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Subject: Arkansas Nuclear One - Unit 1
Docket No. 50-313
License No. DPR-51
Once Through Steam Generator Inservice Inspection Report

Gentlemen:

Arkansas Nuclear One, Unit 1 (ANO-1) Technical Specification 4.18.6 requires the complete results of each inservice inspection of the once through steam generator (OTSG) tubes to be submitted to the NRC within 45 days of the completion of the inspection. Attached is the Steam Generator Tubing Inservice Inspection Report for the ANO-1 thirteenth refueling outage (1R13). The OTSG tube inspections were completed on October 9, 1996.

The full length tube inspections of both the "A" and "B" OTSGs, along with the installed sleeves in the "B" OTSG, had Category C-2 results. The inspected sleeves in the "A" OTSG had Category C-3 results. The attached report supplements the information provided to the NRC by letter dated October 14, 1996 (1CAN109608), which was required to be submitted per ANO-1 Technical Specifications 4.18.6 and 6.12.5 as a result of the C-3 inspection results. The complete results of the inspections are included in the attachment.

Should you have any questions concerning this submittal, please contact me.

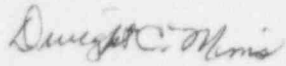
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Very truly yours,



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DCM/jjd

attachment

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ARKANSAS NUCLEAR ONE UNIT-1

STEAM GENERATOR TUBING INSERVICE INSPECTION
REPORT FOR THE THIRTEENTH REFUELING OUTAGE

INSPECTION SUMMARY

An inservice eddy current inspection was performed on tubes in the Arkansas Nuclear One, Unit-1 (ANO-1) once through steam generators (OTSGs) "A" and "B" during September and October 1996. The previous inservice inspection, conducted in February and March 1995, resulted in an eighteen month inspection interval per ANO-1 Technical Specification (TS) 4.18.4.a.

The thirteenth refueling outage (1R13) inspection was conducted in accordance with TS 4.18. The inspection included an essentially 100% full length examination of both OTSGs. In the "A" and "B" OTSGs respectively, 15,032 and 15,338 tubes without prior repairs were inspected in accordance with TS 4.18.3. The top six inches of five of these tubes in the "A" OTSG and four tubes in the "B" OTSG were not inspected due to manipulator installation. The inspection also included a first sample (20%) sleeve rolled joint inspection using the Plus Point coil. A subsequent sample (100%) sleeve rolled joint inspection was performed in both OTSGs.

Additional non-destructive examination (NDE) was completed to fulfill the commitments addressed in the ANO-1 responses to Generic Letter 95-03 (OCAN069508 and OCAN109506 dated June 17, 1995, and October 12, 1995, respectively). Those inspections included a one tube border surrounding the lane and wedge regions, a 10% sample of the largest dings in the upper and lower tubesheets, as well as at the 15th tube support plate (TSP), all non-stress relieved roll transitions, and the previously stated sleeve inspection. These areas were inspected using a motorized rotating pancake coil (MRPC) due to their potential susceptibility to circumferential cracking.

During the bobbin examination, an axial indication was detected in an upper stress relieved roll transition in the "B" OTSG. This indication was confirmed by MRPC inspection. Subsequently, a sample plan expansion was necessary. As a result of this expansion, twenty-one percent (21%) of the upper roll transitions were inspected in each OTSG. The inspection results are addressed below.

INSPECTION RESULTS

Tube wall degradation was observed in both the "A" and "B" OTSGs. In the "A" OTSG, sixty-eight (68) tubes were identified as having $\geq 40\%$ throughwall (TW) imperfections (defective per TS 4.18.5.a.6) and/or distorted or non-quantifiable indications (NQI). All sixty-eight (68) tubes were removed from service via plugging. One other tube was inadvertently plugged.

