Dominion Nuclear Connecticut, Inc.
Millstone Power Station
Rope Ferry Road
Waterford, CT 06385

Dominion

FEB 26 2004

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

Serial No.	04-105
MPS Lic/MAE	R0
Docket Nos.	50-336
	50-423
License Nos.	DPR-65
	NPF-49

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNITS 2 AND 3
TECHNICAL SPECIFICATIONS ANNUAL REPORT

Pursuant to the provisions of Sections 6.9.1.4 and 6.9.1.5 of the Millstone Unit 2 Technical Specifications, and Section 6.9.1.2 of the Millstone Unit 3 Technical Specifications (TS), this report covers unit activities for the period January 1, 2003, to December 31, 2003.

The results of the steam generator tube inservice inspections performed at Millstone Unit 2 in 2003 are included as Enclosure 1. (Millstone Unit 2 TS 6.9.1.5.b)

There were no exceedances of Technical Specification 3.4.8 at Millstone Units 2 or 3 in 2003, therefore, there is no report to be made on reactor coolant specific activity analysis. (Millstone Unit 2 TS 6.9.1.5.c and Millstone Unit 3 TS 6.9.1.2.b)

There were no challenges to pressurizer power-operated relief valves or safety valves at Units 2 or 3 in 2003, nor any failures of these valves to lift or reclose within design basis tolerances. (Millstone Unit 2 TS 6.9.1.5.d and Millstone Unit 3 TS 6.9.1.2.c)

There are no regulatory commitments contained within this letter.

If you have any questions or require additional information, please contact Mr. David W. Dodson at (860) 447-1791, extension 2346.

Very truly yours,

J. Alan Price
Site Vice President - Millstone

A001
A047

Enclosures: (1)

Commitments made in this letter: None.

cc: U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Mr. D. G. Holland
Project Manager
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mail Stop 7E1
Rockville, MD 20852-2738

Mr. R. Prince
NRC Inspector
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Mr. V. Nerses
Senior Project Manager
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mail Stop 8C2
Rockville, MD 20852-2738

Mr. S. M. Schneider
NRC Senior Resident Inspector
Millstone Power Station

Enclosure 1

Millstone Unit 2
2003 Steam Generator Tube Inservice Inspection

Millstone Power Station Unit 2
Dominion Nuclear Connecticut, Inc. (DNC)

Steam Generator Tube Inspection

The Millstone Unit 2 steam generator eddy current inspections, conducted at the end of cycle 15, were completed on October 25, 2003. A synopsis of the completed examinations is contained in Table 1-"R15 Eddy Current Results".

After completion of four cycles of operation, with the new replacement steam generators, there are no indications of corrosion. The only significant indications have been mechanically induced wear flaws. R14 eddy current testing identified two tubes, in Steam Generator Number 1, with nine (9) percent throughwall fan bar wear. Similarly, R15 eddy current testing identified two tubes, in Steam Generator Number 2, with fan bar wear of six (6) and eleven (11) percent throughwall (see Table 2---"Fan Bar Wear"). Also, during R15, five tubes were identified with small volume, free span indications (i.e., 20 to 24 percent throughwall, as identified in Table 3---Tubes with Loose Parts and Indications).

All free span indications were within seven inches of the first tube support plate. A remote visual inspection confirmed the presence of foreign material at the identified locations. All the foreign material, at these locations, was removed by the Foreign Object Search and Retrieval (FOSAR) team. Since the degradation mechanism (i.e., foreign material) was removed, no further damage will occur. Consequently, upon completion of RF15, no steam generator tube repairs or tube plugging was required or performed.

The RF15 inspection included a one hundred percent bobbin probe examination, performed on all tubes in Steam Generator 2 (i.e., 8523). The subject bobbin inspections were performed full length (i.e., cold leg tube end to hot leg tube end), at speeds up to 38 inches per second. Rows 1-15 were tested at lower speeds (i.e., 24 inches per second).

Supplementing the bobbin inspection was an augmented inspection utilizing rotating probes. The augmented testing included:

- 140 examinations of historical sludge piles,
- 86 scheduled examinations in 74 tubes (i.e., HL and CL straight and fan bar exams),
- 37 locations of special interest (e.g., hot leg tube sheet areas, bulges, manufacturing burnish marks, dents, and dings), and
- 50 locations for potential loose parts.

The rotating probe utilized included a Plus Point Coil. The Plus Point Coil was chosen because this probe provides superior detection of both circumferential and axial cracks, and has been qualified per the PWR S/G Examination Guidelines, Appendix H, for the detection of cracking mechanisms.

In accordance with the standards established per NEI 97-06, "Steam Generator Program Guidelines", a Condition Monitoring and Operational Assessment (CMOA) of the Millstone Unit 2 Steam Generators was performed. This evaluation concluded that none of the steam generator performance criteria had been exceeded during cycle 15 operation. The evaluation also

established, with reasonable assurance, that operation of the steam generators throughout the interval preceding the next examination will not cause any of the performance criteria to be exceeded.

Table 1-R15 Eddy Current Results

	S/G 2
Number of Tubes (SG 2 Only	8523
Number of Tubes Inspected F/L w/Bobbin Probe	8523
Number of Tube Inspections w/MRPC (Total)	214
• Hot Leg Transitions - Original Scope	140
• Hot Leg Misc. Special Interest - Diagnostic Exams and from Previous History (tubes)	56
• Cold Leg Misc. Special Interest - Diagnostic Exams and from Previous History (tubes)	16
• U-bend Misc. Special Interest - Diagnostic Exams (tubes)	2
Tubes with Max Fan Bar Wear >= 40%	0
Tubes with Max Fan Bar Wear >= 20% but < 40%	0
Tubes with Max Fan Bar Wear <20%	2
Tubes with Max Volumetric Hot Leg >= 40%	0
Tubes with Max Volumetric Hot Leg >= 20% but < 40%	3
Tubes with Max Volumetric Hot Leg <20%	0
Tubes with Max Volumetric Cold Leg >= 40%	0
Tubes with Max Volumetric Cold Leg >= 20% but < 40%	2
Tubes with Max Volumetric Cold Leg <20%	0

Table 2---Fan Bar Wear

Row	Col	S/G	% Throughwall	Support Identifier	Inch from Support Ctr	Identified
40	155	1	9	F06	-1.74	R14
140	93	1	9	F08	-0.55	R14
37	120	2	6	F07	-0.81	R15
99	80	2	11	F06	1.26	R15

Table 3----Tubes with Loose Parts and Indications

Row	Col	S/G	Part Removed	Percent Throughwall	Support Identifier	Inches from Support Center	Identified
28	5	2	Yes	23	01C	-2.44	R15
59	10	2	Yes	21	01C	-6.69	R15
123	46	2	Yes	20	01H	-6.57	R15
125	48	2	Yes	24	01H	-4.96	R15
126	49	2	Yes	24	01H	-4.47	R15

Attachments

Attachment	Title
1	Designations and Acronyms
2	Tube Sheet Map and Listing - BLG Indications
3	Tube Sheet Map and Listing - DNG Indications
4	Tube Sheet Map and Listing - DNT Indications
5	Tube Sheet Map and Listing - DTS Indications
6	Tube Sheet Map and Listing – PLP Indications
7	Tube Sheet Map and Listing - LPI Indications
8	Tube Sheet Map and Listing - % TW FB Indications
9	Tube Sheet Map and Listing - % TW VOL Indications

Attachment 1
Designations and Acronyms

4. DEFINITIONS

Refer to Table 11-1 for additional acronym information and for a complete list of acronyms approved for use at Millstone Unit 2.

Absolute Drift Indication (ADI)

An indication which produces positive drifting on the vertical component of an absolute channel which may be caused by a flaw greater than or equal to 40 percent throughwall. Requires additional examinations to resolve to a nonpluggable status.

Absolute Drift Signal (ADS)

An indication which produces positive drifting on the vertical component of an absolute channel which either:

1) was believed to be caused by a flaw less than 40 percent throughwall, or

2) was originally reported as an ADI, resolved to a nonpluggable status by additional testing.

Base Frequency(ies)

Individual frequencies used to configure the test system. Any combination of these may be mixed during analysis to eliminate unwanted interference from signals generated from conditions such as copper deposits, support plates, roll transitions, etc.

Bulge Signal (BLG)

An expansion of the tube from the inside outward. They are, for the most part, horizontal in phase and initiate in an opposite direction to Dent signals.

