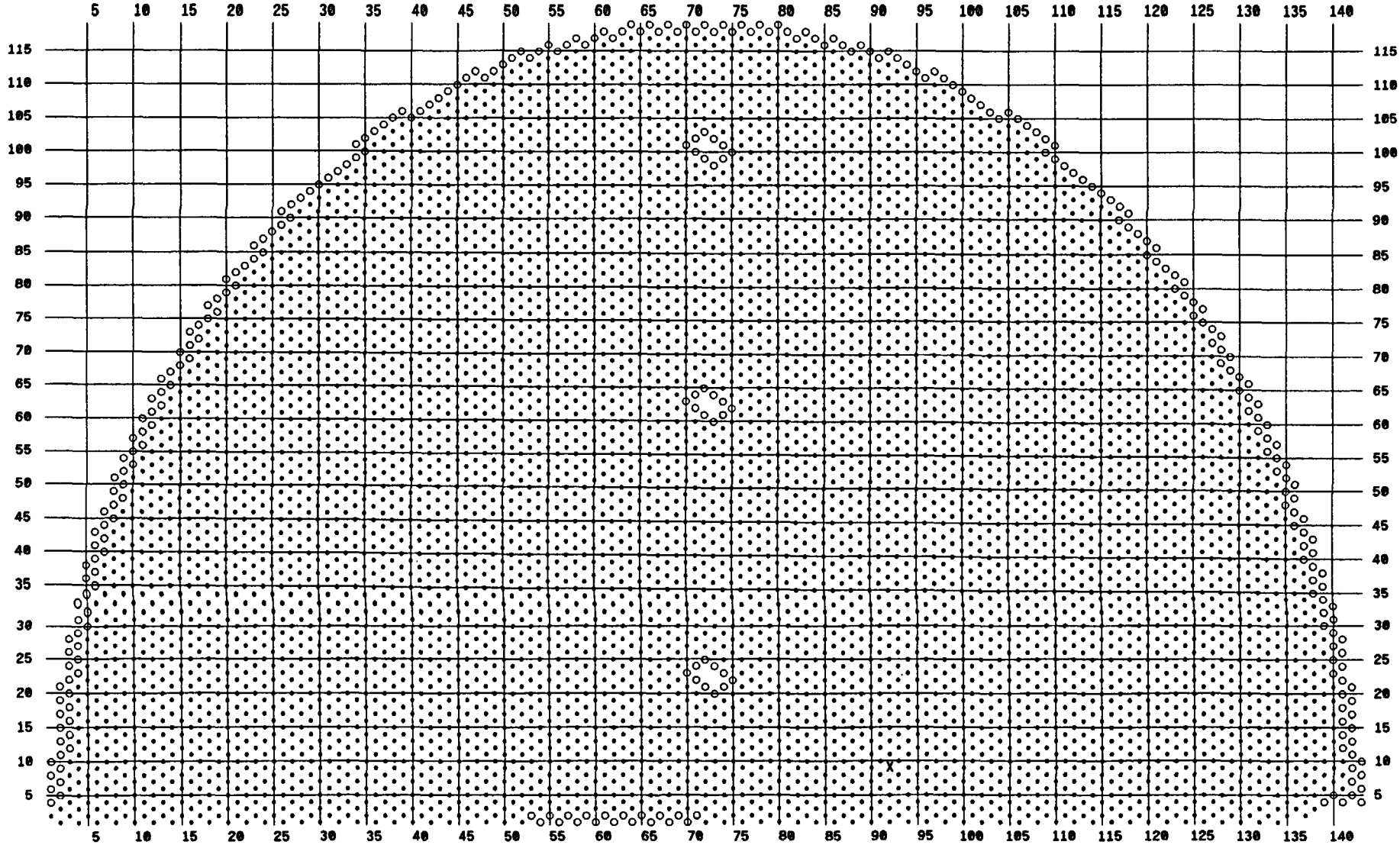
▫ 2 PLUGGED TUBE



SG - C COLD LEG SPECIAL INTEREST +POINT INSPECTION PROGRAM

Braidwood A1R10 CCE 7720

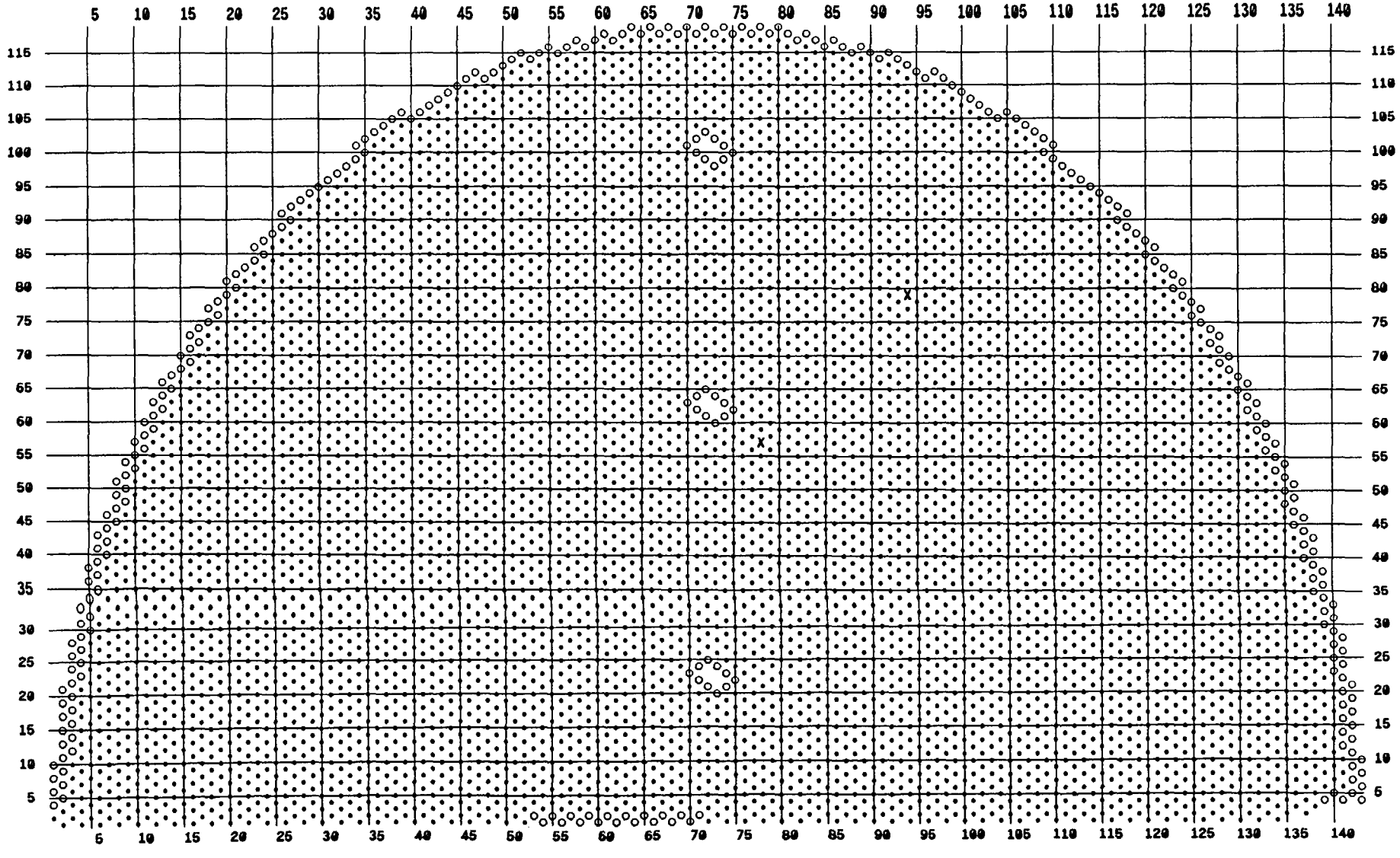
X 1 TUBE TESTED IN THE COLD LEG
WITH +POINT PROBE FOR SPECIAL INTEREST



SG - C COLD LEG U-BEND +POINT SPECIAL INTEREST INSPECTION PROGRAM

Braidwood A1R10 CCE 7720

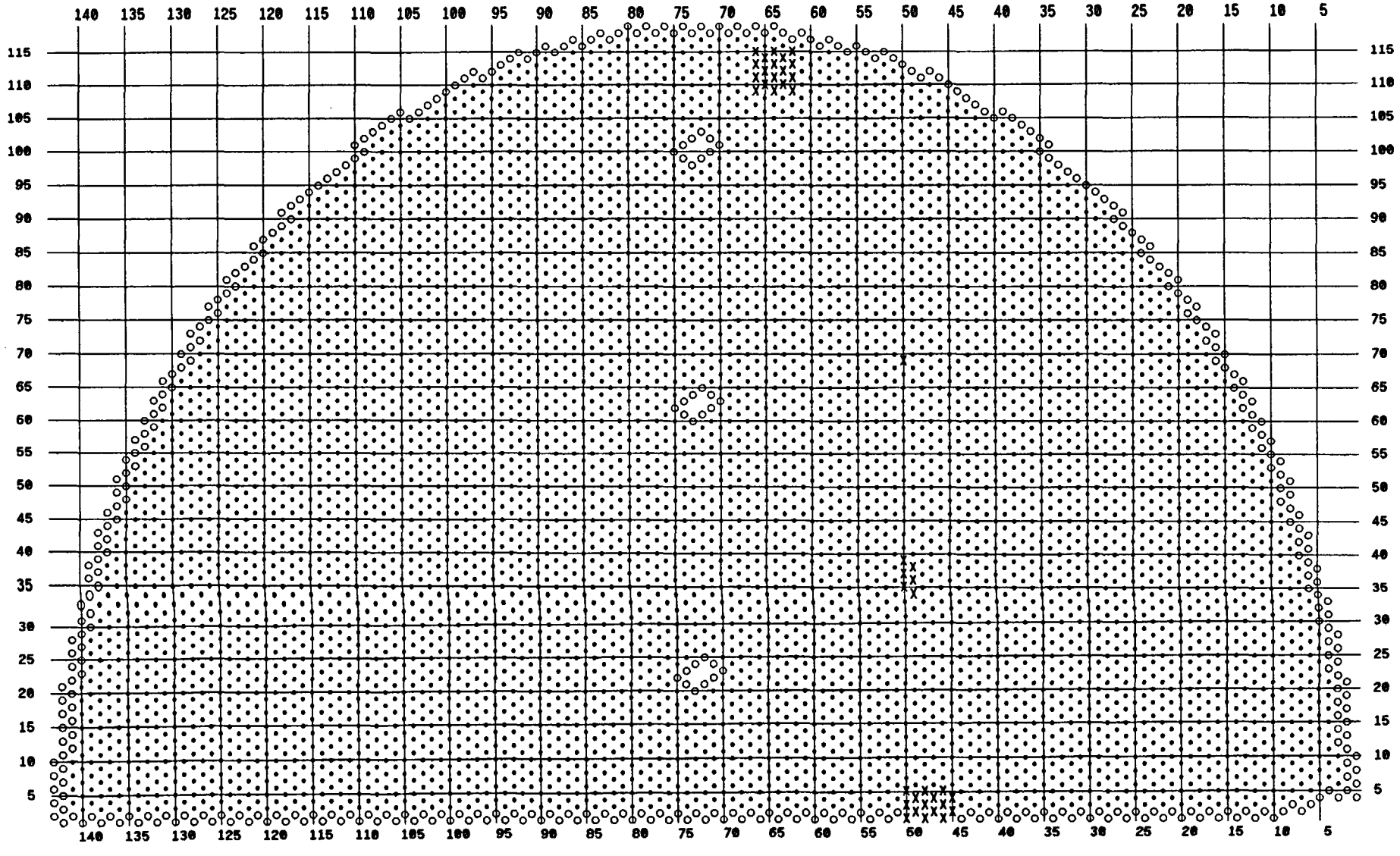
X 2 TUBE TESTED IN THE U-BEND
FROM THE COLD LEG WITH +POINT
PROBE



SG - C HOT LEG SPECIAL INTEREST +POINT INSPECTION PROGRAM

Braidwood A1R10 CCE 7720

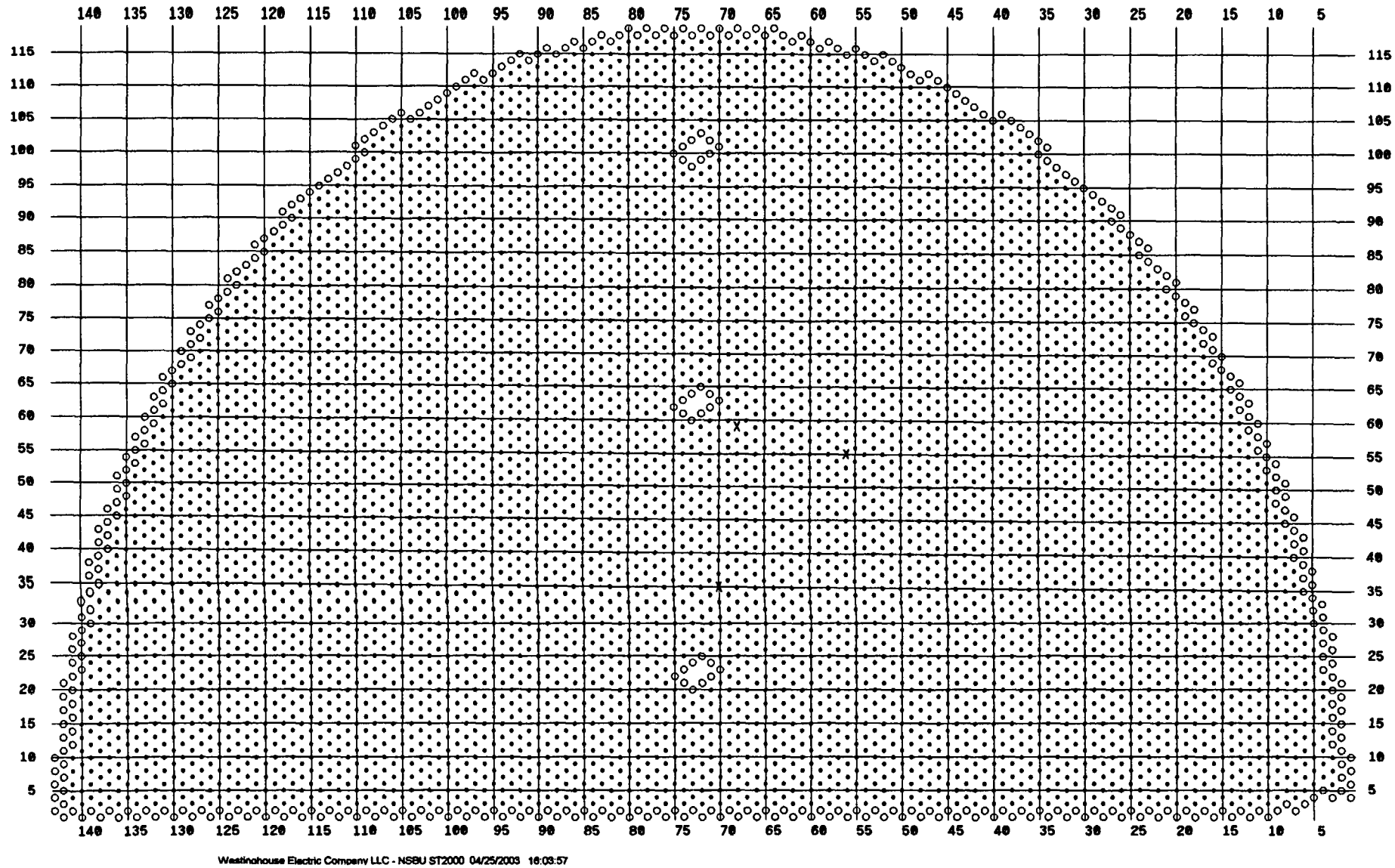