Thirty-nine (39) of the "A" OTSG defective tubes were contained within the region from the 15th TSP and above. Nine (9) tubes contained freespan axial indications located above the 10th TSP, similar to previously detected axial indications at the Oconee Nuclear Stations. One (1) tube that contained a freespan axial indication also contained an axial indication within a freespan dent located above the 11th TSP. Six (6) parent tube indications were located during the sleeve rolled joint inspection using the Plus Point coil. Fourteen (14) upper roll transition indications were detected in stress relieved expansion transitions.

In the "B" OTSG, forty-seven (47) tubes were identified as having $\geq 40\%$ TW imperfections and/or NQI. All forty-seven (47) tubes were removed from service via plugging.

Sixteen (16) of the "B" OTSG defective tubes were contained in the region from the 15th TSP and above. Four (4) tubes contained freespan axial indications located above the 10th TSP, similar to previously detected axial indications at the Oconee Nuclear Stations. One (1) tube contained an axial indication within a freespan dent located above the 12th TSP. One (1) sleeve indication and three (3) parent tube indications were located during the sleeve rolled joint inspection using the Plus Point coil. Ten (10) upper roll transition indications were detected in stress relieved expansion transitions. Nine (9) lower tubesheet (LTS) axial indications were detected. One (1) wear indication was detected at the 13th TSP and two (2) additional indications were detected in the freespan, one (1) above the 2nd TSP and one (1) above the 8th TSP.

All freespan axial indications detected with the bobbin coil probe were also inspected using an MRPC probe. The thirty-nine (39) "A" OTSG repairable indications and sixteen (16) "B" OTSG repairable indications located in the 15th TSP and above region can be attributed to intergranular attack (IGA). IGA has been known to exist in this area based upon analysis of tubes pulled in the 1978-1984 timeframe. Three (3) tubes were pulled during 1R13 to reconfirm the IGA damage mechanism. Results of the examination of these pulled tubes will be submitted to the NRC when completed. A discussion of the previous pulled tube analysis was provided to the staff in 1CAN098304, dated September 15, 1983. Information is also contained in EPRI Reports NP-4504-LD, NP-2790 and NP-7346-SD.

Additional tube pulls were performed within the "B" OTSG to further characterize and determine a cause for the LTS and upper roll transition indications. Results of the examinations of these pulled tubes will also be submitted to the NRC when completed.

No circumferential cracking was detected during the Generic Letter 95-03 inspections. Circumferential indications were identified within the sleeve-to-tube roll transitions; however, these indications, along with all other sleeve indications, are considered to be artifacts from the sleeve installation and/or also due to the enhanced eddy current testing method employed during the 1R13 outage. Eddy current techniques employed during

sleeve inspection prior to 1995 are not considered adequate for detection of these type of indications.

During the "B" OTSG bobbin inspection, tube 126-86 (row 126, line 86) previously characterized as being plugged during OTSG fabrication was found not to be plugged. This tube, along with two (2) other tubes in "B" OTSG, contained indications within the tube-to-tubesheet weld as identified by dye penetrant examination following original manufacturing. The original planned repair disposition was to plug the tubes. Later records indicate that the tube was replaced instead of being plugged. In 1R13, the tube was inspected full length using the bobbin coil with no detectable degradation noted. The remaining two (2) tubes were confirmed to be plugged.

Tables 1 and 2 list the defective tubes in the "A" and "B" OTSGs, respectively. Defect locations and size (% TW) as indicated by the primary inspection technique (bobbin coil) are also listed.

The inspection identified 396 tubes in the "A" OTSG and 300 tubes in the "B" OTSG with indications measuring 20-39% TW. Tables 3 and 4 list the degraded tubes (per TS 4.18.5.a.4) in the "A" and "B" OTSGs. Degradation location and size are also provided.

Tables 5 and 6 list the remaining tubes with imperfections ($\geq 1\%$ TW, but $< 20\%$ TW) in the "A" and "B" OTSGs, respectively. Degradation location and size are also provided.