Copper Deposit (CUD)

The presence of copper in the SG is due to the corrosion of copper-based materials within the balance-of-plant heat exchangers. Copper, when coupled with the appropriate secondary side chemistry environment, works to promote denting, cracking, and pitting.

Defect

An imperfection of such severity that it exceeds the plugging limit. A tube containing a defect is defective.

Degradation

Service-induced cracking, wastage, pitting, wear, or general corrosion occurring on either inside or outside of a tube.

Degraded Tube

A tube containing imperfections greater than or equal to 20 percent of the nominal wall thickness caused by degradation.

Denting

Plastic inward deformation of tubes typically resulting from the build-up of corrosion products (i.e., magnetite) in the tube-to-tube support annuli and at the top of the tubesheet.

Dent Signal (DNT)

A signal caused by a reduction of the nominal tube diameter, as occurs at tube supports or top of tubesheet which experience corrosion related denting. DNT signals start to the left on differential channels and to the right on absolute channels. DNT signals are, for the most part, horizontal in phase and initiate in an opposite direction to Bulge signals.

Deposit (DEP)

A build-up of material on the outside surface of the tube. This condition can occur at any location along the tube length.

Ding Signal (DNG)

A signal caused by a reduction of the nominal tube diameter resulting from impact or kinking during SG fabrication or operation.

Distorted Dent Signal, History (DDH)

An indication originally reported as DDI and resolved to a non-repairable status by historical review. Location and extent are required.

Distorted Indication (DDI, DEI, DSI, DTI)

An indication that has poor depth correlation and definition, located:

1) at a dent (DDI)

2) at an expansion transition, i.e. TSH or TSC (DEI)

3) at a tube support (DSI), or

4) at the top of or within the tubesheet (DTI).

Additional examinations or a review of historical data are required to resolve a Distorted Indication to a nonrepairable status.

Distorted Signals (DDS, DES, DSS, DTS)

An indication originally reported as a distorted indication ('I' code) and resolved to a nonrepairable status by either a review of historical data or additional examinations. These calls shall be made by the Resolution Analyst.

(Original Call)	(Resolved Call)
DDI	DDS
DEI	DES
DSI	DSS
DTI	DTS

Fan Bar Assembly

Name given to the twelve upper supports which stabilize the bend region of the Millstone Unit 2 SG tubes (i.e., F01, F02,...F12).

Fan Bar, Lattice Support, and Foreign Object Wear

This designation is used to describe thinning of the tube wall from the outside surface caused from the mechanical vibration of the fan bar, lattice support, or foreign object vibrating against the tube causing wear.

Final Report

The report produced by each data analyst that provides the results of the data analysis for each tube examined.

Flaw

A condition which represents a deviation from the as-designed structure. Flaw conditions can be created during manufacturing, transportation, installation, and service. Many common flaws are not considered "defects" requiring repair or removal from service, but their indication signals may require measurement such that changes or growth can be monitored as a preventative maintenance measure.

"I" Codes

Three-letter acronyms ending with "I" used to report distorted or nonquantifiable indications which may be caused by a flaw equal to or greater than 40 percent throughwall.

Imperfection

An exception to the dimensions, finish or contour of a tube from that required by fabrication drawing or specifications. Eddy-current testing indications below 20 percent of the nominal tube wall thickness, if detectable, may be considered as imperfections.

Incomplete Test

The condition when a tube or tubes are not inspected to the predetermined extent as stated in the approved inspection program for a given outage.

Inside Diameter Chatter Signal (IDC)

Chatter signals can occur in a tube at any location and typically appear as uniform horizontal noise signals.

Intergranular Attack

This is a general term denoting the corrosive attack of material grain boundaries with no preferential (stress-related) orientation.

Lattice Grid

The name given to the tube supports which are made up of interlocking type 410 S stainless steel strips.

Lead Analyst Resolution (LAR)

LAR is a reporting acronym used by the Analyst to identify an indication which is not specifically addressed by the reference manual. A Resolution Analyst will review the data and change the LAR to an appropriate call.

Magnetite

Carbon steel corrosion products.

Manufacturing Buff Marks (MBM)

MBMs typically occur on the OD of tubing and are induced during the manufacturing process as a result of polishing or grinding operations. MBMs can occur anywhere in the tube and typically have a strong absolute coil response.

No Detectable Degradation (NDD)

Defines the tube as having no signal responses which meet the minimum reporting criteria for indications established by the analysis reference manual.

Nonquantifiable Indication (NQI)

An indication which does not meet the location requirements to be defined as a distorted indication, yet has poor depth correlation and definition which may be caused by a flaw greater than or equal to 40 percent throughwall. Additional examinations or a review of historical data are required to resolve a nonquantifiable indication to a nonrepairable status.

Nonquantifiable Signal (NQS)

An indication, originally reported as an NQI by the Resolution Analyst, resolved to a nonrepairable status by additional examinations. This call shall be made by the Resolution Analyst only.

Nonquantifiable Signal, History (NQH)

An indication, originally reported as an NQI, resolved to a nonrepairable status by historical review. Location and extent are required.

Obstructed Tube (OBS)

This designation is given to a tube which will not allow a defined minimum size probe to pass to a given location. Tubes which contain obstructions in the straight section of tube in the channel head of probe entry will be removed from service.

Over Expansion (OXP)

An area of the tube which is hydraulically expanded:

1) 1) more than 0.2 inches above the top of the tubesheet, or

2) 2) more than 0.020 inches greater than the diameter of the unexpanded portion of the tube.

Note: Since an over expansion is caused by the tube installation process, OXPs need only be reported in the baseline examination.

Percent Degradation

The percentage of the tube wall thickness affected or removed by degradation.

Permeability Variation (PVN)

Permeability describes the intrinsic property of material to conduct magnetic flux lines. Signals, due to permeability variations (PVN), may go up or down first and typically do not show normal phase correlation between the different frequencies as would degradation. Most PVN indications can be eliminated by the use of magnetically biased test probes.

Pitting

Localized attack on tubing resulting from non-uniform corrosion rates caused by the formation of local corrosion cells.

Plugging Limit

The imperfection depth at or beyond which the tube shall be removed from service. The tube plugging limit shall be equal to 40 percent of the nominal tube wall thickness.

Retest

The Data Analyst may request a retest of a tube if it is felt that such a test would provide additional information necessary to assess the condition of the tube. Retests may be requested for conditions such as lower than acceptable signal-to-noise ratios or incomplete tests. Tubes assigned a 3-letter reporting acronym beginning with "R" will be scheduled for a retest. Additional retest instructions to be used by the Data Quality Verification Operator are listed in Attachment 1.

Retest-Bad Data (RBD)

This designation is used when data quality is unacceptable and prohibits the thorough analysis of the tube. Bad data may be caused by: a bad probe, electrical noise, probe 'snap', poor probe centering, excessive test speed or other variables which degrade signal quality.

Retest - Fixture (RFX)

This designation is used when the fixture is obstructing a tube or when the fixture will not reach a particular tube.

Retest - Incomplete Test (RIC)

This designation is used to identify tubes that require retesting due to improper test extent.

Retest - No Data Acquired (RND)

This designation is used when ECT data for a tube is identified as being recorded to the storage media, yet no data for the tube can be located.

Retest - Questionable Encode (RID)

This designation is used when the tube identification (i.e., row and/or column number) or the location of the probe within the tube is in doubt. An 'RID' shall be reported when the location of a section of tube examined by an RPC probe can not be absolutely verified by the raw ECT data to be within ±1 inch of the required test location.

Retest - Restricted Tube (RRT)

This designation is assigned when the tube geometry prevents the passage of an eddy current probe. "Extent Tested" for a restricted tube shall be reported as the furthest support structure, tubesheet or tube end through which the probe successfully passes. A message from the data collector is needed to call an RST.

Retest - Wear Standard (RWS)

This designation is used to identify tubes with wear that need to be retested utilizing a wear type calibration standard.

Scratch (SCR)

Scratches typically occur on the OD of tubing and, for the most part, are caused by the edge of the lattice grid tube supports during installation of the tubes into the SGs.

Setup Span

A minimum span requirement for digital data analysis software which is based upon the calibration standard signal size and which assures a proper lissajous presentation to meet the intent of ASME Section XI sensitivity requirements.

Sludge (SLG)

A build-up of material on top of the tubesheet or tube supports resulting from corrosion products. This material is undesirable because it can create a concentrating crevice for aggressive chemical impurities and because it reduces heat transfer effectiveness.