X 40 TUBE TESTED IN THE HOT LEG
WITH +POINT PROBE FOR SPECIAL
INTEREST



SG - C HOT LEG U-BEND +POINT SPECIAL INTEREST INSPECTION PROGRAM

Braidwood A1R10 CCE 7720

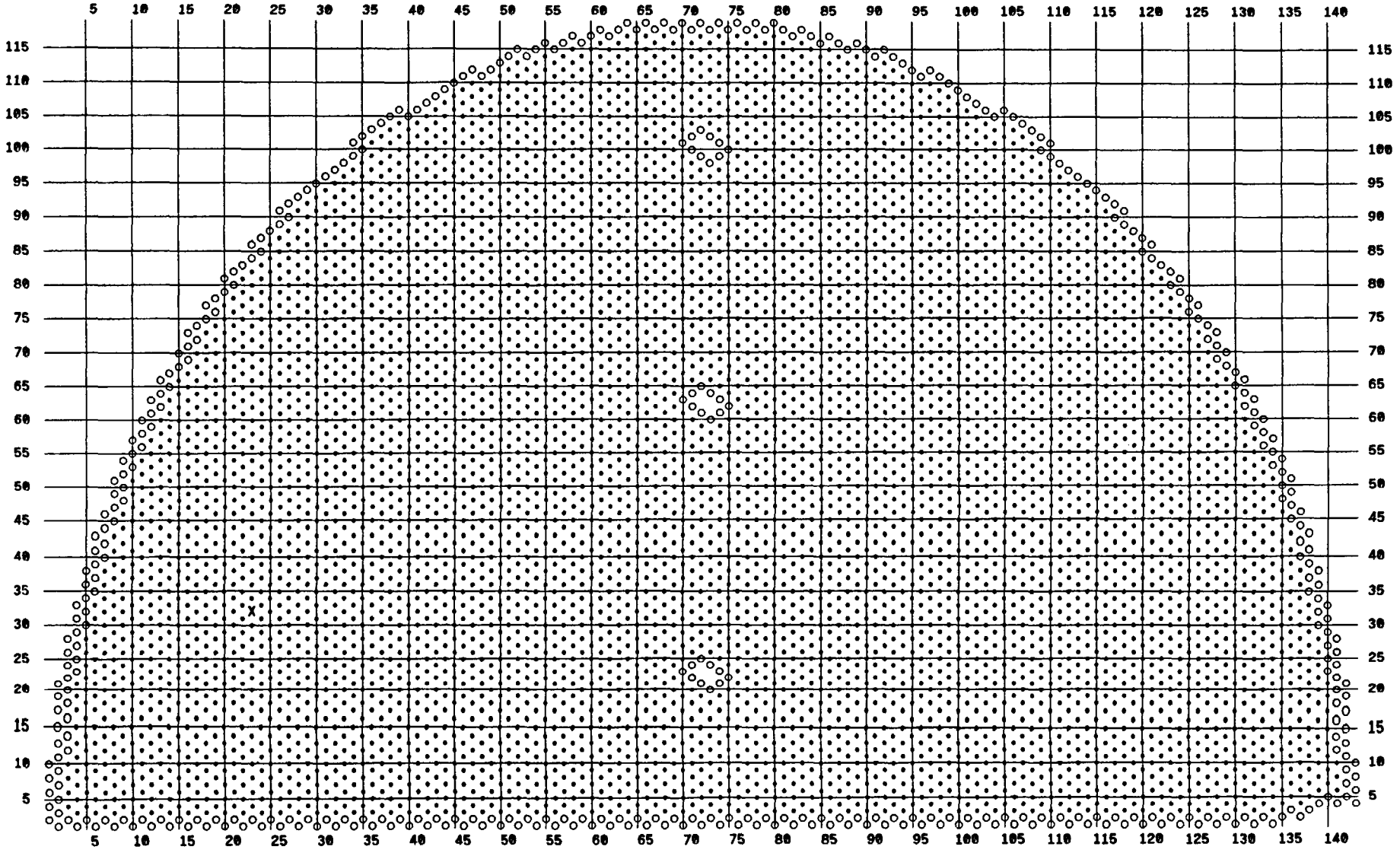
X 3 TUBE TESTED IN THE U-BEND
FROM THE HOT LEG WITH +POINT
PROBE



SG - D COLD LEG SPECIAL INTEREST +POINT INSPECTION PROGRAM

Braidwood A1R10 CCE 7720

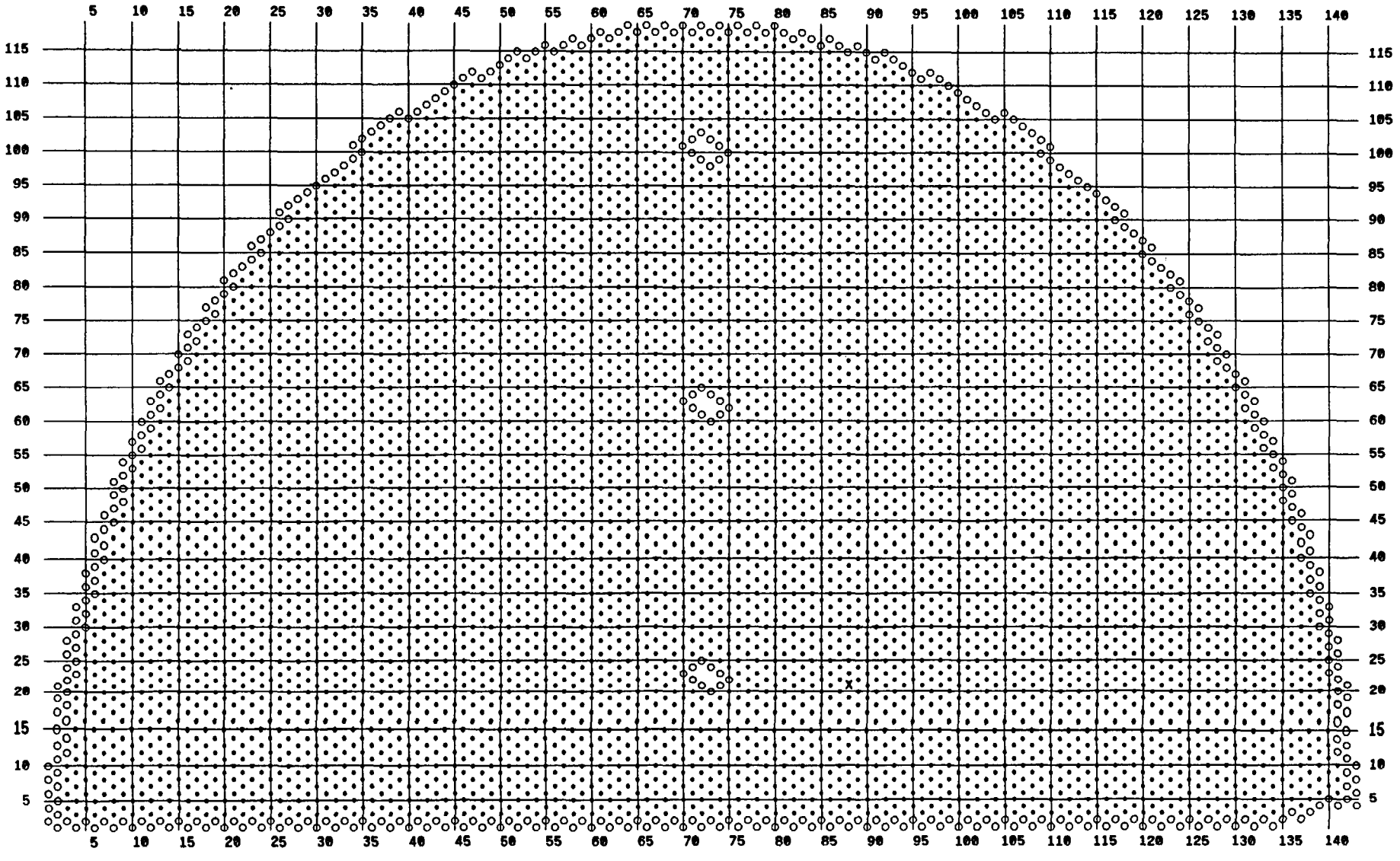
X 1 TUBE TESTED IN THE COLD LEG
WITH +POINT PROBE FOR SPECIAL
INTEREST



SG - D COLD LEG U-BEND +POINT SPECIAL INTEREST INSPECTION PROGRAM

Braidwood A1R10 CCE 7720