TABLE 1
"A" OTSG TUBE DEFECTS
(≥ 40% TW & INDICATION CODES)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
1	1	7	0.8	UTE - 1.43		ID MAI
2	2	27	0.6	14S + 27.90		SAI
3	9	17	0.93	UTE - 1.47		ID SAI
4	11	62	0.64	LTS - 13.09		SVI
5	14	26	0.66	UTS + 9.45	42	
6	15	36	1.16	UTE - 1.51		ID MAI
7	15	41	1.13	UTE - 1.51		ID MAI
8	17	29	0.87	UTE - 1.39		ID SAI
9	18	57	1.16	LTS - 15.11		SVI
10	19	14	0.31	UTS - 6.12		SVI
			0.95	11S + 23.10		SAI
11	24	3	2.18	UTE - 1.50		ID SAI
12	25	5	0.75	UTE - 1.31		ID MAI
13	25	85	0.89	UTS + 5.58	45	
14	28	96	0.48	LTS - 4.44		SVI
			0.41	LTS - 3.77		SVI
15	29	10	0.92	07S + 17.96		SVI
16	29	101	0.54	12S - 6.15		SAI
17	33	101	0.5	UTS + 14.55	48	
18	35	17	0.94	UTE - 1.47		ID MAI
19	37	21	0.97	UTE - 1.57		ID SAI
20	40	17	1.15	14S + 28.30		SAI
	40	17	0.82	14s + 3.42		SAI
21	41	97	0.57	LTS - 1.97		SVI
22	44	108	0.68	UTS + 9.83	41	
23	45	3	0.59	UTS + 9.18	40	
24	49	2	0.55	UTS + 8.11	49	
25	56	124	0.42	UTS + 13.29	46	
26	57	24	0.11	15S - 3.16		SAI
27	59	108	0.21	13S + 1.26		SVI
28	67	130	0.41	11S - 5.74		SAI
29	70	74	1.31	13S - 5.28		SVI
30	75	17	3.4	15S - 4.40		ID SCI/TUBE*
31	76	86	1.15	UTS + 21.33	42	
32	79	1	5.92	UTE - 0.53		ID MAI/TUBE*
33	79	5	1.22	UTE - 1.31		ID SCI/TUBE*
	79	5	9.17	UTE - 2.14		SVI
34	79	113	1.74	UTE - 1.45		SVI
35	80	29	1.69	UTS + 0.62	40	

TABLE 1
"A" OTSG TUBE DEFECTS
(≥ 40% TW & INDICATION CODES)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
36	80	67	1.15	UTS + 0.09		SVI
37	81	1	11.59	UTE - 0.55		ID MAI/TUBE*
38	81	31	0.84	UTS + 0.12		SVI
39	81	35	0.36	09S + 26.65		SVI
40	82	3	1.02	UTE - 1.47		ID SCI/TUBE*
41	86	10	1.06	UTS + 9.18	41	
42	88	55	0.28	UTS + 17.40	40	
43	88	129	0.89	02S + 32.22		SVI
44	90	121	1.49	10S + 12.76		SVI
45	98	122	1.04	UTS + 12.11	41	
46	99	14	0.61	UTS + 9.58	51	
47	99	17	0.41	UTS + 8.27	42	
48	102	4	7.76	UTE - 1.44		ID SCI/TUBE*
49	102	123	8.79	11S+ 16.32		SAI
			2.41	15S + 9.25		SAI
				to + 11.40		
			0.78	15S + 10.91	41	
			1.72	15S + 10.12	48	
			2.17	15S + 9.85	51	
			0.87	15S + 10.58	53	
50	105	2	0.53	UTE - 1.56		ID SAI
51	105	21	0.89	15S + 31.31	40	
			1.13	15S + 32.95		SAI
52	105	120	0.69	UTS + 6.38	40	
53	112	18	1.26	15S + 7.82		SAI
			0.54	15S + 8.55		SAI
			0.55	15S + 6.96		SAI
			0.57	15S + 6.20		SAI
			0.68	15S + 31.03		SAI
54	113	18	0.17	UTS - 5.01		SAI
55	116	107	0.99	UTS + 14.81	43	
56	118	17	0.94	UTE - 1.40		SVI
57	118	87	0.57	15S + 15.17		SVI
58	118	103	1.33	UTE - 1.91		SVI
59	122	101	0.4	UTS + 9.56	43	
60	123	9	0.6	UTS + 8.90	44	
61	123	89	0.57	UTS + 9.12	63	
62	124	85	1.07	15S + 42.06		SVI