Stress Corrosion Cracking

Cracking of stressed tubes, without reference to a causative chemical agent.

Tube to Tube Contact

Tube to tube contact occurs primarily in the tube U-Bends caused from the tube bowing between the supports. This can result in tube to tube wear during operation.

Threshold

A level of some indication characteristic (i.e., voltage, depth) above which it is possible to clearly distinguish it from noise requiring it to be reported. There are no voltage threshold values used for reporting tube degradation at Millstone Unit 2.

Tube Noise

Any undesired signal or signals that may obscure interpretation of those signals that are of interest. It may be generated from electrical variations, from specimen dimensional variations, or from material property variations.

Volumetric Degradation (VOL)

This designation is reserved for reporting the results of rotating probe inspections in which volumetric tube degradation is identified. This designation is used for those indications believed to be noncracks.

Wastage

Secondary side corrosion caused by chemical attack from impurities concentrated in low flow areas such as under the sludge pile.

Wear - Outside Diameter

This designation is used to describe thinning of the outside tube wall which is caused by flow-induced mechanical vibrations, influenced by design parameters and environmental conditions.

Table 11-1
Allowable Acronyms
(Sheet 1 of 3)

CATEGORY I - NO FURTHER ACTION REQUIRED			
ACRONYM	DESCRIPTION	LOCATION REQUIRED	EXTENT REQUIRED
CUD	Copper Deposit	Y	Y
DEP	Deposit	Y	Y
NDD	No Detectable Degradation (or a blank may be used)	N	Y
NDF*	No Degradation Found	Y	Y
PID	Positive Identification of Defective Tube	Y	Y
PLG	Tube is plugged	N	N
SLG	Sludge	Y	Y

CATEGORY II - RETEST REQUIRED			
ACRONYM	DESCRIPTION	LOCATION REQUIRED	EXTENT REQUIRED
RAD	Retest - Analyst Discretion	N	Y
RBD	Bad Data	N	Y
RIC	Incomplete Test	N	Y
RID	Questionable Encode	N	Y
RFX	Fixture Blocking Access to Tube	N	Y
RND	No Data Acquired	N	N
RRT	Restricted Tube - Retest With Smaller Probe	N	Y
RWS	Retest with Wear Standard	Y	Y

CATEGORY III - DIAGNOSTIC TESTING AND/OR HISTORY REVIEW REQUIRED, REPAIRABLE IF FINAL			
ACRONYM	DESCRIPTION	LOCATION REQUIRED	EXTENT REQUIRED
ADI	Absolute Drift Indication	Y	Y
DDI	Dent With Indication	Y	Y
DEI	Distorted Expansion Indication	Y	Y
DSI	Distorted Support Indication	Y	Y
DTI	Distorted Tubesheet Indication	Y	Y
LPI	Loose Part with Indication	Y	Y
NQI	Non-quantifiable Indication	Y	Y

Table 11-1
Allowable Acronyms

(Sheet 2 of 3)

CATEGORY IV - NON-REPAIRABLE, POST DIAGNOSTIC RESULT OR RESULT OF HISTORICAL REVIEW			
ACRONYM	DESCRIPTION	LOCATION REQUIRED	EXTENT REQUIRED
ADS	Absolute Drift	Y	Y
DDH	Distorted Dent Signal - History	Y	Y
DDS	Distorted Dent Signal	Y	Y
DES	Distorted Expansion Signal	Y	Y
DSS	Distorted Support Signal	Y	Y
DTS	Distorted Tubesheet Signal	Y	Y
LPS	Loose Part Signal - Non-confirming w/RPC	Y	Y
NQH	Non-quantifiable Signal - History	Y	Y
NQS	Non-quantifiable Signal	Y	Y

CATEGORY V - TUBE REPAIR REQUIRED			
ACRONYM	DESCRIPTION	LOCATION REQUIRED	EXTENT REQUIRED
LIG*	Ligament Between Multiple Indications	N	Y
MAI*	Multiple Axial Indications	Y	Y
MCI*	Multiple Circumferential Indications	Y	Y
MMI*	Mix Mode Indication	Y	Y
SAI*	Single Axial Indication	Y	Y
SCI*	Single Circumferential Indication	Y	Y
SVI*	Single Volumetric Indication	Y	Y
MVI*	Multiple Volumetric Indication	Y	Y

Table 11-1
Allowable Acronyms

(Sheet 3 of 3)

CATEGORY VI - REVIEW INDICATION, REVIEW HISTORY, DIAGNOSTIC SAMPLING OR ENGINEERING EVALUATION REQUIRED			
ACRONYM	DESCRIPTION	LOCATION REQUIRED	EXTENT REQUIRED
APP	Tube to tube contact (or close proximity) at the apex	Y	Y
BLG	Bulge	Y	Y
DNG	Ding	Y	Y
DNT	Dent	Y	Y
IDC	Inside Diameter Chatter	Y	Y
INF	Previous Indication Not Found	Y	Y
INR	Previous Indication Not Reportable	Y	Y
LAR	Lead Analyst Resolution - Used by the Analyst	Y	Y
OBS	Obstructed Tube	Y	Y
OXP	Over Expansion	Y	Y
NTE	No Tubesheet Expansion	Y	Y
PLP	Possible Loose Part	Y	Y
PRO	Non apex tube to tube contact (or close proximity)	Y	Y
PTE	Partial Tubesheet Expansion	Y	Y
PVN	Permeability Variation	Y	Y
SCR	Scratch	Y	Y
SKR	Skip Roll	Y	Y
TSM	Tube Support Missing	Y	Y
VOL*	Volumetric Indication (For Resolution use only)	Y	Y