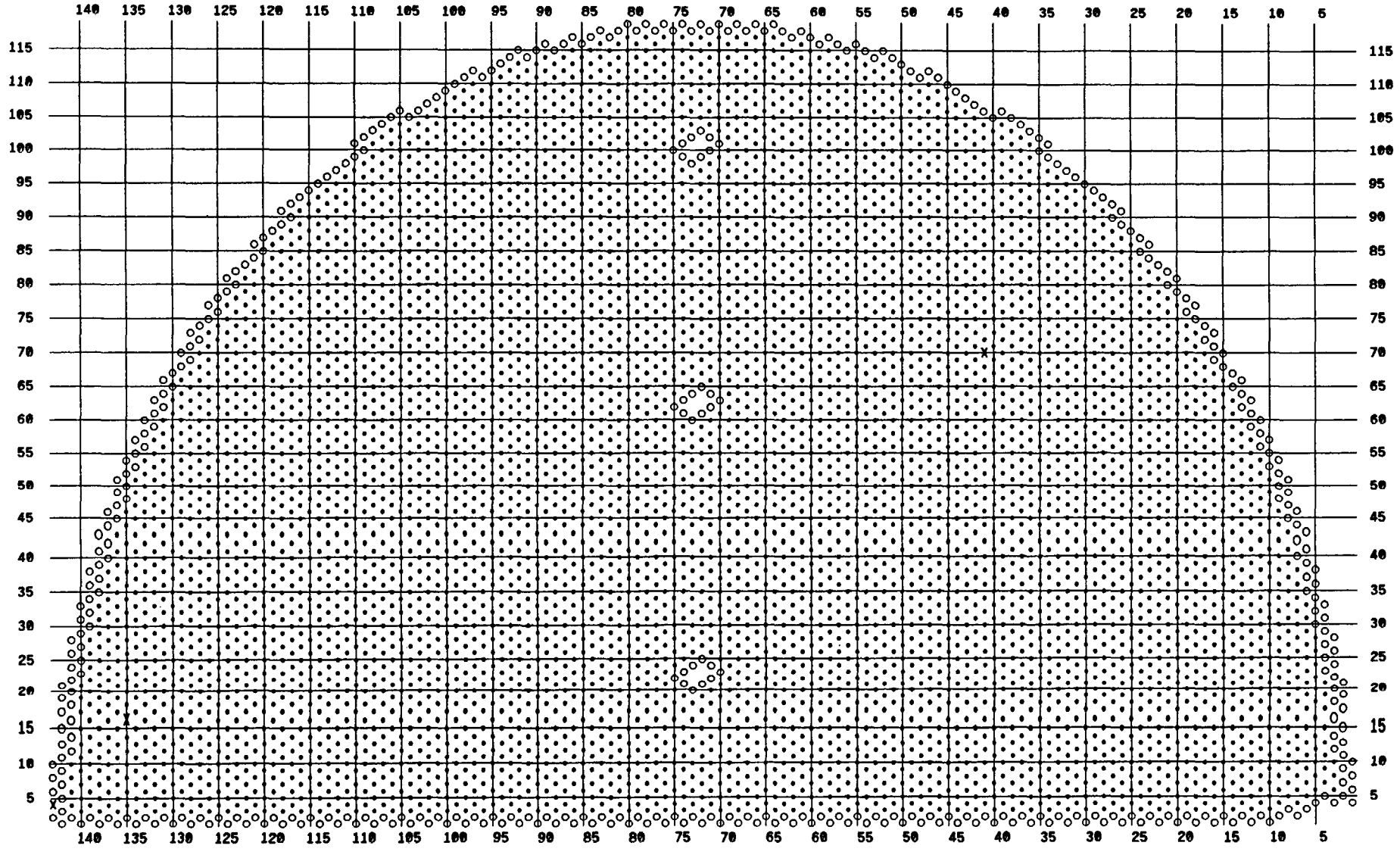
X 1 TUBE TESTED IN THE U-BEND
FROM THE COLD LEG WITH +POINT
PROBE



SG - D HOT LEG SPECIAL INTEREST +POINT INSPECTION PROGRAM

Braidwood A1R10 CCE 7720

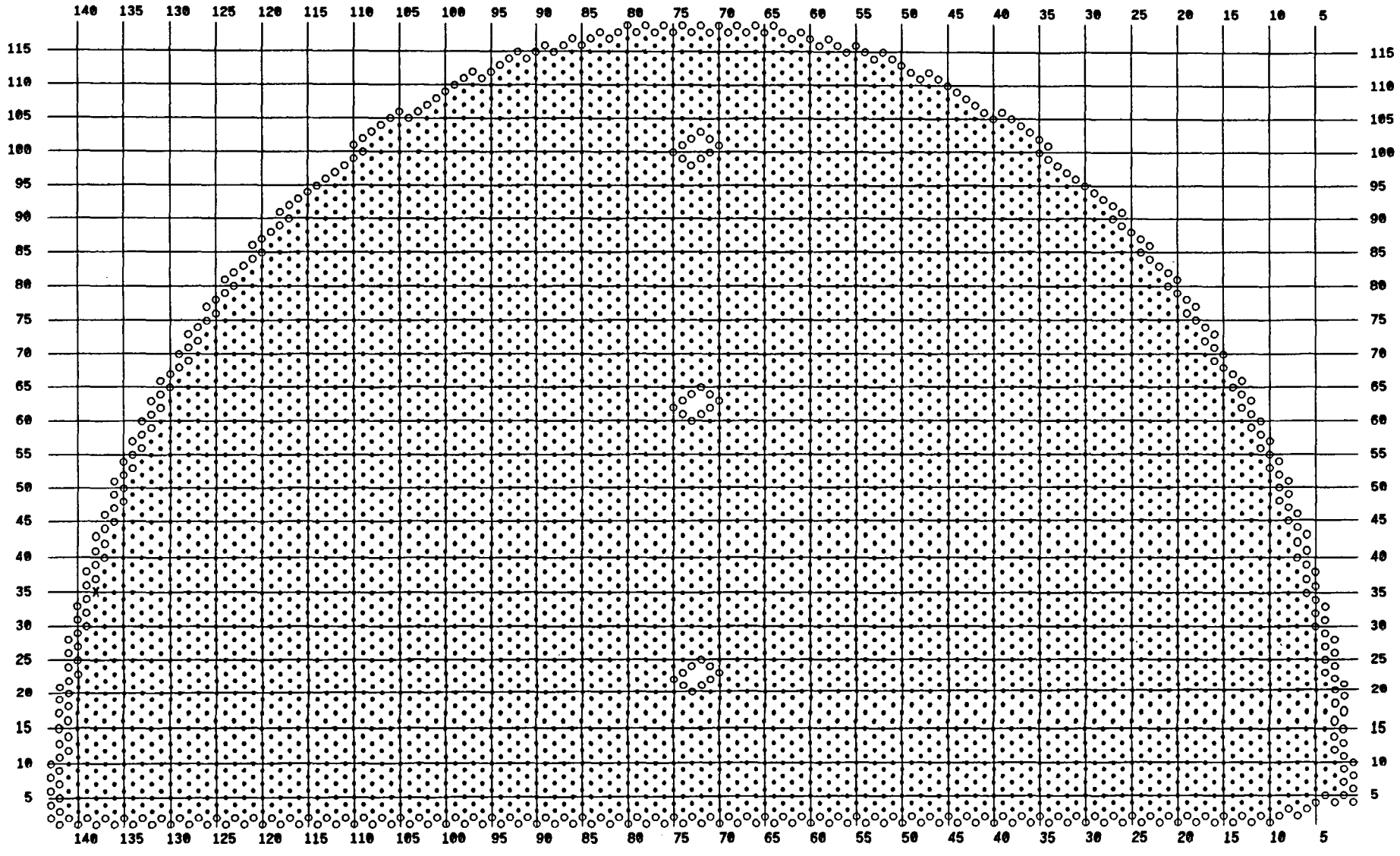
X 3 TUBE TESTED IN THE HOT LEG
WITH +POINT PROBE FOR SPECIAL
INTEREST



SG - D HOT LEG U-BEND +POINT SPECIAL INTEREST INSPECTION PROGRAM

Braidwood A1R10 CCE 7720

X 1 TUBE TESTED IN THE U-BEND
FROM THE COLD LEG WITH +POINT
PROBE



Attachment B.3

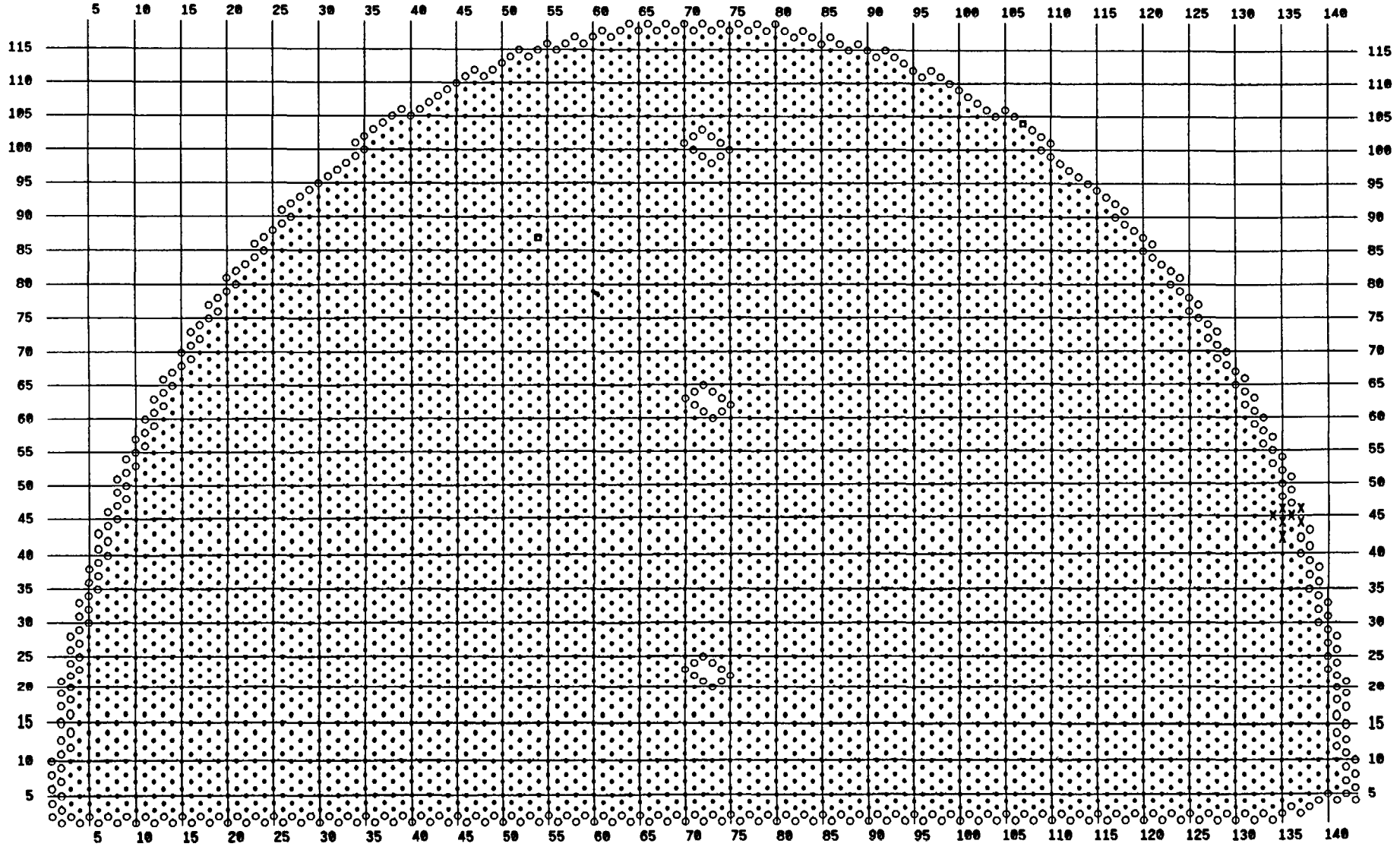
Tubes Damaged by Secondary Side Foreign Objects