TABLE 1
"A" OTSG TUBE DEFECTS
($\geq 40\%$ TW & INDICATION CODES)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
63	132	85	1.92	UTE - 1.46		ID MAI
64	140	58	1.81	14S + 11.57		SVI
65	141	40	1.94	03S + 16.28		SVI
66	144	33	2.04	LTE + 9.37		SVI
67	146	42	0.48	UTS + 3.30	42	
68	151	14	0.94	15S + 18.57		SVI

LEGEND: UTS - Upper Tubesheet Secondary Face
 LTS - Lower Tube Sheet Secondary Face
 UTE - Upper Tube End
 LTE - Lower Tube End
 S - Tube Support Plate
 12S +/- X.X - Defect located X.X inches above/below the 12th TSP
 ID - Inside Diameter
 SVI - Single Volumetric Indication
 SAI - Single Axial Indication
 SCI - Single Circumferential Indication
 MAI - Multiple Axial Indication
 * Indication within parent tube in which a sleeve is located

TABLE 2
"B" OTSG TUBE DEFECTS
(≥ 40% TW & INDICATION CODES)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
1	11	34	2.54	02S + 15.26		SVI
2	14	21	0.74	UTE - 1.50		ID SAI
3	24	35	2.71	LTS - 0.59	73	
			2.3	LTS + 0.16		MAI
4	26	35	0.97	LTS + 0.28		OD MAI
5	26	36	6.13	LTS - 0.60	49	
			3.84	LTS + 0.13		SAI
6	27	35	0.14	LTS + 0.10		OD MAI
7	27	36	23.58	LTS + 0.05	80	
			6.32	LTS + 0.13		MAI
8	27	97	0.79	UTE - 1.43		ID SAI
9	28	35	3.79	LTS + 0.11	46	
			2.86	LTS + 0.08		SAI
10	28	36	0.64	LTS + 0.11		OD MAI
11	30	10	1.2	12S + 3.50	45	
12	30	39	0.79	LTS + 0.09		OD MAI
13	31	40	10.22	LTS + 0.08	83	
			9.92	LTS + 0.44		OD MAI
14	42	102	1.47	UTE - 1.26		OD SVI
15	53	4	1.27	UTS + 6.18	48	
16	53	116	0.86	UTE - 1.35		ID SAI
17	54	57	1.85	UTE - 1.45		ID SAI
18	55	126	2.44	UTE - 1.48		ID MAI
19	58	127	4.84	UTE - 1.49		ID MAI
20	58	129	1.74	UTE - 1.48		ID MAI
21	60	123	1.69	UTE - 1.71		ID MAI
22	65	7	1.23	UTS + 6.79	41	
23	69	20	0.65	15S + 2.15	40	
24	70	37	1.75	UTS + 7.82	60	
25	72	29	1.23	UTS + 2.86	40	
26	72	57	0.63	UTS + 5.45	40	
27	73	50	1.61	UTE - 1.66		ID SAI/SLEEVE
28	77	57	1.44	UTS + 6.16	44	
29	80	18	1.62	UTS + 6.71	40	
30	81	18	1.16	UTE - 0.62		ID SCI/SLEEVE
31	83	47	0.71	UTS + 8.94	42	
32	83	48	1.93	UTS + 4.59	41	
33	83	52	1.73	UTS + 6.67	42	
34	87	14	0.7	UTS + 4.59	45	