***Used only for rotating probe results**

Attachment 2
BLG Indications

Millstone Unit 2
10/03 - 2R15

BLG Indications

FANP - FDMS map module Version 3.0

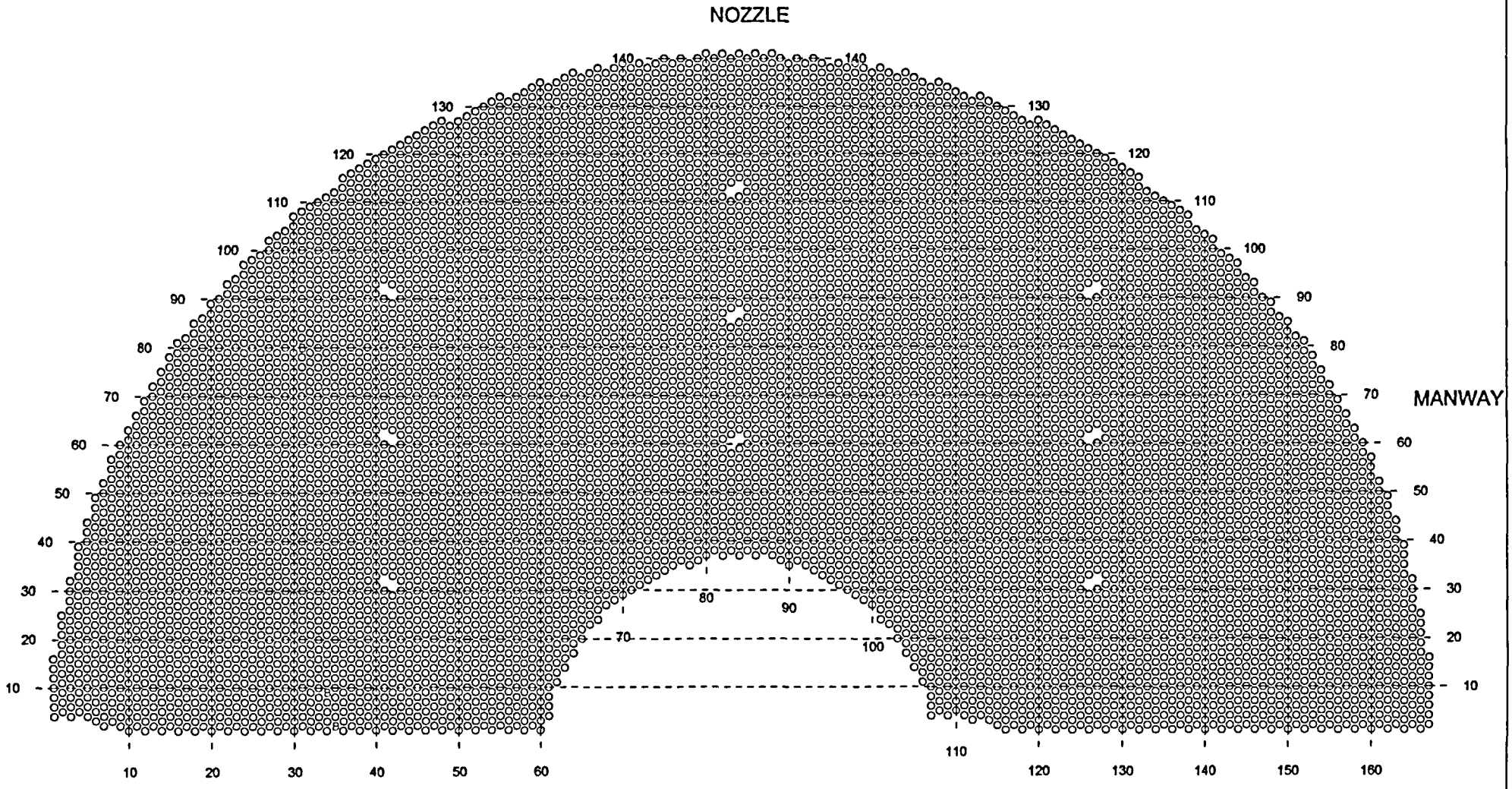
GROUP	TUBES
B BLG Indications	3

S/G 2
HOT
PRIMARY FACE

TOTAL TUBES: 8523
SELECTED TUBES: 3
OUT OF SERVICE (#): 0

SCALE: 0.065374 X
Fri Oct 31 13:41:24 2003

This drawing is the property of Framatome ANP, Inc. and is loaned upon condition that it is not to be reproduced or copied, in whole or in part, or used for furnishing information to others, or for any other purpose detrimental to the interests of Framatome ANP and will be returned upon request.



BLG Indications

QUERY: BLG Indications

ROW	COL	VOLTS	DEG	CHN	IND	%TW	LOCATION		EXT	EXT	UTIL 1	UTIL 2	CAL #	LEG	PROBE
2	35	4.59	5	1	BLG		TSH	+1.23	TEC	TEH			22	HOT	610UL
9	34	3.12	7	1	BLG		TSH	+1.27	TEC	TEH			22	HOT	610UL
80	31	4.68	4	P 1	BLG		07H	+1.74	TEC	TEH			7	HOT	610UL

Total Tubes : 3
Total Records: 3

Attachment 3
DNG Indications

Millstone Unit 2
10/03 - 2R15

DNG Indications

FANP - FDMS map module Version 3.0

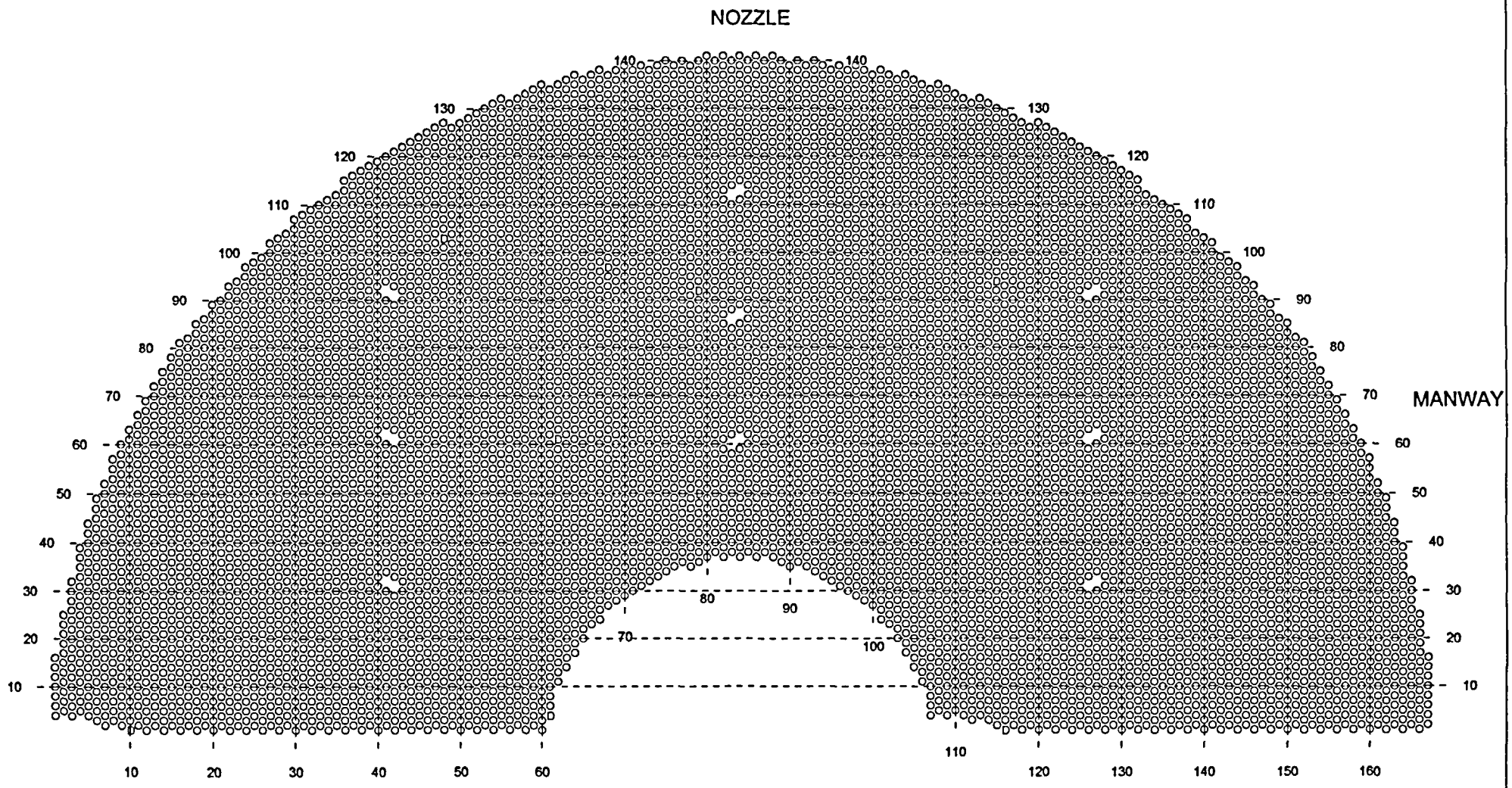
GROUP	TUBES
D DNG Indications	10

S/G 2
HOT
PRIMARY FACE

TOTAL TUBES: 8523
SELECTED TUBES: 10
OUT OF SERVICE (#): 0

SCALE: 0.065374 X
Fri Oct 31 13:41:44 2003

This drawing is the property of Framatome ANP, Inc. and is loaned upon condition that it is not to be reproduced or copied, in whole or in part, or used for furnishing information to others, or for any other purpose detrimental to the interests of Framatome ANP and will be returned upon request.



DNG Indications

QUERY: DNG Indications

ROW	COL	VOLTS	DEG	CHN	IND	%TW	LOCATION		EXT	EXT	UTIL 1	UTIL 2	CAL #	LEG	PROBE
1	10	12.35	186	1	DNG		04C	+32.29	TEC	TEH			20	HOT	610UL
1	116	5.29	184	1	DNG		04H	+32.30	TEC	TEH			59	HOT	610UC
		6.76	184	1	DNG		03H	+34.77	TEC	TEH			59	HOT	610UC
4	61	7.04	182	1	DNG		F01	+11.64	TEC	TEH			27	HOT	610UC
50	79	4.59	184	1	DNG		04H	+31.30	TEC	TEH			42	HOT	610UL
61	62	6.11	184	1	DNG		F01	+2.37	TEC	TEH			44	HOT	610UL
67	44	17.38	182	1	DNG		TSH	+13.84	TEC	TEH			5	HOT	610UL
92	79	4.02	178	1	DNG		04C	+33.56	TEC	TEH			16	HOT	610UL
94	115	7.90	184	1	DNG		01C	+11.30	TEC	TEH			40	HOT	610UL
		4.02	186	1	DNG		01C	+11.83	TEC	TEH			40	HOT	610UL
97	68	3.58	184	1	DNG		TSC	+0.84	TEC	TEH			14	HOT	610UL
103	48	3.69	185	1	DNG		F06	+4.58	TEC	TEH			4	HOT	610UL