SG - A TUBES DAMAGED BY FOREIGN OBJECTS

Braidwood A1R10 CCE 7720

X 7 TUBE DAMAGED BY FOREIGN OBJECT AT COLD LEG TOP OF TUBESHEET

⧈ 2 PLUGGED TUBE



SG - A Tubes Damaged By Foreign Objects

Braidwood 1 A1R10 CCE 20030401 04/25/2003 11:14:49

ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	I	CRLEN	CEG	BEGT	ENDT	PDIA	PTYPE	CAL	L
45	134			NDD									TEC	TEH	.560	RBART	3	H
45	134	.14	107	SVI		P1	TSC	.10		0	.598	79	TSC	TSC	.560	ZPSNM	8	C
45	134	.15	0	PCT	15	2	TSC	.28					TSC	TSC	.560	ZPSNM	8	C
45	134	.13	106	PID		P1	TSC	.19					TSC	TSC	.560	ZPSNM	66	C
42	135	.28	0	PCT	25	2	TSC	.48					TSC	TSC	.560	ZPSNM	8	C
42	135	.27	98	SVI		P1	TSC	.49		0	.521	80	TSC	TSC	.560	ZPSNM	8	C
42	135	.26	120	DTI		P1	TSC	.56					TEC	TEH	.560	RBART	65	H
42	135	.24	100	PID		P1	TSC	.60					TSC	TSC	.560	ZPSNM	66	C
44	135	1.61	113	DTI		P1	TSC	.31					TEC	TEH	.560	RBART	3	H
44	135	.76	82	SVI		P1	TSC	.26					TSC	TSC	.560	ZPSNM	8	C
44	135	.75	0	PID		2	TSC	.31					TSC	TSC	.560	ZPSNM	8	C
44	135	.70	0	PCT	48	2	TSC	.37					TSC	TSC	.560	ZPSNM	8	C
46	135			NDD									TEC	TEH	.560	RBART	3	H
46	135	.11	97	SVI		2	TSC	.23		0	.358	79	TSC	TSC	.560	ZPSNM	8	C
46	135	.11	0	PCT	12	2	TSC	.23					TSC	TSC	.560	ZPSNM	8	C
46	135	.11	95	PID		P1	TSC	.23					TSC	TSC	.560	ZPSNM	66	C
45	136			NDD									TEC	TEH	.560	RBART	3	H
45	136	.21	0	PCT	20	2	TSC	.09					TSC	TSC	.560	ZPSNM	8	C
45	136	.21	115	SVI		2	TSC	.15		0	.539	182	TSC	TSC	.560	ZPSNM	8	C
45	136	.18	115	PID		P1	TSC	.10					TSC	TSC	.560	ZPSNM	66	C
44	137			NDD									TEC	TEH	.560	RBART	3	H
44	137	.04	105	SVI		2	TSC	.14		0	.203	32	TSC	TSC	.560	ZPSNM	8	C
44	137	.04	0	PCT	5	2	TSC	.15					TSC	TSC	.560	ZPSNM	8	C
44	137	.04	101	PID		P1	TSC	.13					TSC	TSC	.560	ZPSNM	66	C
46	137			NDD									TEC	TSH	.560	RBART	3	H
46	137	.14	0	PCT	14	2	TSC	.28					TSC	TSC	.560	ZPSNM	8	C
46	137	.12	99	SVI		2	TSC	.31		0	.300	77	TSC	TSC	.560	ZPSNM	8	C
46	137			NDD									TEC	TEH	.560	RBART	65	H
46	137	.12	106	PID		2	TSC	.30					TSC	TSC	.560	ZPSNM	66	C
ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	I	CRLEN	CEG	BEGT	ENDT	PDIA	PTYPE	CAL	L

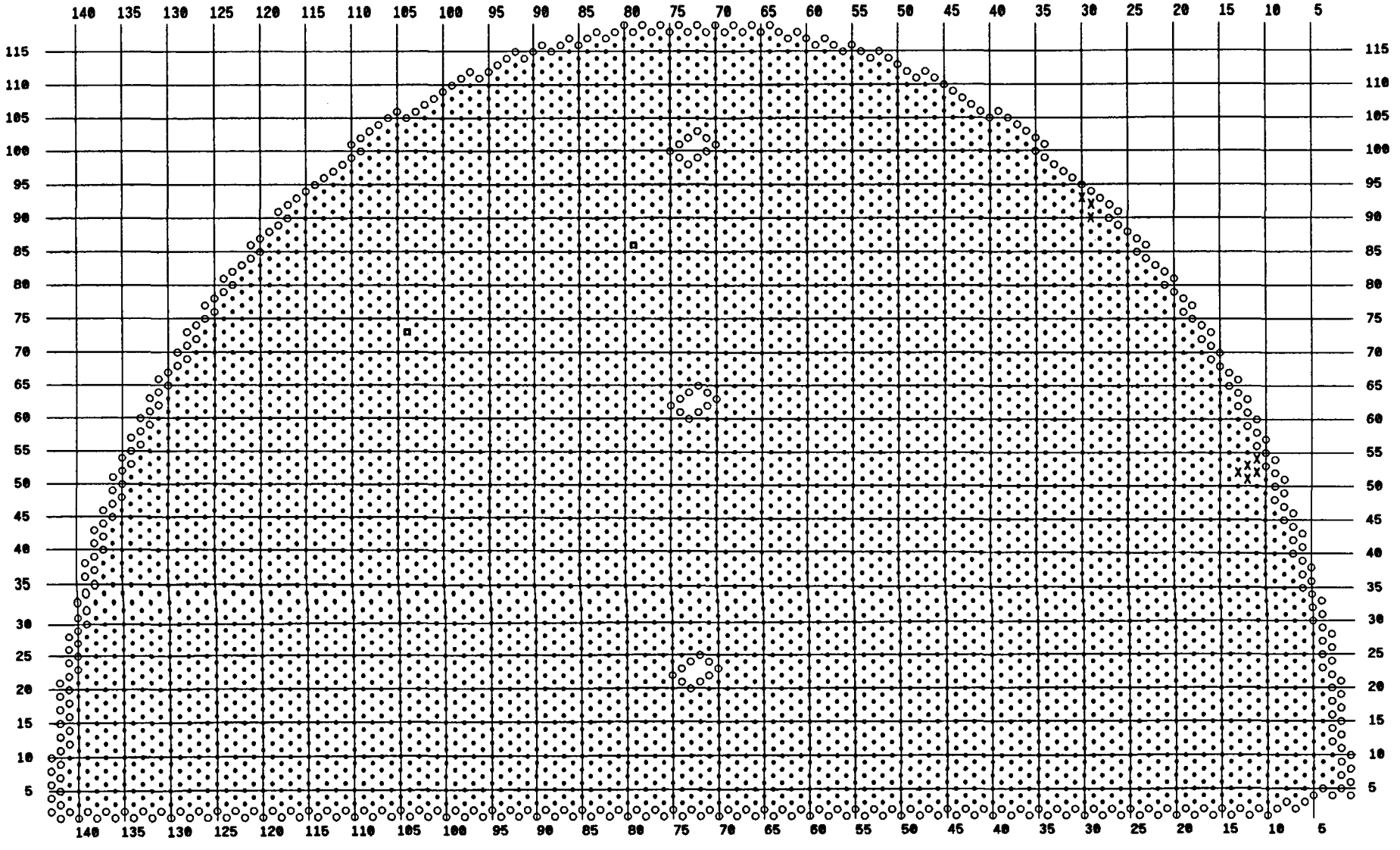
Tubes: 7 Records: 29

SG - B TUBES DAMAGED BY FOREIGN OBJECTS

Braidwood A1R10 CCE 7720

X 8 TUBE DAMAGED BY FOREIGN OBJECT AT HOT LEG TOP OF TUBESHEET

◘ 2 PLUGGED TUBE



SG - B Tubes Damaged By Foreign Objects

Braidwood 1 A1R10 CCE 20030401 04/25/2003 13:19:57

ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	I	CRLEN	CEG	BEGT	ENDT	PDIA	PTYPE	CAL	L
52	11	.15	137	DFI		1	TSH	.94					TEC	TEH	.560	RBART	5	H
52	11	.09	88	SVI		P1	TSH	.94					TSH	TSH	.560	ZPSNM	55	H
52	11	.08	86	PID		2	TSH	.94					TSH	TSH	.560	ZPSNM	59	H
52	11	.09	0	PCT	11	P1	TSH	1.39		0	.344	71	TSH	TSH	.560	ZPSNM	59	H
54	11			NDD									TEC	TEH	.560	RBART	5	H
54	11	.13	77	SVI		2	TSH	.87					TSH	TSH	.560	ZPSNM	61	H
54	11	.12	80	PID		2	TSH	.81					TSH	TSH	.560	ZPSNM	63	H
54	11	.13	0	PCT	13	2	TSH	.92		0	.310	63	TSH	TSH	.560	ZPSNM	63	H
51	12	.05	87	SVI		2	TSH	.95					TSH	TSH	.560	ZPSNM	61	H
51	12	.10	71	PID		2	TSH	1.03					TSH	TSH	.560	ZPSNM	63	H
51	12	.06	0	PCT	7	2	TSH	1.17		0	.311	40	TSH	TSH	.560	ZPSNM	63	H
53	12	.11	81	SVI		2	TSH	1.56					TSH	TSH	.560	ZPSNM	61	H
53	12	.12	0	PCT	12	2	TSH	1.50		0	.349	63	TSH	TSH	.560	ZPSNM	63	H
53	12	.10	71	PID		2	TSH	1.54					TSH	TSH	.560	ZPSNM	63	H
52	13			NDD									TEC	TEH	.560	RBART	5	H
52	13	.04	67	SVI		2	TSH	.34					TSH	TSH	.560	ZPSNM	61	H
52	13	.03	40	PID		2	TSH	.25					TSH	TSH	.560	ZPSNM	63	H
52	13	.03	0	PCT	4	2	TSH	.38		0	.156	31	TSH	TSH	.560	ZPSNM	63	H
90	29			NDD									TEC	TEH	.560	RBART	1	H
90	29	.05	106	SVI		P1	TSH	.23					TSH	TSH	.560	ZPSNM	65	H
90	29	.14	94	PLP		1	TSH	.26					TSH	TSH	.560	ZPSNM	65	H
90	29	.06	0	PCT	7	P1	TSH	.26		0	.288	85	TSH	TSH	.560	ZPSNM	65	H
90	29	.04	120	PID		P1	TSH	.23					TSH	TSH	.560	ZPSNM	67	H
92	29			NDD									TEC	TEH	.560	RBART	1	H
92	29	.05	91	SVI		P1	TSH	.60					TSH	TSH	.560	ZPSNM	65	H
92	29	.16	93	PLP		1	TSH	.64					TSH	TSH	.560	ZPSNM	65	H
92	29	.17	0	PCT	17	P1	TSH	.75		0	.674	140	TSH	TSH	.560	ZPSNM	65	H
92	29	.10	94	PID		P1	TSH	.60					TSH	TSH	.560	ZPSNM	67	H
93	30			NDD									TEC	TEH	.560	RBART	11	H
93	30	.06	0	PCT	7	P1	TSH	.49		0	.249	85	TSH	TSH	.560	ZPSNM	65	H
93	30	.14	87	PLP		1	TSH	.55					TSH	TSH	.560	ZPSNM	65	H
93	30	.06	87	SVI		P1	TSH	.55					TSH	TSH	.560	ZPSNM	65	H
93	30	.09	98	PID		P1	TSH	.55					TSH	TSH	.560	ZPSNM	67	H
ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	I	CRLEN	CEG	BEGT	ENDT	PDIA	PTYPE	CAL	L

Tubes: 8 Records: 33

Attachment B.4

Tubes Containing Fan Bar Wear

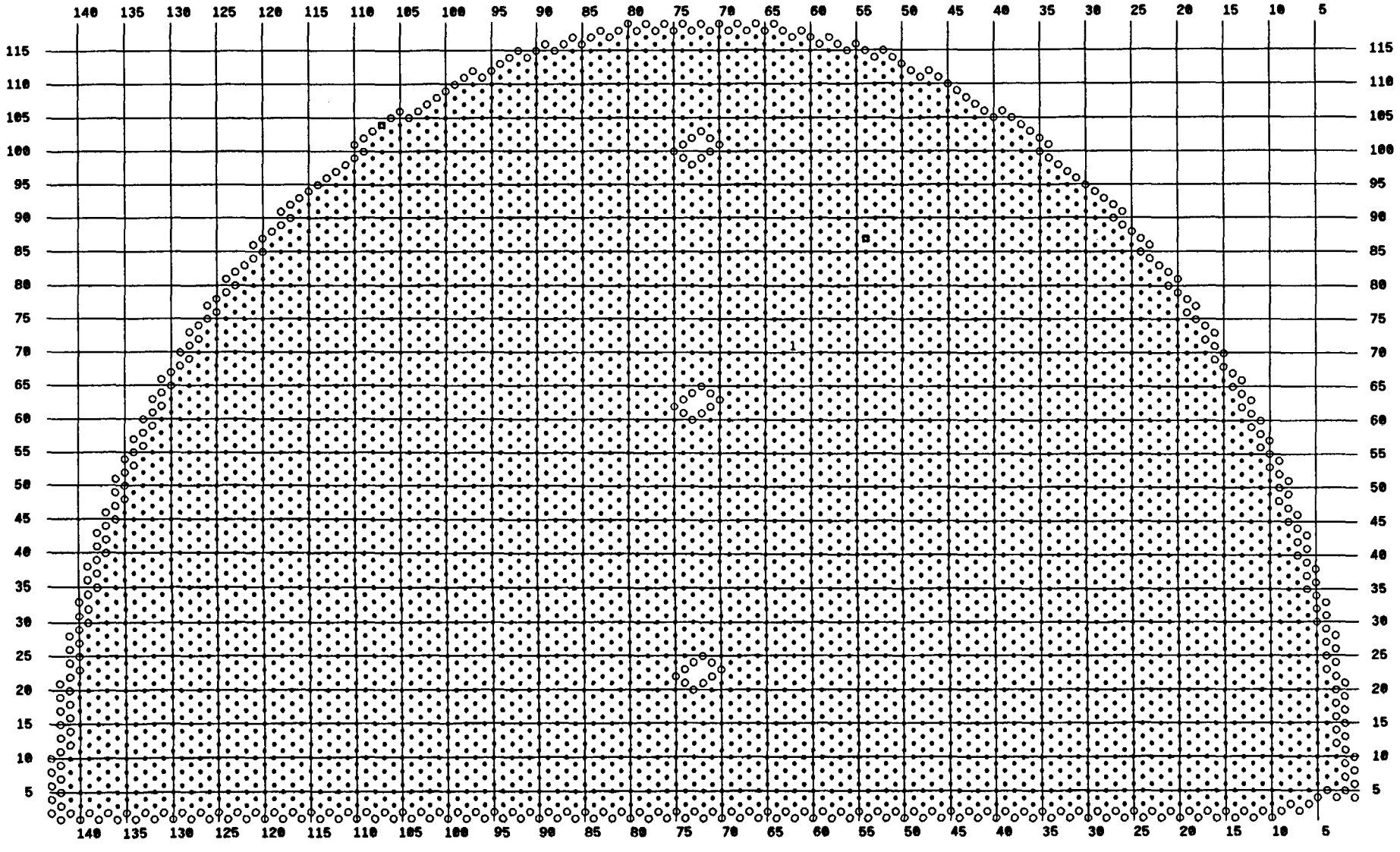
SG - A FAN BAR WEAR INDICATIONS

MOST SEVERE INDICATION PER TUBE

Braidwood A1R10 CCE 7720

1 1 INDICATION 1 TO 19 PERCENT

▫ 2 PLUGGED TUBE



Westinghouse Electric Company LLC - NSBU ST2000 04/25/2003 11:05:52

SG - A Fan Bar Wear Indications

Braidwood 1 A1R10 CCE 20030401 04/25/2003 09:50:31

ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L
71	62	.21	0	PCT	7	P2	F04	-1.95		TEH	TEC	.560	RBART	28	C