TABLE 2
"B" OTSG TUBE DEFECTS
($\geq 40\%$ TW & INDICATION CODES)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
35	88	5	3.39	UTE - 0.74		ID SCI/SLEEVE
36	89	14	0.71	UTS + 4.02	45	
37	91	112	0.5	08S + 6.98	40	
38	103	107	0.48	UTE - 1.44		ID SAI
39	108	33	1.95	15S + 7.94	40	
40	115	111	6.85	13S + 0.71	47	WAR
41	120	5	0.67	UTS + 5.87	43	
42	128	2	2.19	UTS + 5.73	42	
43	129	7	4.70	15S - 7.15		OD SCI/SLEEVE**
44	149	17	0.22	14S + 9.94 to 33.78		OD MAI
45	150	11	0.45	10S + 21.69		OD MAI
			0.53	15S - 2.72		OD MAI
			0.95	15S - 1.85		OD MAI
46	151	5	1.48	15S - 2.76		OD MAI
			1.69	15S - 3.40		OD MAI
			2.05	15S - 4.01		OD MAI
47	151	6	0.36	15S - 3.52		SAI

LEGEND: UTS - Upper Tubesheet Secondary Face
LTS - Lower Tube Sheet Secondary Face
UTE - Upper Tube End
S - Tube Support Plate
12S +/- X.X - Defect located X.X inches above/below the 12th TSP
ID - Inside Diameter
OD - Outside Diameter
SVI - Single Volumetric Indication
SAI - Single Axial Indication
SCI - Single Circumferential Indication
MAI - Multiple Axial Indication
WAR - Wear Indication
* Indication within parent tube in which a sleeve is located
** Indication within sleeve material

TABLE 3
"A" OTSG TUBE DEGRADATION
(20 - 39% TW)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
1	1	4	0.99	UTS + 22.36	26	ODI
2	1	14	0.74	11S + 3.61	38	ODI
3	3	2	1.04	UTS + 20.05	29	ODI
4	3	5	0.90	10S + 0.38	22	ODI
5	4	5	1.36	06S + 35.35	26	ODI
6	4	9	0.86	UTS + 20.18	34	ODI
7	5	9	0.34	15S + 24.09	28	ODI
8	7	28	3.27	UTS + 18.55	29	ODI
9	7	52	0.34	15S + 39.22	24	ODI
10	8	18	0.78	UTS + 16.17	34	ODI
11	8	27	1.00	03S + 23.37	23	ODI
12	8	39	1.73	UTS + 7.35	26	ODI
13	8	42	0.85	LTE + 6.51	20	ODI
14	9	32	1.35	UTS + 6.00	36	ODI
15	9	39	0.41	15S + 22.79	30	ODI
			0.69	15S + 24.97	30	ODI
16	10	35	0.62	UTS + 5.87	39	ODI
17	11	30	1.41	UTS + 8.47	26	ODI
18	12	24	0.87	UTS + 7.63	38	ODI
19	13	25	1.88	UTS + 8.73	36	ODI
20	13	31	0.25	04S + 12.69	22	ODI
21	13	54	0.42	UTS + 0.97	30	ODI
			1.11	15S + 36.36	35	ODI
22	15	37	0.78	UTS + 8.43	28	ODI
23	16	13	0.59	UTS + 17.29	28	ODI
24	16	27	0.42	UTS + 19.21	25	ODI
25	17	44	1.56	UTS + 20.06	34	ODI
26	17	57	3.02	UTE - 1.39	28	ODI
27	19	14	0.42	14S + 22.93	26	ODI
			2.56	15S + 40.71	31	ODI
28	19	78	0.47	15S + 36.96	34	ODI
29	20	8	0.53	15S + 24.87	34	ODI
30	20	68	0.81	06S + 1.43	39	ODI
31	20	78	0.60	UTS + 19.89	29	ODI
32	21	44	0.54	UTS + 3.77	29	ODI
33	21	49	0.49	UTS + 5.60	37	ODI
34	23	42	0.31	UTS + 16.90	30	ODI
35	23	53	0.43	UTS + 5.37	29	ODI
36	23	91	0.57	LTE + 2.54	27	ODI