Total Tubes : 10
Total Records: 12

Attachment 4
DNT Indications

Millstone Unit 2
10/03 - 2R15

DNT Indications

FANP - FDMS map module Version 3.0

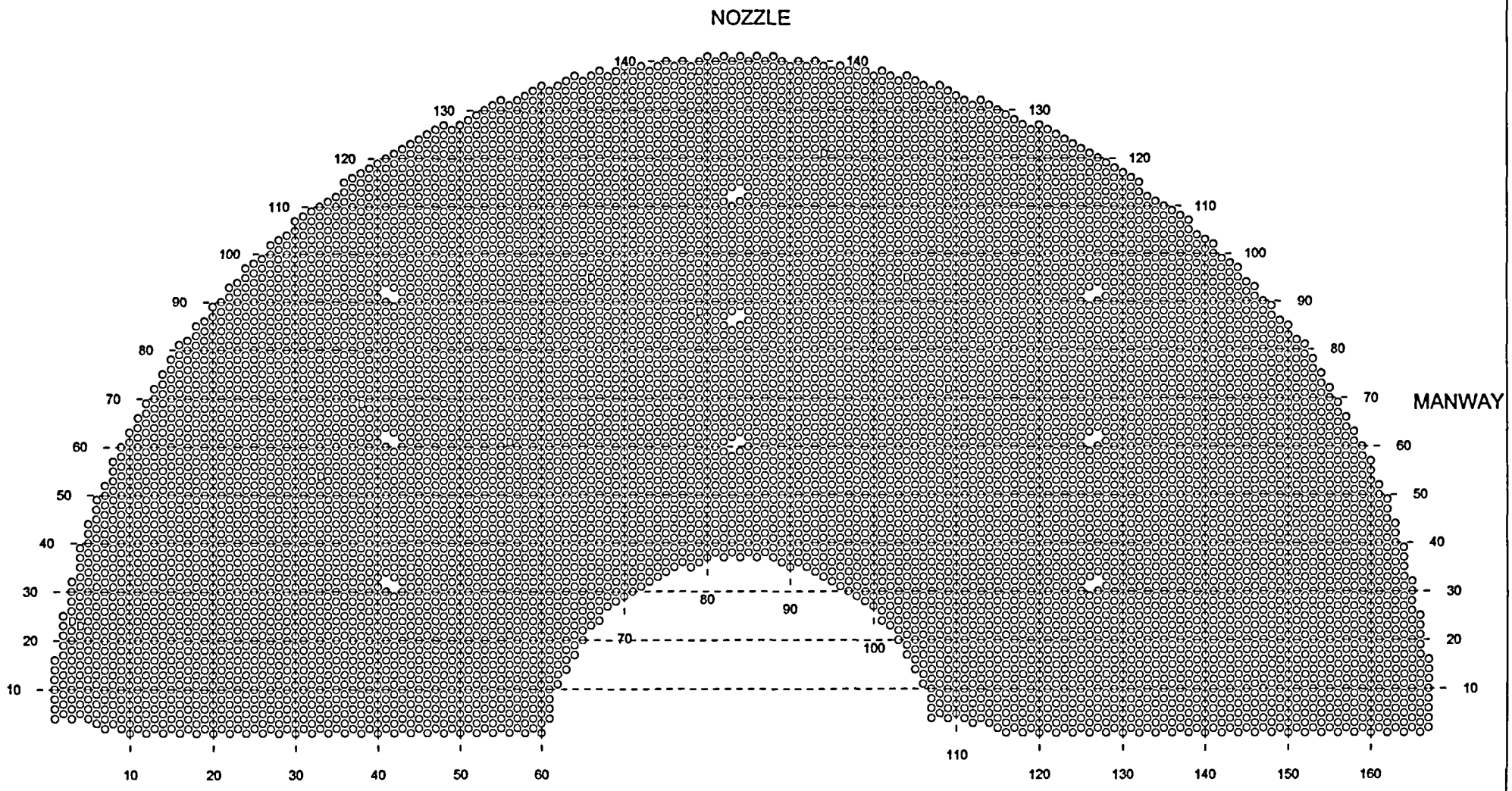
GROUP	TUBES
D DNT Indications	10

S/G 2
HOT
PRIMARY FACE

TOTAL TUBES: 8523
SELECTED TUBES: 10
OUT OF SERVICE (#): 0

SCALE: 0.065374 X
Fri Oct 31 13:42:03 2003

This drawing is the property of Framatome ANP, Inc. and is loaned upon condition that it is not to be reproduced or copied, in whole or in part, or used for furnishing information to others, or for any other purpose detrimental to the interests of Framatome ANP and will be returned upon request.



DNT Indications

QUERY: DNT Indications

ROW	COL	VOLTS	DEG	CHN	IND	%TW	LOCATION		EXT	EXT	UTIL 1	UTIL 2	CAL #	LEG	PROBE
23	4	3.50	183	P 1	DNT		F05	-1.19	TEC	TEH			11	HOT	610UL
24	3	3.48	182	P 1	DNT		F05	-1.63	TEC	TEH			11	HOT	610UL
54	33	3.89	175	P 1	DNT		07H	-0.17	TEC	TEH			8	HOT	610UL
61	56	9.11	184	P 1	DNT		F03	-1.60	TEC	TEH			18	HOT	610UL
69	38	3.02	178	P 1	DNT		02C	+0.97	TEC	TEH			6	HOT	610UL
72	109	1.82	164	P 1	DNT		F09	+0.47	TEC	TEH			32	HOT	610UL
88	79	3.26	179	P 1	DNT		F05	+0.94	TEC	TEH			16	HOT	610UL
95	66	3.31	179	P 1	DNT		07C	+1.41	TEC	TEH			13	HOT	610UL
95	104	4.44	178	P 1	DNT		07C	+1.72	TEC	TEH			40	HOT	610UL
121	94	3.14	181	P 1	DNT		07C	+1.55	TEC	TEH			35	HOT	610UL

