

Commonwealth Edison Company
Braidwood Generating Station
Route #1, Box 84
Braceville, IL 60407-9619
Tel 815-458-2801



May 29, 1997

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

Subject: Braidwood Station Unit 1
Cycle 6 Mid-Cycle Outage
Steam Generator Inservice Inspection Report
Docket No. STN 50-456

References: (1) NUREG-1276, Technical Specifications, Braidwood
Station, Unit Nos. 1 and 2

Specification 4.4.5.5.a of reference (1) requires that within 15 days following the completion of each inservice inspection of steam generator tubes, the number of tubes plugged or repaired in each steam generator shall be reported to the Commission in a Special Report pursuant to Specification 6.9.2.

During the Braidwood Unit 1 Cycle 6 Refuel Outage, which began on March 29, 1997, an eddy current inspection of the steam generator tubing was conducted. The inspection consisted of the following:

- Bobbin coil probe inspection of 100% of the inservice tubes (full length).
- 3-coil rotating Plus Point probe inspection of the hot-leg top-of-tubesheet roll transition region of 100% of the non-sleeved tubes.
- 3-coil rotating Plus Point probe inspection of the cold-leg top-of-tubesheet roll transition region of 100% of the inservice tubes.
- Rotation Plus Point probe inspection of 100% of the Row 1 and Row 2 U-Bend regions.
- 3-Coil rotating Plus Point probe inspection of Tube Support Plate intersections required by Generic Letter 95-05 for the implementation of an Interim Plugging Criteria.
- 3-Coil rotating Plus Point probe inspection of 25% of the tubes expanded at Preheater Baffles "B" and "D" in the 1B Steam Generator.
- Plus Point probe inspection of 100% of the 12" Laser Welded Sleeves (full length) installed at the hot-leg top-of-tubesheet roll transition region.

1/1
AD47

9706060019 970529
PDR ADOCK 05000456
Q PDR



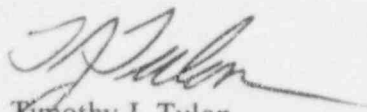
May 29, 1997

- 3-Coil rotating Plus Point probe inspection of the hot-leg top-of-tubesheet roll transition region of 100% of the Locked Tubes required to support the 3.0 Volt Interim Plugging Criteria.
- Rotating Gimballed Plus Point probe inspection of 100% of the expansions at the Locked Tube Support Plate intersections. This inspection also included 100% of the non-locked Tube Support Plate intersections below the highest Locked Tube Support Plate.

The 3-Coil rotating Plus Point probe consisted of the Plus Point coil, a 0.080 inch Pancake coil, and a 0.115 inch Pancake coil. The eddy current data was analyzed using the EddyNet software. The inspection was completed on May 16, 1997. Attachments 1 and 2 summarize the results of this inspection.

Please direct any questions regarding this submittal to Terrence Simpkin, Braidwood Regulatory Assurance Supervisor, (815) 458-2801, extension 2980.

Very truly yours,



Timothy J. Tulon
Station Manager
Braidwood Nuclear Generating Station

TJT/fb/97nrc015.doc

Attachments

cc: Senior Resident Inspector - Braidwood
Braidwood Project Manager - NRR
Regional Administrator - RIII
Illinois Department of Nuclear Safety

Attachment 1

Braidwood Unit 1 Sixth Refuel Outage (A1R06) SG Tube Plugging Results

	1A SG	1B SG	1C SG	1D SG	TOTALS
Total Tubes	4578	4578	4578	4578	18312
Previously Plugged Tubes	592	424	916	425	2357
Previously Sleeved Tubes (Hot Leg Roll Transition)	181	0	445	271	897
Total Inservice Tubes Inspected	3986	4154	3662	4153	15955
Total Tubes Inspected at Hot Leg Roll Transition	3805	4154	3217	3882	15058
Locked-Tube Model TSP Pluggable (IPC)	27	7	39	31	104
Free-Span Model TSP Pluggable (IPC)	2	0	0	0	2
TSP Pluggable Indications Excluded from IPC	14	2	7	9	32
Anti-Vibration Bar Wear Pluggable	0	0	0	0	0
New Tubes Plugged due to TSP Locking to Support the 3.0 Volt IPC	0	0	3	1	4
Cold Leg Top-of-Tubesheet Indications Plugged					
Single Circumferential (SCI)	8	6	4	4	22
Multiple Circumferential (MCI)	5	0	5	1	11
Volumetric (VOL)	1	1	0	0	2
U-Bend Axial Indications	2	0	0	0	2
U-Bend Circumferential Indications	0	1	0	0	1
Volumetric Indications at TSP	1	2	0	0	3
Admin - LWS Weld Indication	0	0	1	0	1
Hot Leg Top-of-Tubesheet Indications Plugged					
Single Circumferential (SCI)	5	4	5	3	17
Multiple Circumferential (MCI)	0	1	0	0	1
Hot Leg Top-of-Tubesheet Indications Sleeved					
Single Circumferential (SCI)	49	33	28	102	212
Multiple Circumferential (MCI)	8	1	13	27	49
Single Axial (SAI)	0	1	0	1	2
Multiple Axial (MAI)	2	0	0	1	3
Mixed Mode Indication (MMI)	0	1	0	0	1
Volumetric (VOL)	0	2	0	0	2
Locked Tubes Unplugged/Sleeved/Replugged	21	21	22	21	85
Tubes Unplugged/Replugged	1 CL only	2	4	0	7
A1R06 Total Tubes Plugged	65	24	64	49	202
A1R06 Total Tubes Sleeved	59	38	41	131	269
Previously Sleeved Tubes Now Plugged	4	0	9	7	20
Restart Total Tubes Available	3921	4130	3598	4104	15753
Total Tubes Plugged	657	448	980	474	2559
Total Inservice Tubes Sleeved	236	38	477	395	1146
Total Equivalent Plugged	670.7	450.2	1007.7	497.0	2625.6
Percentage of Tubes Plugged	14.7%	9.8%	22.0%	10.9%	14.3%