TABLE 3
"A" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
37	24	16	0.87	UTS + 9.79	27	ODI
38	24	48	0.31	LTS + 30.50	33	ODI
39	24	55	0.43	01S + 21.37	24	ODI
40	25	55	0.44	15S + 31.83	28	ODI
41	25	59	0.45	UTS + 13.32	25	ODI
42	26	55	1.17	UTS + 7.45	33	ODI
43	26	65	0.55	13S + 6.67	35	ODI
44	26	92	0.65	15S + 13.60	28	ODI
45	27	27	0.47	UTS + 5.62	36	ODI
46	27	31	1.41	UTS + 6.08	24	ODI
47	28	8	1.36	UTS + 18.97	38	ODI
48	29	53	0.26	UTS + 3.60	23	ODI
49	29	62	0.39	15S + 27.01	29	ODI
50	29	67	0.83	UTS + 16.91	28	ODI
51	30	104	0.61	UTS + 11.66	20	ODI
52	31	106	1.07	UTS + 12.52	33	ODI
53	32	94	1.14	UTS + 8.60	22	ODI
54	33	59	0.64	UTS + 16.59	30	ODI
55	34	13	0.31	UTS + 9.22	33	ODI
56	37	12	0.90	UTS + 5.83	38	ODI
57	37	13	0.78	UTS + 9.27	34	ODI
58	37	70	1.15	UTS + 17.84	27	ODI
59	38	10	1.07	UTS + 4.14	31	ODI
60	39	47	0.46	UTS + 6.42	37	ODI
61	39	71	1.25	UTS + 19.17	21	ODI
62	39	89	1.00	04S + 26.64	34	ODI
			0.75	04S + 10.54	37	ODI
63	39	110	1.32	15S + 43.34	31	ODI
			1.01	15S + 43.95	32	ODI
64	40	13	0.40	UTS + 6.37	24	ODI
65	40	15	0.40	UTS + 7.97	34	ODI
66	40	50	0.59	15S + 5.91	32	ODI
67	40	78	0.41	UTS + 10.96	25	ODI
68	40	100	0.47	UTS + 6.51	32	ODI
69	40	116	0.56	UTS + 16.37	37	ODI
70	41	15	0.21	UTS + 11.60	25	ODI
71	41	68	0.44	03S + 14.63	31	ODI
72	41	71	0.84	UTS + 19.27	25	ODI

TABLE 3
"A" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
73	41	91	0.34	15S + 27.51	35	ODI
74	42	15	0.79	13S + 20.84	24	ODI
75	43	105	0.80	UTS + 14.10	22	ODI
76	43	107	0.48	UTS + 8.60	30	ODI
77	43	108	0.40	UTS + 9.86	29	ODI
78	44	12	0.38	13S + 20.15	23	ODI
79	44	110	0.42	UTS + 0.38	25	ODI
80	46	24	0.44	07S + 31.14	30	ODI
81	46	87	0.35	03S + 16.35	30	ODI
82	46	117	0.55	UTS + 6.58	35	ODI
83	48	21	0.57	UTS + 2.78	31	ODI
84	48	24	0.26	07S + 0.37	38	ODI
			0.26	UTS + 5.52	32	ODI
85	48	40	0.77	15S + 38.85	26	ODI
86	48	46	0.83	15S + 29.12	33	ODI
87	48	68	0.65	13S + 17.39	23	ODI
88	49	75	0.33	UTS + 14.25	21	ODI
89	50	52	0.84	15S + 13.75	31	ODI
90	51	21	0.55	UTS + 11.75	34	ODI
91	51	95	1.13	12S + 11.15	32	ODI
92	51	114	0.52	UTS + 5.75	33	ODI
93	51	116	0.33	UTS + 8.44	23	ODI
			0.93	UTS + 4.77	35	ODI
94	51	119	0.64	UTS + 8.21	27	ODI
95	52	52	0.43	UTS + 20.13	25	ODI
96	52	74	0.75	UTS + 6.73	35	ODI
97	52	98	0.46	UTS + 10.83	25	ODI
98	53	68	0.51	UTS + 10.21	29	ODI
99	53	96	0.37	UTS + 12.29	35	ODI
100	53	97	0.61	UTS + 5.21	29	ODI
101	53	109	0.50	UTS + 4.48	21	ODI
102	53	115	0.81	UTS + 18.12	31	ODI
103	54	53	0.56	UTS + 11.08	24	ODI
			0.75	UTS + 14.26	33	ODI
104	55	12	0.70	UTS + 16.81	35	ODI
105	55	49	0.69	01S + 6.87	28	ODI
106	55	123	0.88	UTS + 11.53	35	ODI
107	55	124	0.68	UTS + 9.32	30	ODI