Total Tubes : 10
Total Records: 10

Attachment 5
DTS Indications

Millstone Unit 2
10/03 - 2R15

DTS Indications

FANP - FDMS map module Version 3.0

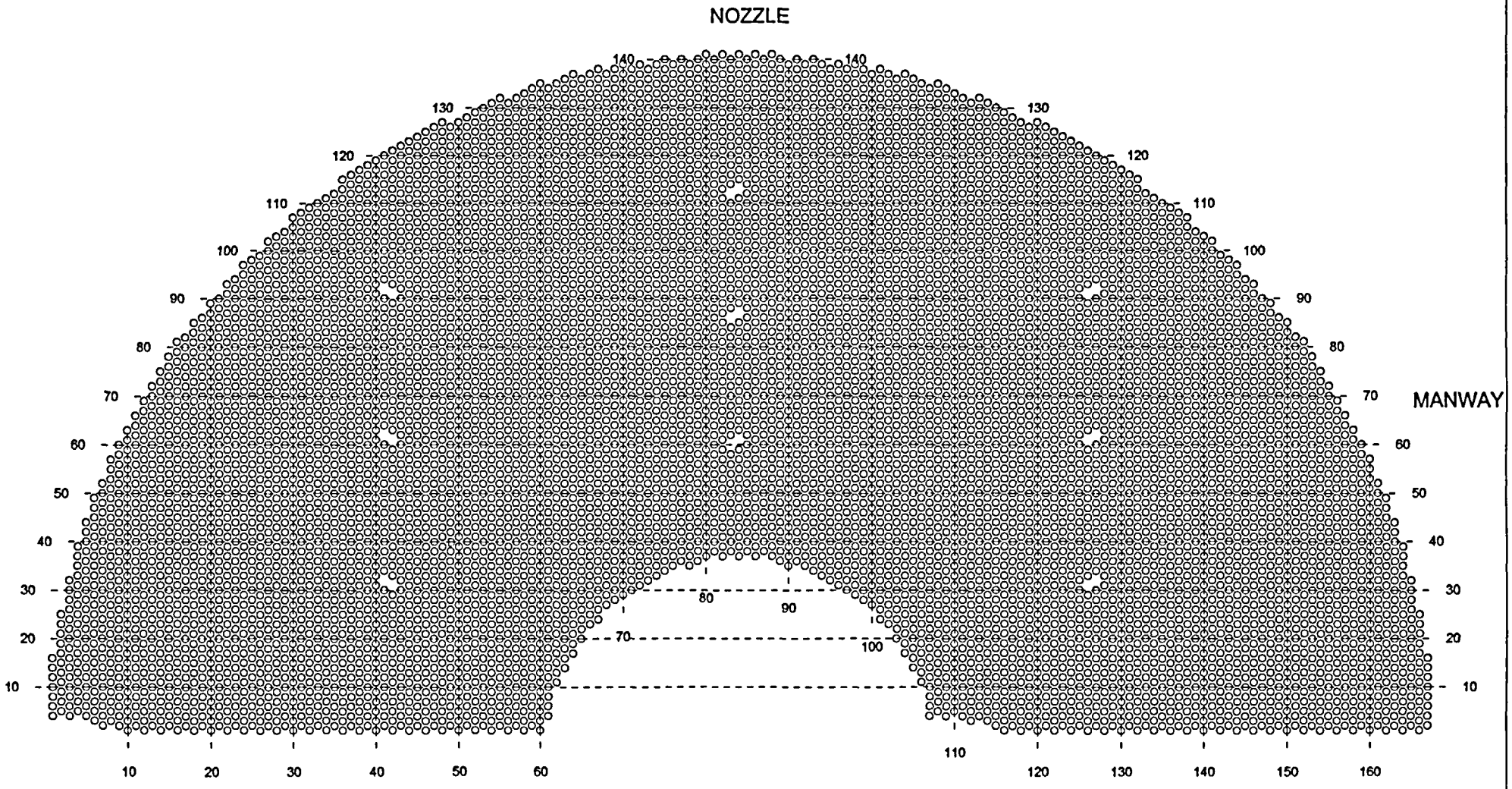
GROUP	TUBES
D DTS Indications	1

S/G 2
HOT
PRIMARY FACE

TOTAL TUBES: 8523
SELECTED TUBES: 1
OUT OF SERVICE (#): 0

SCALE: 0.065374 X
Fri Oct 31 13:42:16 2003

This drawing is the property of Framatome ANP, Inc. and is loaned upon condition that it is not to be reproduced or copied, in whole or in part, or used for furnishing information to others, or for any other purpose detrimental to the interests of Framatome ANP and will be returned upon request.



DTS Indications

QUERY: DTS Indications

ROW	COL	VOLTS	DEG	CHN	IND	%TW	LOCATION		EXT	EXT	UTIL 1	UTIL 2	CAL #	LEG	PROBE
40	49	0.17	123	P 1	DTS		TSH	-0.07	TSH	TSH			68	HOT	610PP

Total Tubes : 1
Total Records: 1

Attachment 6
PLP Indications

Millstone Unit 2
10/03 - 2R15

PLP Indications

FANP - FDMS map module Version 3.0

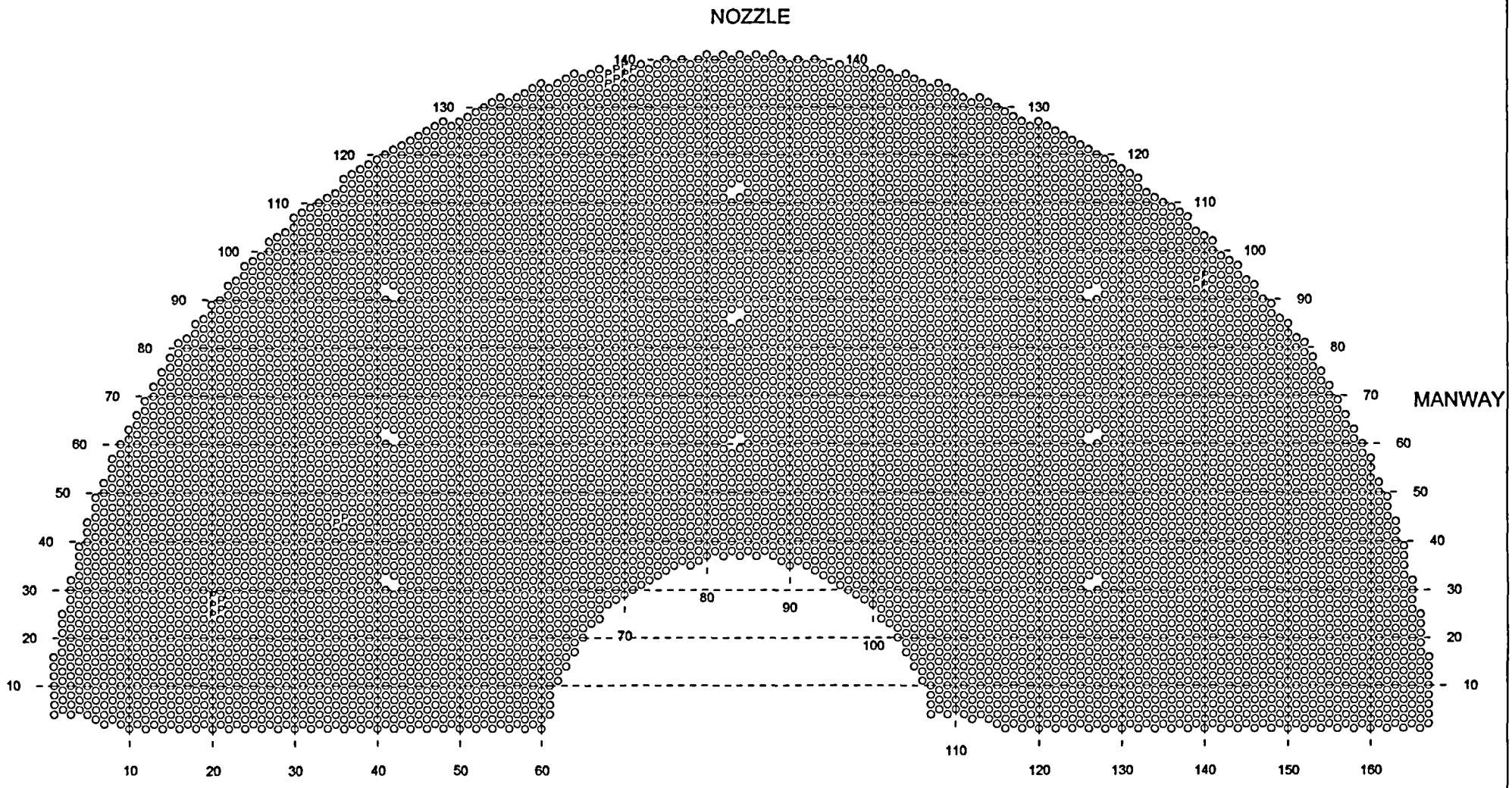
GROUP	TUBES
P PLP Indications	17

S/G 2
HOT
PRIMARY FACE

TOTAL TUBES: 8523
SELECTED TUBES: 17
OUT OF SERVICE (#): 0

SCALE: 0.065374 X
Fri Oct 31 13:42:54 2003

This drawing is the property of Framatome ANP, Inc. and is loaned upon condition that it is not to be reproduced or copied, in whole or in part, or used for furnishing information to others, or for any other purpose detrimental to the interests of Framatome ANP and will be returned upon request.



PLP Indications

QUERY: PLP Indications

ROW	COL	VOLTS	DEG	CHN	IND	%TW	LOCATION		EXT	EXT	UTIL 1	UTIL 2	CAL #	LEG	PROBE
25	20	0.31	95	14	PLP	TSH		+0.23	TSH	TSH			65	HOT	610PP
26	21	0.39	230	8	PLP	TSH		+0.76	TEC	TEH	LAR		10	HOT	610UL
		0.45	97	14	PLP	TSH		+0.48	TSH	TSH			65	HOT	610PP
27	20	0.47	95	14	PLP	TSH		+0.75	TSH	TSH			65	HOT	610PP
		0.60	229	8	PLP	TSH		+1.55	TEC	TEH	LAR		9	HOT	610UL
28	21	0.43	95	14	PLP	TSH		+0.96	TSH	TSH			65	HOT	610PP
		0.48	232	8	PLP	TSH		+2.22	TEC	TEH	LAR		9	HOT	610UL
29	20	0.47	236	8	PLP	TSH		+2.76	TEC	TEH	LAR		10	HOT	610UL
		0.45	97	14	PLP	TSH		+1.27	TSH	TSH			65	HOT	610PP
44	35	0.29	94	14	PLP	TSH		+0.35	TSH	TSH			69	HOT	610PP
45	36	0.36	97	14	PLP	TSH		+0.20	TSH	TSH			65	HOT	610PP
93	140	0.26	98	14	PLP	TSH		+0.47	TSH	TSH			65	HOT	610PP
94	139	0.47	98	14	PLP	TSH		+0.44	TSH	TSH			65	HOT	610PP
95	140	0.40	97	14	PLP	TSH		+0.49	TSH	TSH			65	HOT	610PP
135	68	0.41	90	14	PLP	TSH		+13.01	TSH	01H			75	HOT	610PP
136	69	0.60	92	14	PLP	TSH		+12.94	TSH	01H			75	HOT	610PP
137	68	0.52	89	14	PLP	TSH		+12.83	TSH	01H			75	HOT	610PP
137	70	0.30	84	14	PLP	TSH		+13.14	TSH	01H			75	HOT	610PP
138	69	0.06	46	14	PLP	TSH		+12.91	TSH	01H			75	HOT	610PP
138	71	0.12	83	14	PLP	TSH		+13.90	TSH	01H			75	HOT	610PP
139	70	0.27	83	14	PLP	TSH		+13.54	TSH	01H			75	HOT	610PP

