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The Northeast Utilities System

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Docket No. 50-423  
B18349

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

Millstone Nuclear Power Station, Unit No. 3  
Steam Generator Tube Plugging

This special report is being submitted pursuant to the requirements of Plant Technical Specifications 4.4.5.5.a and 6.9.2, to document the number of steam generator tubes plugged during refueling outage seven (7) activities. Steam Generator tube eddy current inspections, conducted at the end of cycle seven (7), were completed on February 18, 2001.

The scheduled inspections were performed in Steam Generators (S/G's) B and D. A total of 11,231 tubes (approximately 50 percent of the total population of tubes) were inspected utilizing bobbin coil probes. Additionally, an augmented sample (6,461 locations including 5 plugs) was inspected utilizing rotating coil probes. A summary of the inspections performed and the results of those inspections is included in Attachment 1.

Eddy Current testing identified flaws greater than or equal to the plugging limit in 11 tubes. The plugging limit is defined within Technical Specifications as an imperfection depth of 40 percent nominal tube wall thickness. Additionally, 40 tubes were removed from service on a discretionary basis. Five (5) of these tubes exhibited anti-vibration bar (AVB) wear greater than 36 percent throughwall.

The tubes removed from service were categorized in 3 classifications:

- Sixteen (16) tubes exhibited degradation attributed to AVB wear. This number consists of 11 tubes that exceeded the plugging limit defined in technical specifications and five (5) tubes which had indications that were less than 40% throughwall, but were removed on a discretionary basis.
- Twenty-nine (29) tubes exhibited a single volumetric indication at the top of the tubesheet or at the flow distribution baffle. Millstone used a sizing technique qualified-by-extension to EPRI TR-107569-V1R5, Appendix H for these indications and none exceeded the 40% throughwall plugging limit. However, the tubes were removed from service, on a discretionary basis. (Note: One of these tubes also contained an AVB wear flaw which exceeded the plugging limit. This tube is also included in the 16 discussed above).

AD001

- Seven (7) tubes were identified in close proximity to a loose part which was non-retrievable. These tubes were removed from service, on a discretionary basis.

All tubes were removed from service by the installation of an FTI Alloy 690 Rolled Mechanical Tube Plug on February 18, 2001.

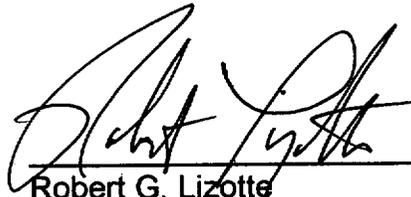
The inspection results in S/G B are classified as C1. The results in S/G D are classified as C2 due to AVB wear. All tubes in both S/Gs were included in the initial inspection sample, therefore no technical specification scope expansions were required. Complete results of the steam generator tube inspection will be submitted within 12 months in accordance with Plant Technical Specification 4.4.5.5.b.

There are no commitments contained within this letter.

Should you have any questions regarding this submittal, please contact Mr. David W. Dodson at (860) 447-1791, extension 2346.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



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Robert G. Lizotte  
Master Process Owner - Assessment

Attachment: (1) Steam Generator Tube Plugging 15 Day Report

cc: H. J. Miller, Region I Administrator  
V. Nerses, NRC Senior Project Manager, Millstone Unit No. 3  
A. C. Cerne, Senior Resident Inspector, Millstone Unit No. 3

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**Attachment 1**

**Millstone Nuclear Power Station, Unit No. 3**

**Steam Generator Tube Plugging 15 Day Report**

Millstone Nuclear Power Station, Unit No. 3  
Steam Generator Tube Plugging 15 Day Report

**Table 1 - MILLSTONE 3 RFO7 ECT SUMMARY**

	S/G B	S/G D	TOTAL
Number of Tubes (S/G A and B only)	5626	5626	11252
Number of Tubes Inspected F/L w/Bobbin Probe	5622	5609	11231
Augmented Tube Inspections w/MRPC	3114	3342	6456
Plug Inspections w/MRPC	0	5	5
Tubes with Max AVB flaw $\geq$ 40 %	0	11	11
Tubes with Max AVB Flaws $\geq$ 20% but <40%	14	23	37
Tubes with Max AVB Flaws <20%	22	33	55
Tubes with Max SVI $\geq$ 40 %	0	0	0
Tubes with Max SVI $\geq$ 20% but <40%	0	8	8
Tubes with Max SVI Flaws <20%	0	21	21
Tubes Plugged on a discretionary basis	0	40	40
Total Tubes Plugged as a Result of this Inspection	0	51	51

**Table 2 - LOCATION OF TUBES PLUGGED FOR AVB WEAR SIZED  $\geq$ 40%TW DURING RFO7**

ROW	COLUMN	% degradation	ROW	COLUMN	% degradation
41	57	45	45	101	45
42	101	47	51	68	44
42	102	42	54	46	45
43	23	43	54	88	42
43	69	45	57	78	47
43	91	43			

**Table 3 - LOCATION OF DISCRETIONARY TUBES PLUGGED FOR AVB WEAR DURING RFO7**

ROW	COLUMN	% degradation	ROW	COLUMN	% degradation
32	38	38	52	70	38
42	96	38	55	70	39
47	99	37			

**Table 4 - LOCATION OF TUBES PLUGGED FOR SVI OR PLP DURING RFO7**

Row	Column	Indication	Row	Column	Indication	Row	Column	Indication
1	119	SVI	45	24	SVI	58	56	SVI
1	120	SVI	52	53	SVI	58	75	SVI
1	121	SVI	52	54	SVI			
35	23	SVI	53	54	SVI	15	18	PLP
37	23	SVI	53	79	SVI	54	79	PLP
37	24	SVI	54	45	SVI	54	81	PLP
38	107	SVI	54	80	SVI	57	75	PLP
39	107	SVI	55	45	SVI	58	74	PLP
42	23	SVI	55	46	SVI	59	55	PLP
43	24	SVI	57	74	SVI	59	56	PLP
44	23	SVI	57	79	SVI			
44	24	SVI	58	54	SVI			
45	23	SVI	58	55	SVI			

**Table 5- Total Tubes Plugged to Date**

	S/G A	S/G B	S/G C	S/G D	TOTAL
<b>Fabrication</b>	1	2	2	0	5
<b>Preservice</b>	2	1	1	1	5
<b>RFO1</b>	1	0	0	1	2
<b>RFO2</b>	4	-	0	-	4
<b>RFO3</b>	-	0	-	5	5
<b>RFO4</b>	6	-	1	0	7
<b>RFO5</b>	-	1	-	10	11
<b>MID CYCLE</b>	-	-	2	-	2
<b>RFO6</b>	12	-	2	-	14
<b>RFO7</b>	-	0	-	51	51
<b>TOTAL</b>	26	4	8	68	106