TABLE 3
"A" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
108	56	59	0.67	UTS + 13.15	20	ODI
109	56	79	0.53	15S + 36.82	34	ODI
110	56	112	0.45	UTS + 11.57	25	ODI
111	56	123	0.77	UTS + 13.32	25	ODI
112	56	125	0.62	UTS + 8.59	33	ODI
113	56	127	0.31	UTS + 8.87	25	ODI
114	57	12	1.06	UTS + 6.14	34	ODI
115	57	68	0.45	14S + 32.81	23	ODI
116	57	79	0.44	UTS + 16.75	25	ODI
117	57	120	0.40	02S + 19.19	21	ODI
118	57	123	0.67	UTS + 8.71	28	ODI
119	57	126	0.47	UTS + 3.88	23	ODI
120	58	26	0.38	UTS + 11.49	32	ODI
			0.54	UTS + 7.92	32	ODI
121	58	45	0.68	02S + 33.01	22	ODI
122	58	71	0.70	LTS + 8.56	22	ODI
123	58	103	1.32	UTS + 13.96	24	ODI
124	59	5	1.11	UTS + 19.73	34	ODI
125	59	8	1.64	UTS + 11.83	24	ODI
126	59	17	0.66	UTS + 9.31	35	ODI
127	59	58	0.38	UTS + 21.70	21	ODI
128	59	113	0.38	UTS + 11.18	29	ODI
129	60	2	0.81	UTS + 7.52	38	ODI
130	60	59	0.77	UTS + 10.58	30	ODI
131	60	124	0.84	UTS + 10.84	38	ODI
132	60	127	0.64	UTS + 13.64	31	ODI
133	60	128	0.27	LTS + 8.62	31	ODI
134	61	40	0.99	UTS + 7.36	39	ODI
135	61	111	0.40	14S + 2.08	21	ODI
136	61	124	0.47	13S + 27.20	28	ODI
137	62	72	0.45	LTS + 1.61	31	ODI
138	62	99	0.92	UTS + 4.15	32	ODI
139	63	89	0.52	06S - 0.62	29	ODI
140	64	22	0.63	UTS + 4.66	35	ODI
141	64	50	0.39	UTS + 18.63	25	ODI
142	64	53	0.73	UTS + 9.32	31	ODI
143	64	66	0.60	LTS + 0.43	25	ODI
144	64	105	1.34	10S + 20.69	21	ODI