Total Tubes : 17
Total Records: 21

Attachment 7
LPI Indications

Millstone Unit 2
10/03 - 2R15

LPI Indications

FANP - FDMS map module Version 3.0

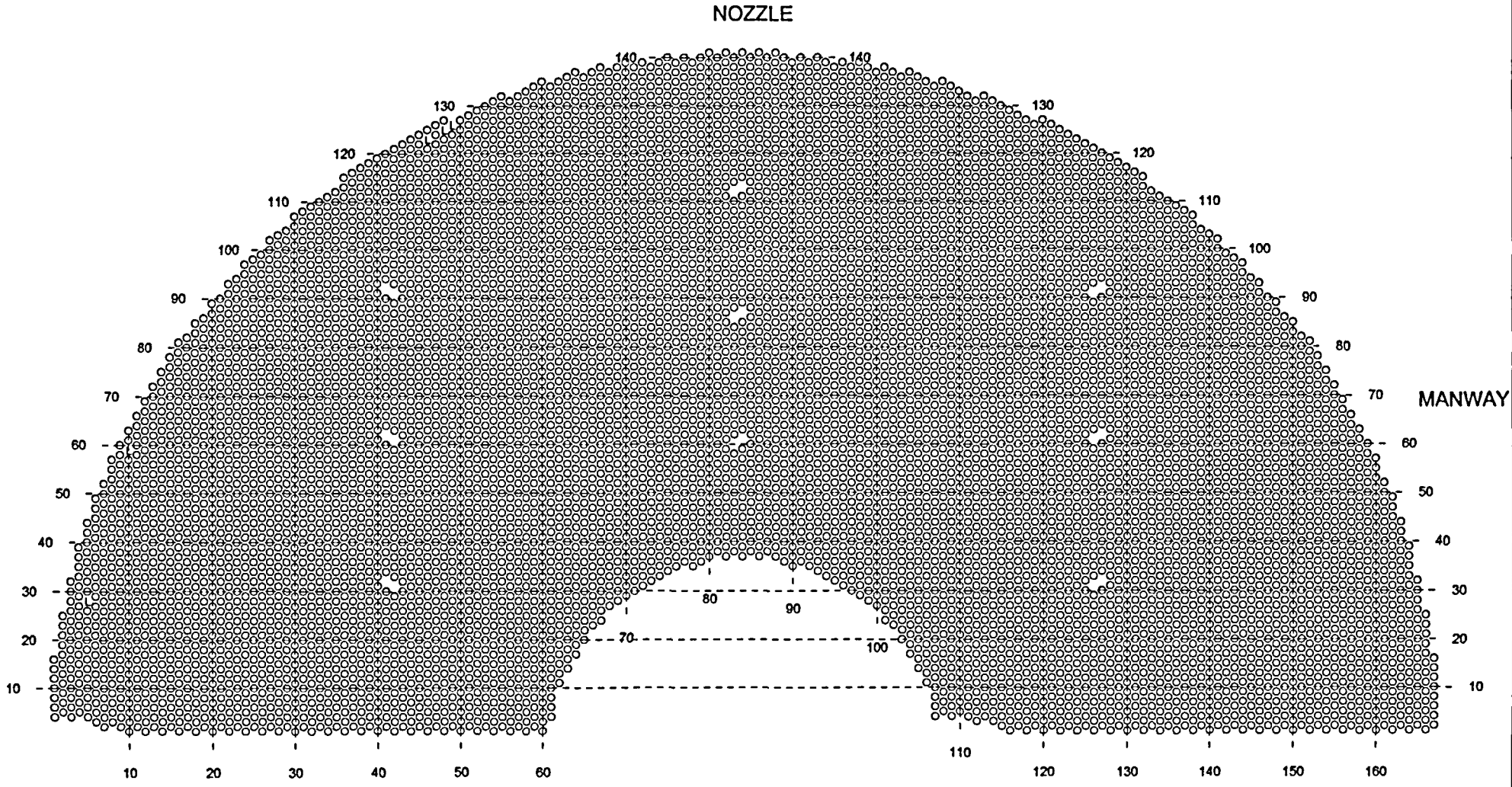
GROUP	TUBES
L LPI Indications	5

S/G 2
HOT
PRIMARY FACE

TOTAL TUBES: 8523
SELECTED TUBES: 5
OUT OF SERVICE (#): 0

SCALE: 0.065374 X
Fri Oct 31 13:42:35 2003

This drawing is the property of Framatome ANP, Inc. and is loaned upon condition that it is not to be reproduced or copied, in whole or in part, or used for furnishing information to others, or for any other purpose detrimental to the interests of Framatome ANP and will be returned upon request.



LPI Indications

QUERY: LPI Indications

ROW	COL	VOLTS	DEG	CHN	IND	%TW	LOCATION		EXT	EXT	UTIL 1	UTIL 2	CAL #	LEG	PROBE
28	5	0.44	132	3	LPI	TSC		+21.59	TEC	TEH	LAR	WAR23	11	HOT	610UL
59	10	0.46	113	3	LPI	TSC		+17.28	TEC	TEH	LAR	WAR21	9	HOT	610UL
123	46	0.21	116	3	LPI	TSH		+17.59	TEC	TEH	LAR	WAR20	3	HOT	610UL
125	48	0.50	120	3	LPI	TSH		+19.30	TEC	TEH	LAR	WAR24	3	HOT	610UL
126	49	0.69	121	3	LPI	TSH		+19.67	TEC	TEH	LAR	WAR24	4	HOT	610UL