SG Tube Plugging Limits are a maximum of 30% in any one SG with a maximum of 24% total.

Attachment 2

Braidwood Unit 1 SG Tube Plugging History

	Plug	Sleeve	% Plugged	AVB Wear	Free-Span	TSP ODSCC		HL Top-of-Tubesheet				CL TTS		OTHER	
						TSP/IPC	Excl IPC	Circ	Axial	Mixed	VOL	Circ	VOL		
(PSI) SG-A	4		0.09												1-Factory, 3-Baseline
(PSI) SG-B	1		0.02												1-Factory
(PSI) SG-C	8		0.17												8-Baseline
(PSI) SG-D	1		0.02												1-Baseline
1.162 EFPY															
(A1R01) SG-A	5		0.20	2											3-Foreign Object
(A1R01) SG-B	1		0.04		1										
(A1R01) SG-C	0		0.17												
(A1R01) SG-D	0		0.02												
1.162 EFPY															
(A1R02) SG-A	11		0.44	2		8									1-Foreign Object
(A1R02) SG-B	2		0.09	1											1-NRC Bulletin 88-02
(A1R02) SG-C	19		0.59	1		18									
(A1R02) SG-D	4		0.11			4									
0.861 EFPY															
(A1R03) SG-A	37		1.25	4		33									
(A1R03) SG-B	11		0.33			11									
(A1R03) SG-C	82		2.38	2		80									
(A1R03) SG-D	44		1.07			44									
1.132 EFPY															
(A1F26) SG-C	117		4.94		1	116									
0.852 EFPY Oct-83															
(A1R04) SG-A	186		5.31	1	2	170	13								
(A1R04) SG-B	43		1.27		4	19	0								20-TSP Expansion Preps
(A1R04) SG-C	140		7.99		5	127	8								
(A1R04) SG-D	122		3.74	1		110	11								
1.1468 EFPY NOTE: In R04, a 1.0 Volt IPC was approved for ODSCC.															
(A1M05) SG-A	262		11.03	2		235	17	4	1	1	2				
(A1M05) SG-B	44		2.23			41	2				1				
(A1M05) SG-C	340		15.42	1		315	12	11			1				
(A1M05) SG-D	194		7.97			180	13		1						
0.7142 EFPY NOTE: The 15 Circumferential Cracks + the 1 MMI were "stabilized" with a sleeve															
(A1R05) SG-A	44		11.99	1		1	10	8	1						2 Loose Parts, 21 Expanded Tubes
(A1R05) SG-B	26		2.80	2				2		1					21 Expanded Tubes
(A1R05) SG-C	37		16.23	1			1	8	1	1					1-TSP VOL, 2 DNTs, 22 Expanded Tubes
(A1R05) SG-D	32		8.67				3	5	3						21 Expanded Tubes
0.506 EFPY NOTE: 3.0 Volt IPC approved for A1R05 outage															
(A1P02) SG-A	43	181	13.16					221	1	2					4 tubes with a circ and axial indication, miss plugged 1 tube
(A1P02) SG-B	296	0	9.26					276	20	3					1 tube with a circ and axial indication
(A1P02) SG-C	173	445	20.57					610	3	6					5 tubes with a circ and axial indication
(A1P02) SG-D	28	271	9.63					293	8	3					
0.744 EFPY NOTE: Top-of-Tubesheet inspection only															
(A1R06) SG-A	65	59	14.65	0		29	14	62	2	0	0	13	1		2 UBend Axials, 1 VOL at TSP
(A1R06) SG-B	24	38	9.83	0		7	2	39	1	1	2	6	1		1 UBend Circ, 2 VOL at TSP
(A1R06) SG-C	64	41	22.01	0		39	7	46	0	0	0	9	0		3 New Locked Tubes, 1 Admin LWS
(A1R06) SG-D	49	131	10.86	0		31	9	132	2	0	0	5	0		1 New Locked Tube
0.291 EFPY NOTE: LWS installed in a Locked Tubes (Locked Tubes replugged)															

Total Tubes Plugged 2559
 Total Tubes Sleeved 1146
 Total Equivalent Plugs 2625.6
 % Tubes Plugged 14.34
 Total EFPY 6.557