| ROW | COL | VOLTS | DEG | IND | PER | CHN | LOCN | INCH1 | INCH2 | BEGT | ENDT | PDIA | PTYPE | CAL | L |

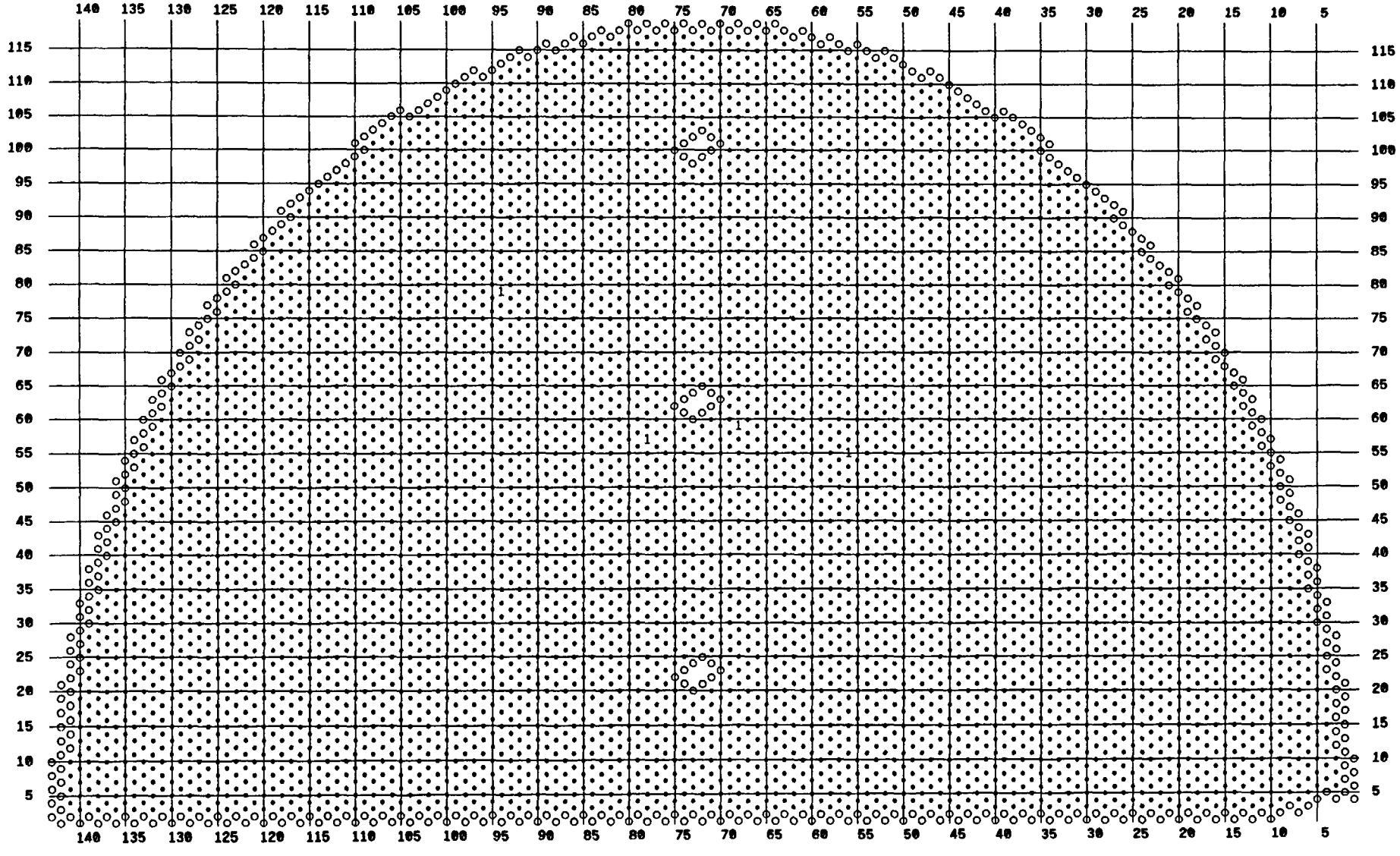
Tubes: 1 Records: 1

SG - C FAN BAR WEAR INDICATIONS

MOST SEVERE INDICATION PER TUBE

Braidwood A1R10 CCE 7720

1 5 INDICATION 1 TO 19 PERCENT



SG - C Fan Bar Wear Indications

Braidwood 1 A1R10 CCE 20030401 04/25/2003 16:15:18

ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L
55	56	.47	0	PCT	10	P2	F05	1.61		TEH	TEC	.560	RBART	22	C
55	56	.30	86	VOL		1	F05	1.64		09C	F04	.520	ZPUEF	44	C
59	68	.21	0	PCT	5	P2	F05	1.05		TEH	TEC	.560	RBART	22	C
59	68	.17	131	VOL		1	F05	.87		09C	F03	.520	ZPUEF	44	C
35	70	.04	251	MBM		6	TSH	12.60		TEH	TEC	.560	RBART	20	C
35	70	.24	0	PCT	6	P2	F05	1.49		TEH	TEC	.560	RBART	20	C
35	70	.20	110	VOL		1	F05	1.53		09C	F04	.520	ZPUEF	44	C
57	78	.42	0	PCT	9	P2	F06	.68		TEC	TEH	.560	RBART	23	H
57	78	.29	103	VOL		1	F06	.99		09C	F04	.520	ZPUEF	44	C
79	94	.45	0	PCT	8	P2	F06	-1.09		TEC	TEH	.560	RBART	21	H
79	94	.39	96	VOL		1	F06	-1.14		09C	F05	.520	ZPUEF	44	C

| ROW | COL | VOLTS | DEG | IND | PER | CHN | LOCN | INCH1 | INCH2 | BEGT | ENDT | PDIA | PTYPE | CAL | L |

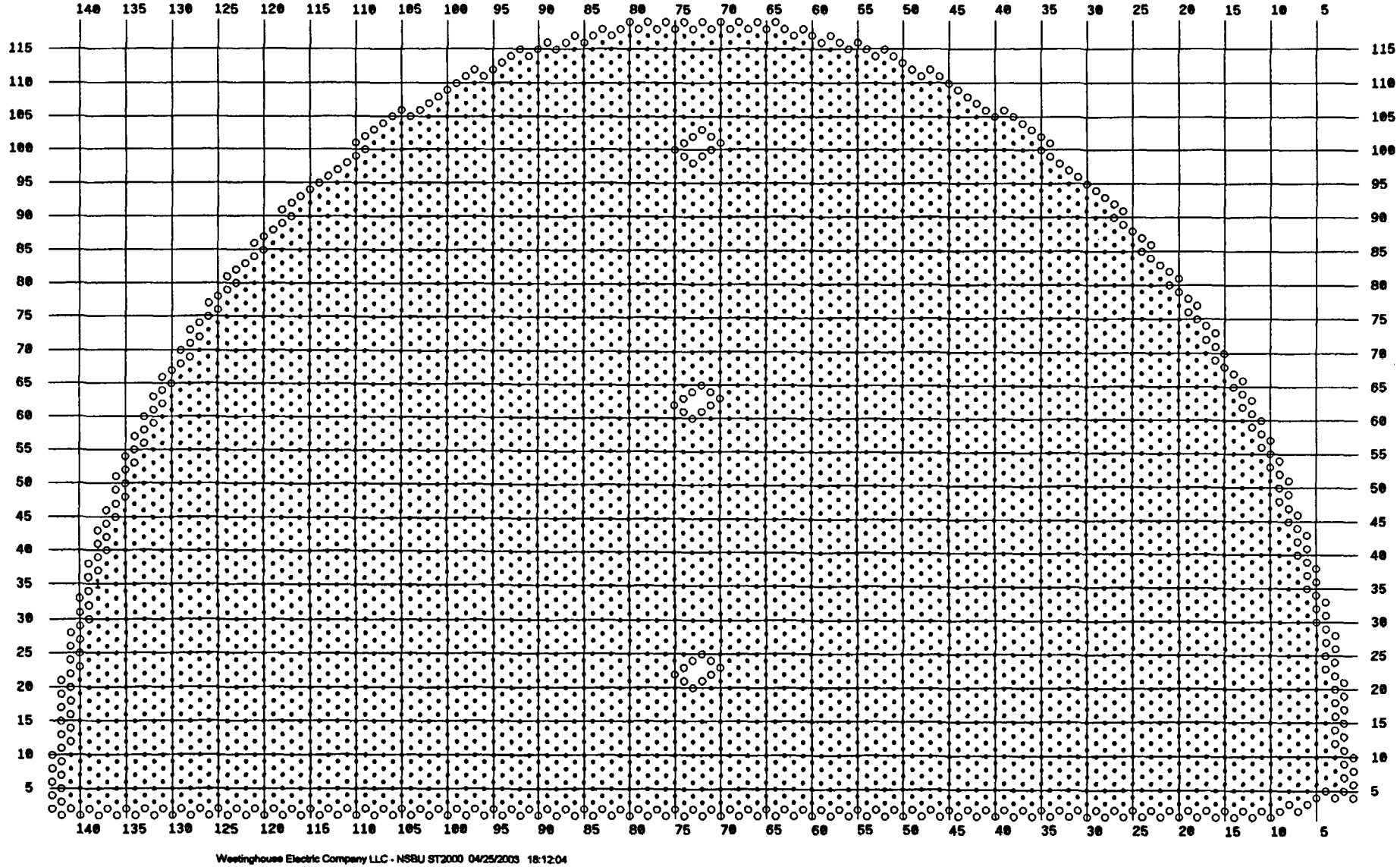
Tubes: 5 Records: 11

SG - D FAN BAR WEAR INDICATIONS

MOST SEVERE INDICATION PER TUBE

Braidwood A1R10 CCE 7720

1 1 INDICATION 1 TO 19 PERCENT



Westinghouse Electric Company LLC - NSBU ST2000 04/25/2003 18:12:04

SG - D Fan Bar Wear Indications

Braidwood 1 A1R10 CCE 20030401 04/25/2003 18:06:26

ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L
35	138	.19	0	PCT	7	P2	F05	1.39		TEH	TEC	.560	RBART	54	C
35	138	.19	94	VOL		1	F05	1.58		F05	09C	.520	ZPUEF	72	C

ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L

Tubes: 1 Records: 2

Attachment B.5

Tubes Containing Lattice Grid Wear

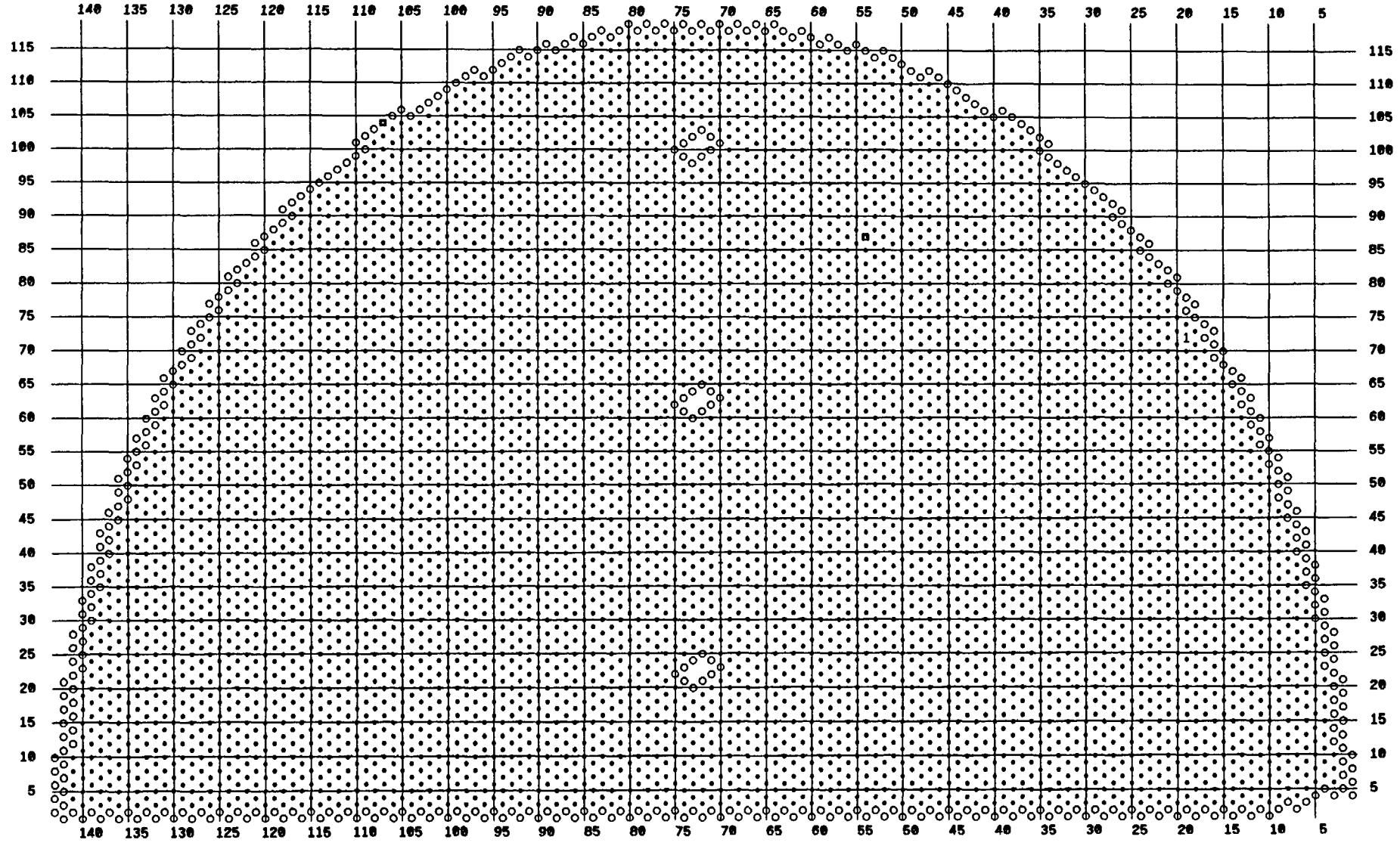
SG - A LATTICE GRID WEAR INDICATIONS

MOST SEVERE INDICATION PER TUBE

Braidwood A1R10 CCE 7720

1 2 INDICATION 1 TO 19 PERCENT

▫ 2 PLUGGED TUBE



SG - A Lattice Grid Wear Indications

Braidwood 1 A1R10 CCE 20030401 04/25/2003 09:49:02

ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L
72	19	.17	0	PCT	5	P2	05H	.36		TEH	TEC	.560	RBART	48	C
39	70	.45	0	PCT	12	P2	01H	-1.59		TEH	TEC	.560	RBART	62	C

ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L

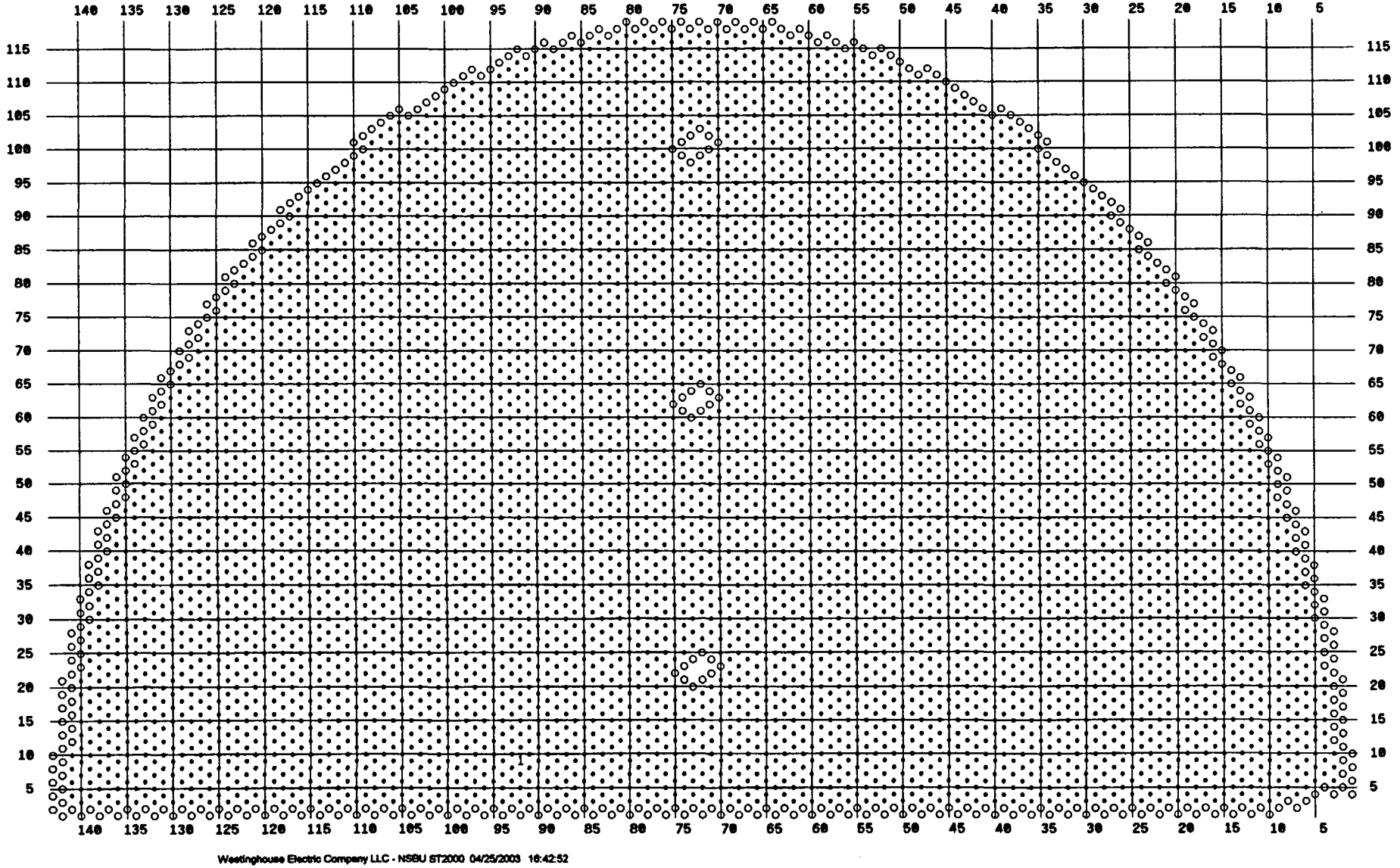
Tubes: 2 Records: 2

SG - C LATTICE GRID WEAR INDICATIONS

MOST SEVERE INDICATION PER TUBE

Braidwood A1R10 CCE 7720

1 2 INDICATION 1 TO 19 PERCENT



SG - C Lattice Grid Wear Indications

Braidwood 1 A1R10 CCE 20030401 04/25/2003 16:20:35

ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L
69	50	.29	0	PCT	6	P2	04H	-1.81		TEH	TEC	.560	RBART	24	C
69	50	.08	90	VOL		P1	04H	-1.66		04H	04H	.560	ZPSNM	53	H
9	92	.36	0	RWS		P2	05C	-1.61		09H	TEC	.540	RBART	2	C
9	92			NDD						09H	TEH	.560	RBART	3	H
9	92	.29	0	PCT	6	P2	05C	-1.55		09C	TEC	.560	RBART	38	C
9	92	.08	120	VOL		2	05C	-1.46		05C	05C	.560	ZPSNM	42	C
ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L

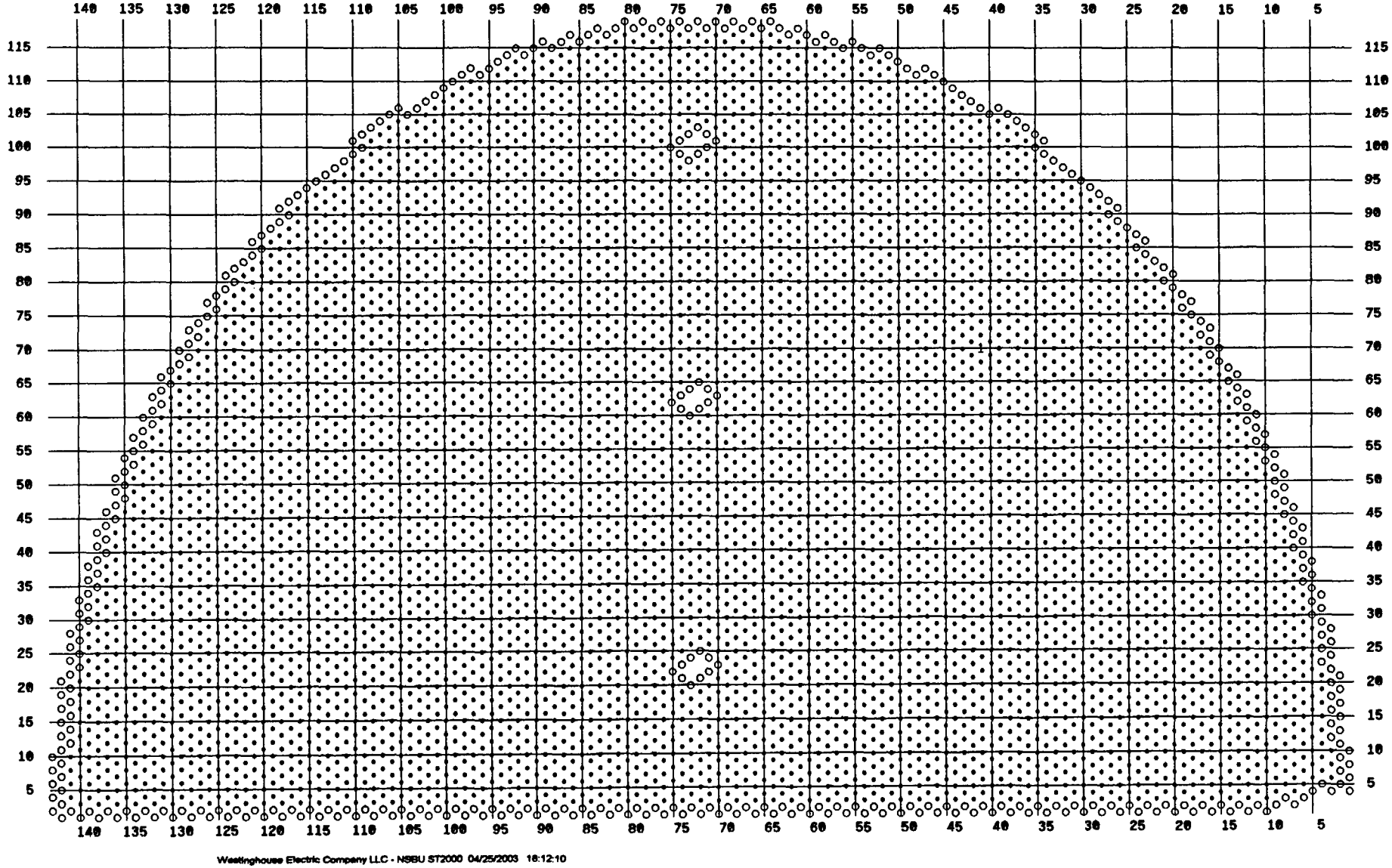
Tubes: 2 Records: 6

SG - D LATTICE GRID WEAR INDICATIONS

MOST SEVERE INDICATION PER TUBE

Braidwood A1R10 CCE 7720

1 1 INDICATION 1 TO 19 PERCENT



SG - D Lattice Grid Wear Indications

Braidwood 1 A1R10 CCE 20030401 04/25/2003 18:07:33

ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L
70	41	.26	0	PCT	6	P2	02H	-1.57		TEC	TEH	.560	RBART	33	H
70	41	.25	78	VOL		2	02H	-1.64		02H	02H	.560	ZPSNM	53	H
ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L