Total Tubes : 5
Total Records: 5

Attachment 8

Percent Throughwall Fan Bar Indications

Millstone Unit 2
10/03 - 2R15

%TW Fan Bar Wear

FANP - FDMS map module Version 3.0

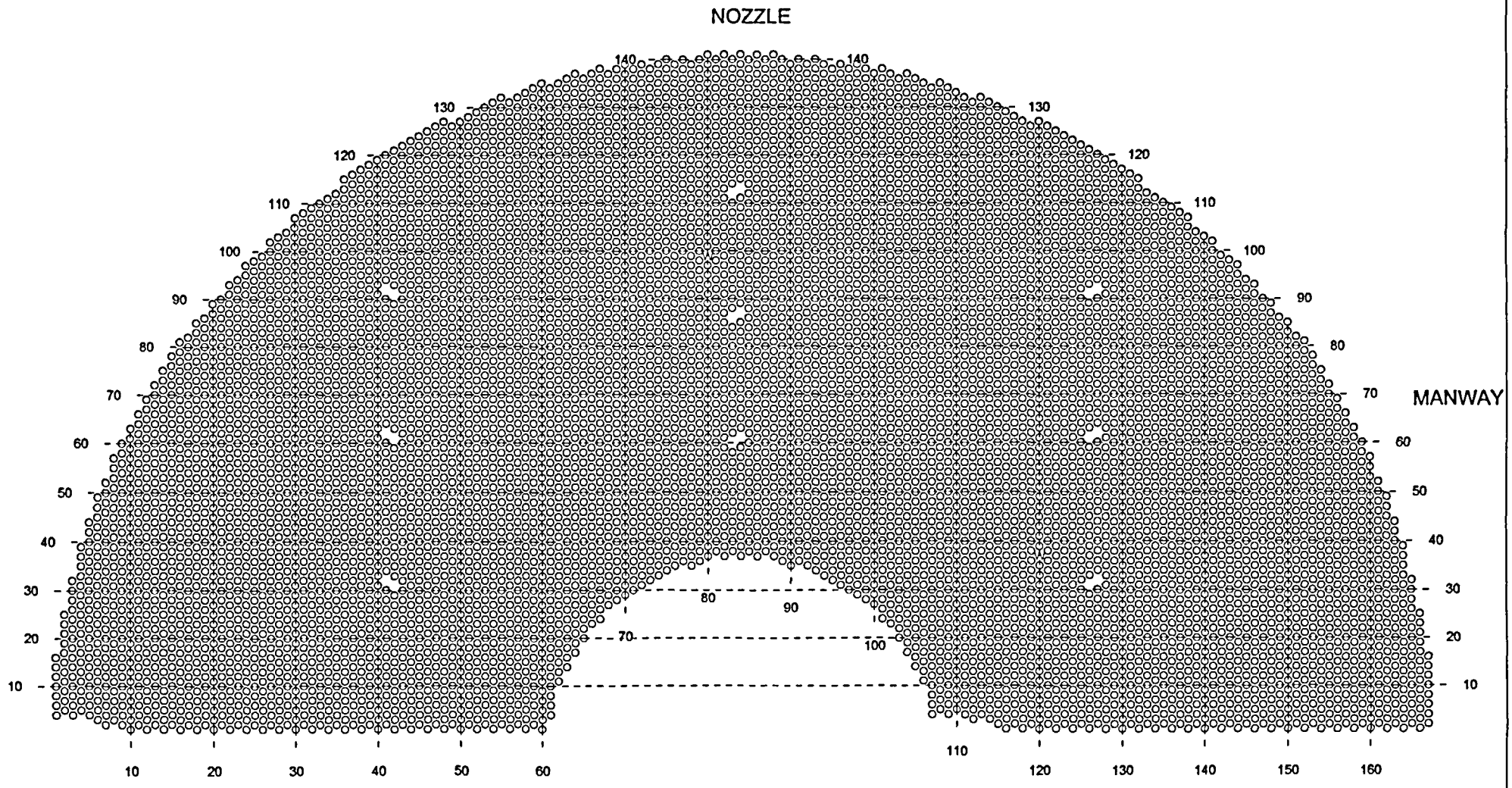
GROUP	TUBES
W %TW FB Wear	2

S/G 2
HOT
PRIMARY FACE

TOTAL TUBES: 8523
SELECTED TUBES: 2
OUT OF SERVICE (#): 0

SCALE: 0.065374 X
Fri Oct 31 13:43:26 2003

This drawing is the property of Framatome ANP, Inc. and is loaned upon condition that it is not to be reproduced or copied, in whole or in part, or used for furnishing information to others, or for any other purpose detrimental to the interests of Framatome ANP and will be returned upon request.



%TW Indications (Bobbin FB Wear)

QUERY: %TW FB Wear

ROW	COL	VOLTS	DEG	CHN	IND	%TW	LOCATION		EXT	EXT	UTIL 1	UTIL 2	CAL #	LEG	PROBE
37	120	0.15	106	P 2	TWD	6	F07	-0.81	TEC	TEH			57	HOT	610UL
99	80	0.28	73	P 2	TWD	11	F06	+1.26	TEC	TEH			57	HOT	610UL

Total Tubes : 2
Total Records: 2

Attachment 9

Percent Throughwall VOL Indications

Millstone Unit 2
10/03 - 2R15

%TW MRPC Sizing for VOL

FANP - FDMS map module Version 3.0

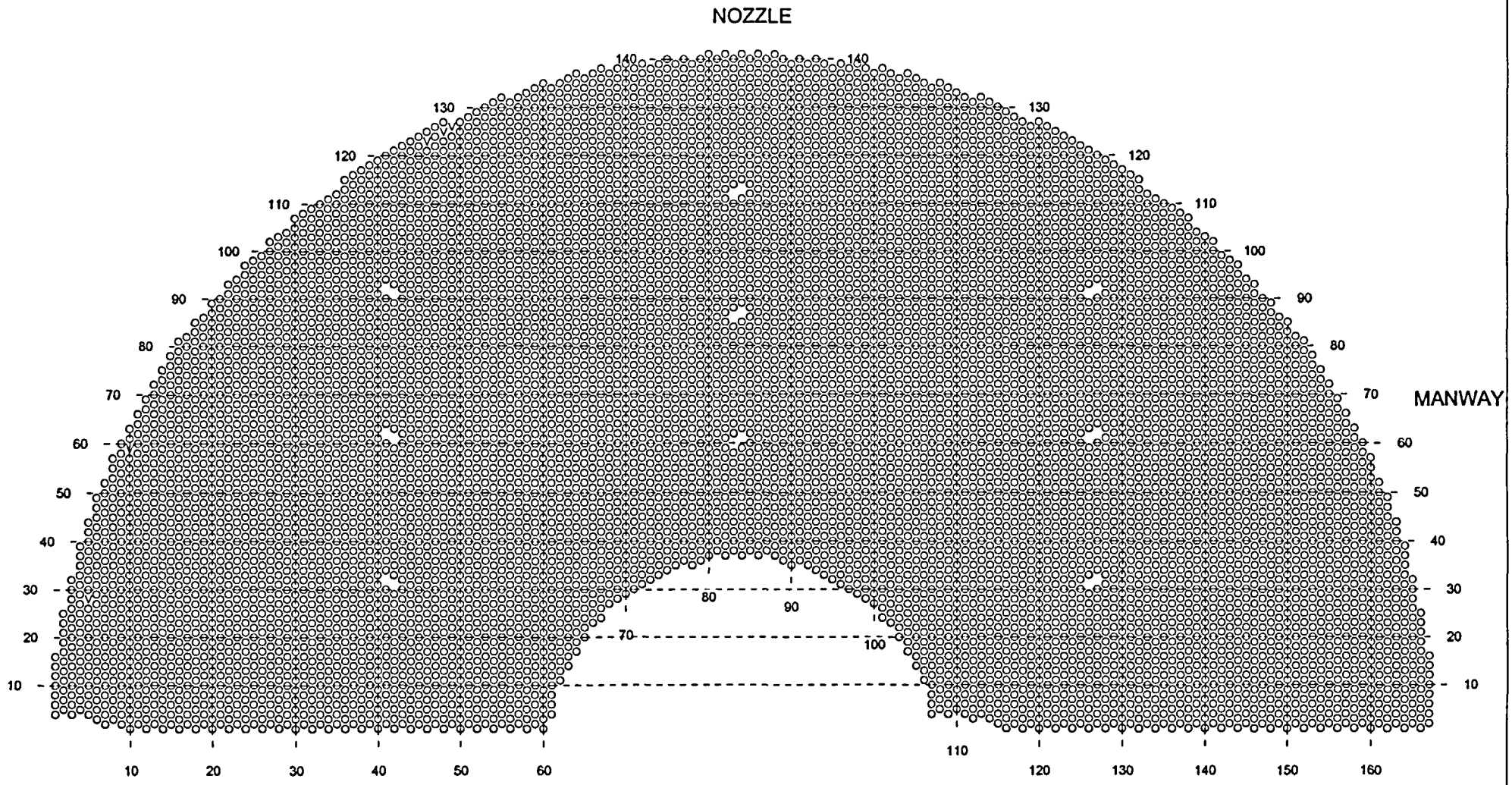
GROUP	TUBES
V %TW Sizing for VC	5

S/G 2
HOT
PRIMARY FACE

TOTAL TUBES: 8523
SELECTED TUBES: 5
OUT OF SERVICE (#): 0

SCALE: 0.065374 X
Fri Oct 31 13:43:48 2003

This drawing is the property of Framatome ANP, Inc. and is loaned upon condition that it is not to be reproduced or copied, in whole or in part, or used for furnishing information to others, or for any other purpose detrimental to the interests of Framatome ANP and will be returned upon request.



%TW MRPC Sizing for VOL Indications

QUERY: %TW Sizing for VOL

ROW	COL	VOLTS	DEG	CHN	IND	%TW	LOCATION		EXT	EXT	UTIL 1	UTIL 2	CAL #	LEG	PROBE
28	5	0.19	100	5	TWD	23	01C	-2.44	01C	01C			3	COLD	610PP
59	10	0.13	84	5	TWD	21	01C	-6.69	01C	01C			3	COLD	610PP
123	46	0.10	65	5	TWD	20	01H	-6.57	01H	01H			74	HOT	610PP
125	48	0.27	84	5	TWD	24	01H	-4.96	01H	01H			74	HOT	610PP
126	49	0.28	101	5	TWD	24	01H	-4.47	01H	01H			74	HOT	610PP

Total Tubes : 5
Total Records: 5