Tubes: 1 Records: 2

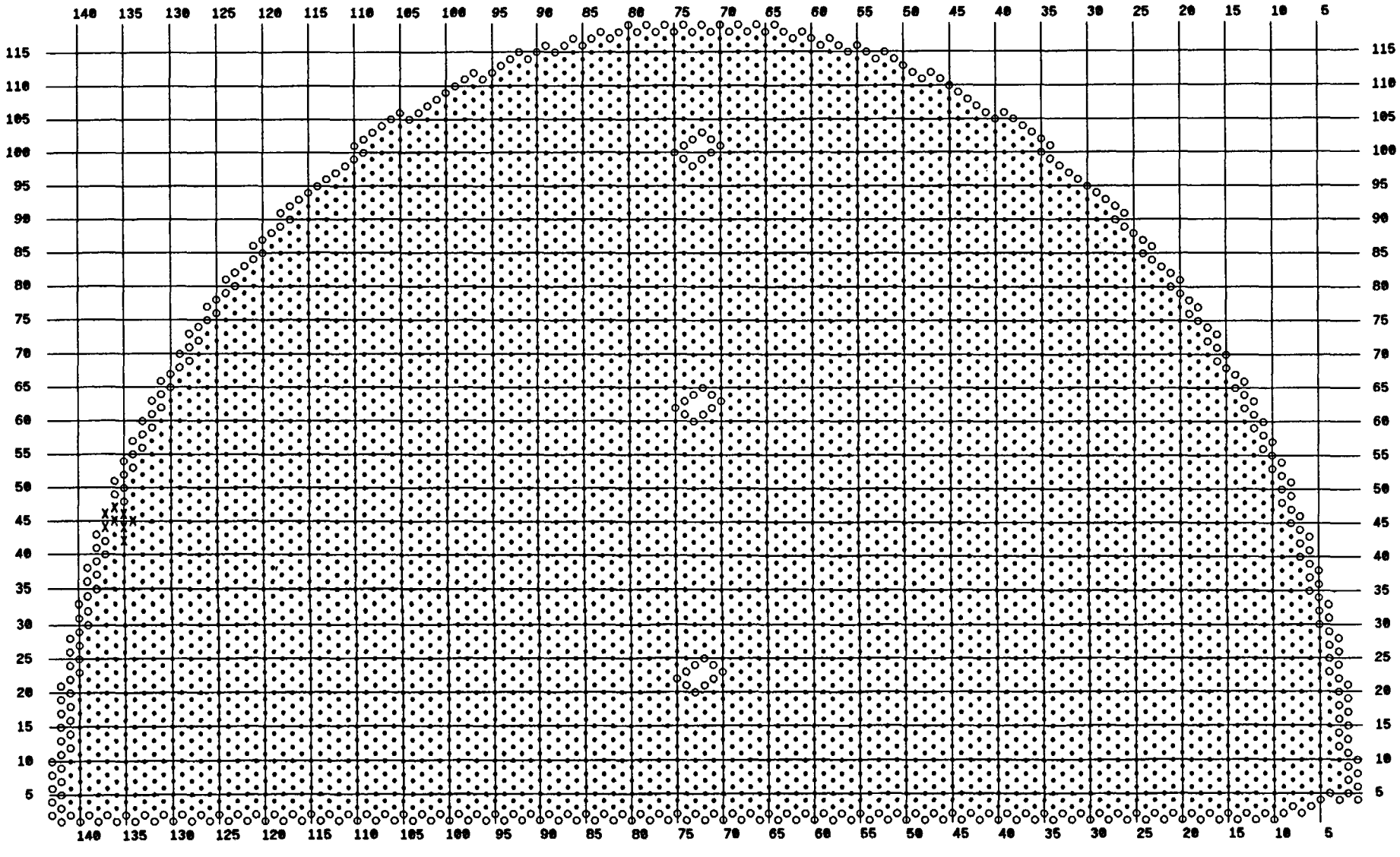
Attachment B.6

Tubes Repaired During A1R10

SG - A TUBES REPAIRED DURING A1R10

Braidwood A1R10 CCE 7720

X 8 TUBE STABILIZED AND PLUGGED
IN THE COLD LEG; PLUGGED IN
THE HOT LEG



Westinghouse Electric Company LLC - NSBU ST2000 04/25/2003 00:54:21

SG - A Tubes Repaired During A1R10

Braidwood 1 A1R10 CCE 20030401 04/25/2003 10:42:26

ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L
45	134			NDD						TEC	TEH	.560	RBART	3	H
45	134	.14	107	SVI		P1	TSC	.10		TSC	TSC	.560	ZPSNM	8	C
45	134	.15	0	PCT	15	2	TSC	.28		TSC	TSC	.560	ZPSNM	8	C
45	134	.13	106	PID		P1	TSC	.19		TSC	TSC	.560	ZPSNM	66	C
42	135	.28	0	PCT	25	2	TSC	.48		TSC	TSC	.560	ZPSNM	8	C
42	135	.27	98	SVI		P1	TSC	.49		TSC	TSC	.560	ZPSNM	8	C
42	135	.26	120	DTI		P1	TSC	.56		TEC	TEH	.560	RBART	65	H
42	135	.24	100	PID		P1	TSC	.60		TSC	TSC	.560	ZPSNM	66	C
44	135	1.61	113	DTI		P1	TSC	.31		TEC	TEH	.560	RBART	3	H
44	135	.76	82	SVI		P1	TSC	.26		TSC	TSC	.560	ZPSNM	8	C
44	135	.75	0	PID		2	TSC	.31		TSC	TSC	.560	ZPSNM	8	C
44	135	.70	0	PCT	48	2	TSC	.37		TSC	TSC	.560	ZPSNM	8	C
46	135			NDD						TEC	TEH	.560	RBART	3	H
46	135	.11	97	SVI		2	TSC	.23		TSC	TSC	.560	ZPSNM	8	C
46	135	.11	0	PCT	12	2	TSC	.23		TSC	TSC	.560	ZPSNM	8	C
46	135	.11	95	PID		P1	TSC	.23		TSC	TSC	.560	ZPSNM	66	C
45	136			NDD						TEC	TEH	.560	RBART	3	H
45	136	.21	0	PCT	20	2	TSC	.09		TSC	TSC	.560	ZPSNM	8	C
45	136	.21	115	SVI		2	TSC	.15		TSC	TSC	.560	ZPSNM	8	C
45	136	.18	115	PID		P1	TSC	.10		TSC	TSC	.560	ZPSNM	66	C
47	136			TBP						TEC	TEH	.560	RBART	3	H
47	136			NDD						TSC	TSC	.560	ZPSNM	8	C
44	137			NDD						TEC	TEH	.560	RBART	3	H
44	137	.04	105	SVI		2	TSC	.14		TSC	TSC	.560	ZPSNM	8	C
44	137	.04	0	PCT	5	2	TSC	.15		TSC	TSC	.560	ZPSNM	8	C
44	137	.04	101	PID		P1	TSC	.13		TSC	TSC	.560	ZPSNM	66	C
46	137			NDD						TEC	TSH	.560	RBART	3	H
46	137	.14	0	PCT	14	2	TSC	.28		TSC	TSC	.560	ZPSNM	8	C
46	137	.12	99	SVI		2	TSC	.31		TSC	TSC	.560	ZPSNM	8	C
46	137			NDD						TEC	TEH	.560	RBART	65	H
46	137	.12	106	PID		2	TSC	.30		TSC	TSC	.560	ZPSNM	66	C

ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L

Tubes: 8 Records: 31

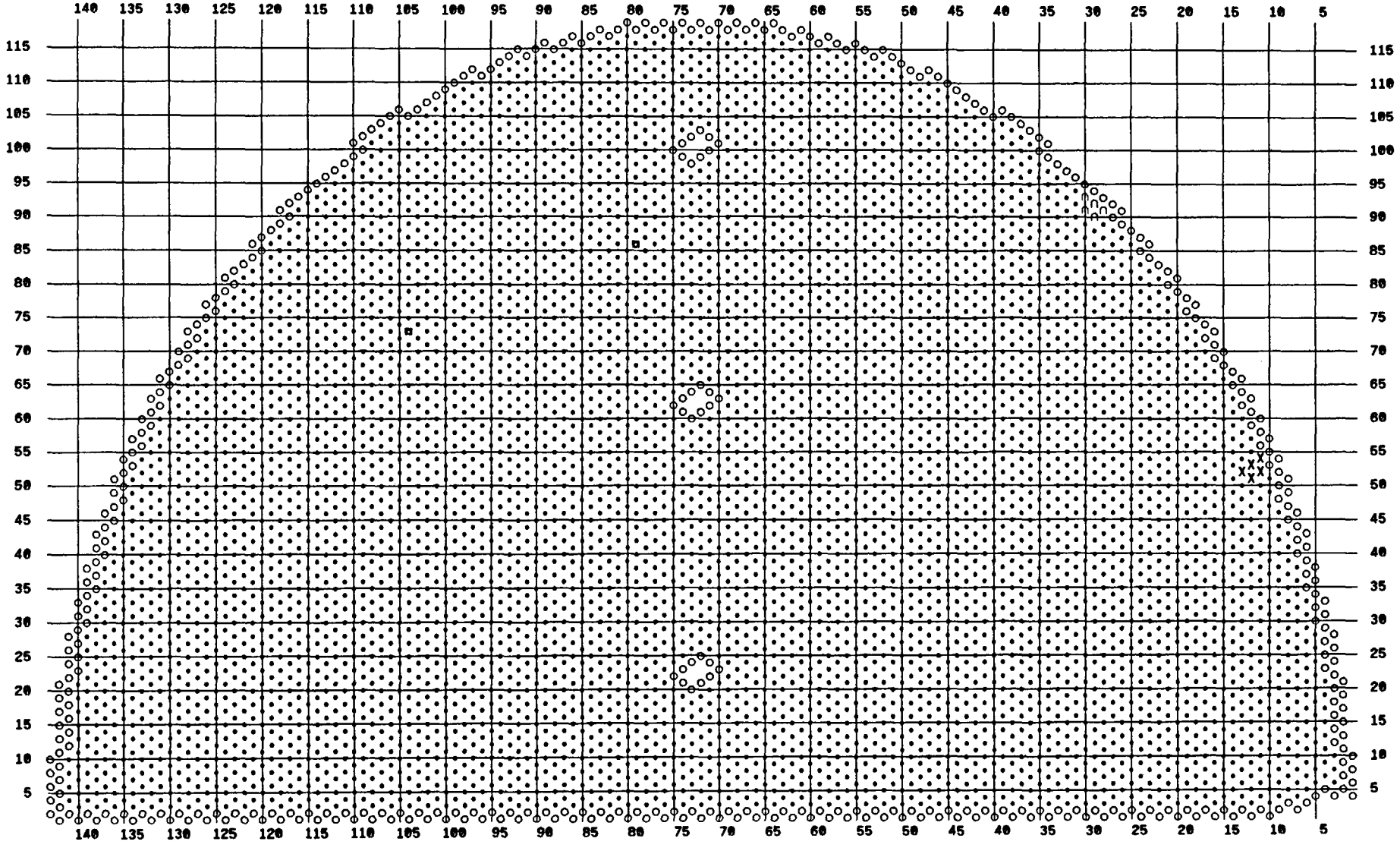
SG - B TUBES REPAIRED DURING A1R10

Braidwood A1R10 CCE 7720

∩ 5 TUBE STABILIZED AND PLUGGED IN THE HOT LEG; PLUGGED IN THE COLD LEG

X 5 TUBE PLUGGED IN BOTH LEGS

◘ 2 EXISTING PLUGGED TUBE



SG - B Tubes Repaired During A1R10

Braidwood 1 A1R10 CCE 20030401 04/25/2003 14:07:54

ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	I	CRLEN	CEG	BEGT	ENDT	PDIA	PTYPE	CAL	L
52	11	.15	137	DFI		1	TSH	.94					TEC	TEH	.560	RBART	5	H
52	11	.09	88	SVI		P1	TSH	.94					TSH	TSH	.560	ZPSNM	55	H
52	11	.08	86	PID		2	TSH	.94					TSH	TSH	.560	ZPSNM	59	H
52	11	.09	0	PCT	11	P1	TSH	1.39		0	.344	71	TSH	TSH	.560	ZPSNM	59	H
54	11			NDD									TEC	TEH	.560	RBART	5	H
54	11	.13	77	SVI		2	TSH	.87					TSH	TSH	.560	ZPSNM	61	H
54	11	.12	80	PID		2	TSH	.81					TSH	TSH	.560	ZPSNM	63	H
54	11	.13	0	PCT	13	2	TSH	.92		0	.310	63	TSH	TSH	.560	ZPSNM	63	H
51	12	.05	87	SVI		2	TSH	.95					TSH	TSH	.560	ZPSNM	61	H
51	12	.10	71	PID		2	TSH	1.03					TSH	TSH	.560	ZPSNM	63	H
51	12	.06	0	PCT	7	2	TSH	1.17		0	.311	40	TSH	TSH	.560	ZPSNM	63	H
53	12	.11	81	SVI		2	TSH	1.56					TSH	TSH	.560	ZPSNM	61	H
53	12	.12	0	PCT	12	2	TSH	1.50		0	.349	63	TSH	TSH	.560	ZPSNM	63	H
53	12	.10	71	PID		2	TSH	1.54					TSH	TSH	.560	ZPSNM	63	H
52	13			NDD									TEC	TEH	.560	RBART	5	H
52	13	.04	67	SVI		2	TSH	.34					TSH	TSH	.560	ZPSNM	61	H
52	13	.03	40	PID		2	TSH	.25					TSH	TSH	.560	ZPSNM	63	H
52	13	.03	0	PCT	4	2	TSH	.38		0	.156	31	TSH	TSH	.560	ZPSNM	63	H
91	28			NDD									TEC	TEH	.560	RBART	7	H
91	28			NDD									TSH	TSH	.560	ZPSNM	65	H
91	28			TBP									TSH	TSH	.560	ZPSNM	65	H
90	29			NDD									TEC	TEH	.560	RBART	1	H
90	29	.05	106	SVI		P1	TSH	.23					TSH	TSH	.560	ZPSNM	65	H
90	29	.14	94	PLP		1	TSH	.26					TSH	TSH	.560	ZPSNM	65	H
90	29	.06	0	PCT	7	P1	TSH	.26		0	.288	85	TSH	TSH	.560	ZPSNM	65	H
90	29	.04	120	PID		P1	TSH	.23					TSH	TSH	.560	ZPSNM	67	H
92	29			NDD									TEC	TEH	.560	RBART	1	H
92	29	.05	91	SVI		P1	TSH	.60					TSH	TSH	.560	ZPSNM	65	H
92	29	.16	93	PLP		1	TSH	.64					TSH	TSH	.560	ZPSNM	65	H
92	29	.17	0	PCT	17	P1	TSH	.75		0	.674	140	TSH	TSH	.560	ZPSNM	65	H
92	29	.10	94	PID		P1	TSH	.60					TSH	TSH	.560	ZPSNM	67	H
91	30			TBP									TSH	TSH	.560	ZPSNM	65	H
91	30			NDD									TSH	TSH	.560	ZPSNM	65	H
93	30			NDD									TEC	TEH	.560	RBART	11	H
93	30	.06	0	PCT	7	P1	TSH	.49		0	.249	85	TSH	TSH	.560	ZPSNM	65	H
93	30	.06	87	SVI		P1	TSH	.55					TSH	TSH	.560	ZPSNM	65	H
93	30	.14	87	PLP		1	TSH	.55					TSH	TSH	.560	ZPSNM	65	H
93	30	.09	98	PID		P1	TSH	.55					TSH	TSH	.560	ZPSNM	67	H

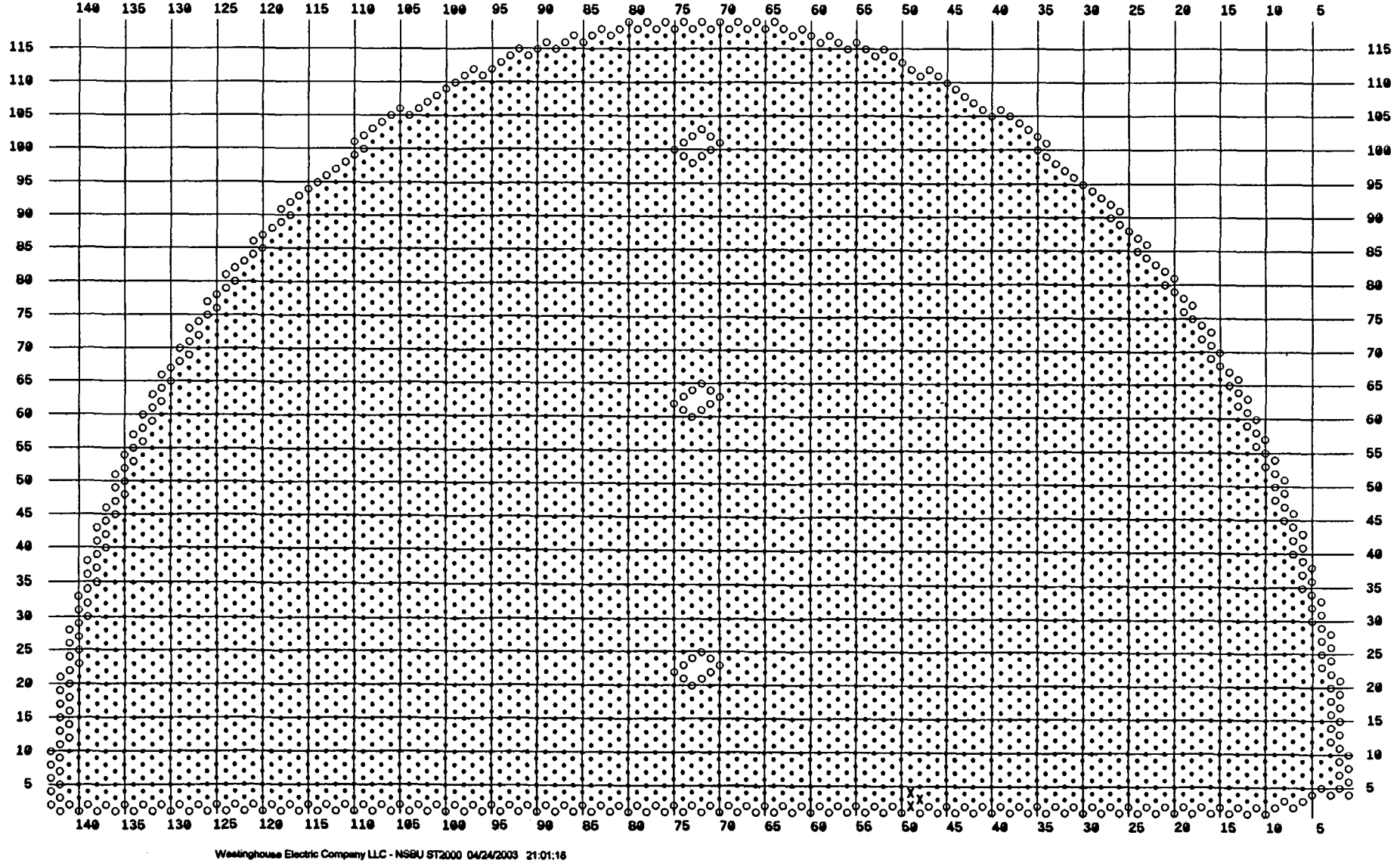
| ROW | COL | VOLTS | DEG | IND | PER | CHN | LOCN | INCH1 | INCH2 | I | CRLEN | CEG | BEGT | ENDT | PDIA | PTYPE | CAL | L |

Tubes: 10 Records: 38

SG - C TUBES REPAIRED DURING A1R10

Braidwood A1R10 CCE 7720

X 3 TUBE STABILIZED AND PLUGGED
IN THE HOT LEG; PLUGGED IN
THE COLD LEG

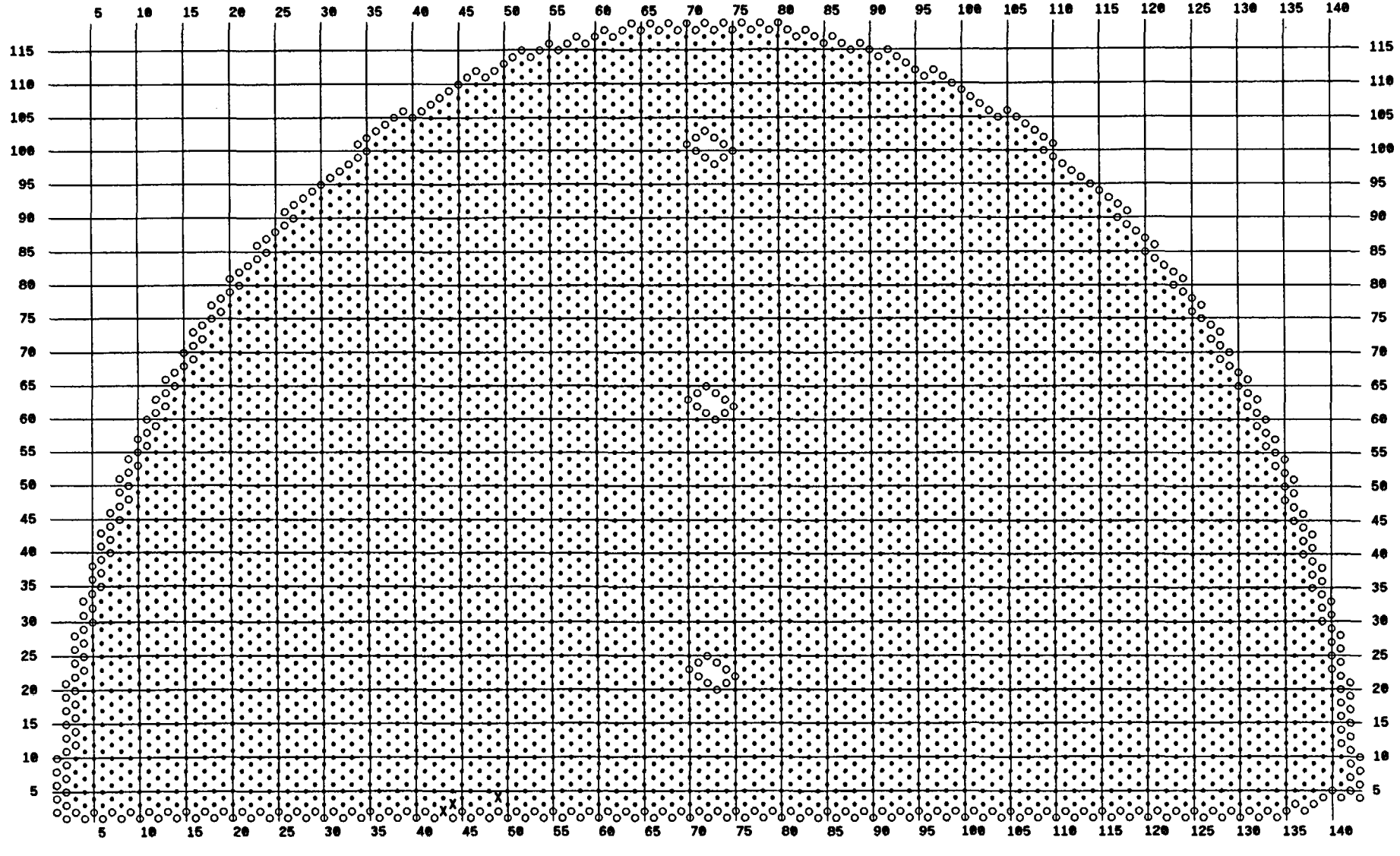


SG - C TUBES REPAIRED DURING A1R10

COLD LEG PERSPECTIVE

Braidwood A1R10 CCE 7720

X 3 TUBE STABILIZED AND PLUGGED
IN THE HOT LEG AND PLUGGED IN
THE COLD LEG DURING A1R10



SG - C Tubes Repaired During A1R10

Braidwood 1 A1R10 CCE 20030401 04/25/2003 16:57:12

ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L
3	48			NDD						09H	TEC	.540	RBART	12	C
3	48			NDD						09H	TEH	.560	RBART	37	H
3	48	.12	238	PLP		7	TSH	.21		TSH	TSH	.560	ZPSNM	57	H
3	48			TBP						TSH	TSH	.560	ZPSNM	59	H
3	48	.11	111	PID		2	TSH	.21		TSH	TSH	.560	ZPSNM	59	H
2	49			NDD						09H	TEC	.540	RBART	10	C
2	49			NDD						09H	TEH	.560	RBART	41	H
2	49	.04	224	PLP		7	TSH	.07		TSH	TSH	.560	ZPSNM	57	H
2	49			TBP						TSH	TSH	.560	ZPSNM	59	H
2	49	.03	106	PID		2	TSH	.18		TSH	TSH	.560	ZPSNM	59	H
4	49	.11	235	PLP		7	TSH	.07		TSH	TSH	.560	ZPSNM	57	H
4	49			TBP						TSH	TSH	.560	ZPSNM	59	H
4	49	.09	122	PID		2	TSH	.28		TSH	TSH	.560	ZPSNM	59	H

ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L

Tubes: 3 Records: 13