TABLE 3
"A" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
145	65	56	0.48	UTS + 12.89	33	ODI
			0.47	UTS + 14.28	36	ODI
146	65	57	0.39	UTS + 5.57	25	ODI
147	65	63	0.86	UTS + 17.20	33	ODI
148	65	77	0.49	06S - 0.51	21	ODI
149	65	80	0.51	10S + 26.90	37	ODI
150	65	120	0.43	UTS + 9.98	32	ODI
151	66	12	0.81	UTS + 17.87	27	ODI
152	66	123	0.76	UTS + 8.96	38	ODI
153	66	127	0.35	UTS + 6.46	35	ODI
154	67	10	0.68	UTS + 10.91	29	ODI
155	67	120	0.55	UTS + 4.84	39	ODI
156	68	8	0.63	UTS + 10.80	31	ODI
157	68	16	1.68	UTS + 11.90	37	ODI
158	68	17	1.00	UTS + 11.96	26	ODI
159	68	36	1.08	UTS + 11.61	33	ODI
160	68	59	1.51	UTS + 5.50	37	ODI
161	68	96	0.69	06S + 0.16	34	ODI
162	68	130	0.70	UTS + 5.78	30	ODI
163	69	16	1.55	UTS + 2.67	25	ODI
164	69	20	0.46	UTS + 14.57	37	ODI
165	69	22	0.42	UTS + 7.30	37	ODI
166	69	30	1.31	UTS + 11.23	38	ODI
167	69	39	0.29	UTS + 13.51	30	ODI
168	69	40	0.98	UTS + 17.54	35	ODI
			1.85	UTS + 9.32	39	ODI
169	69	54	1.22	UTS + 13.80	27	ODI
			0.53	UTS + 18.66	29	ODI
170	69	74	1.16	UTS + 18.70	39	ODI
171	69	89	0.34	06S + 0.57	24	ODI
172	69	117	0.86	UTS + 6.31	32	ODI
173	70	11	0.75	UTS + 14.54	27	ODI
174	70	19	0.32	UTS + 15.33	33	ODI
175	70	21	1.09	UTS + 20.88	32	ODI
			0.57	UTS + 8.77	37	ODI
176	70	75	0.47	13S + 2.40	26	ODI
177	71	16	0.54	UTS + 7.22	26	ODI
178	71	19	1.29	UTS + 6.97	30	ODI

TABLE 3
"A" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
179	71	32	0.50	UTS + 7.82	36	ODI
180	71	45	0.42	UTS + 6.63	30	ODI
181	71	57	0.87	UTS + 0.53	35	ODI
182	72	55	1.84	UTS + 14.34	32	ODI
183	72	56	0.64	UTS + 4.79	23	ODI
184	72	64	0.37	UTS + 13.61	28	ODI
185	72	78	0.41	14S + 17.42	32	ODI
186	72	106	1.35	UTS + 12.05	34	ODI
187	72	130	0.46	10S + 0.62	38	ODI
188	73	83	0.79	06S - 0.46	27	ODI
189	73	99	1.78	UTS + 15.78	32	ODI
190	73	112	0.40	UTS + 17.30	23	ODI
191	74	30	1.21	08S + 0.53	26	ODI
192	74	58	0.83	UTS + 13.72	34	ODI
193	74	64	1.09	UTS + 0.72	32	ODI
194	76	78	0.85	UTS + 20.35	28	ODI
195	76	88	0.97	15S + 44.20	34	ODI
196	76	122	0.66	08S - 0.08	30	ODI
197	77	88	0.82	UTS + 11.59	25	ODI
198	77	112	0.96	15S + 6.78	26	ODI
199	78	46	0.64	UTS + 1.04	27	ODI
200	78	93	1.70	15S + 14.46	31	ODI
201	79	36	0.51	11S + 0.58	25	ODI
202	79	44	0.35	08S + 0.75	35	ODI
203	79	60	0.44	07S - 0.81	34	ODI
204	79	90	0.33	01S + 4.42	23	ODI
205	80	14	0.74	UTS + 10.52	25	ODI
			0.75	UTS + 4.04	27	ODI
206	80	51	0.45	07S + 0.56	24	ODI
207	80	53	0.94	07S - 0.67	35	ODI
208	80	58	0.47	08S - 0.74	23	ODI
209	80	62	0.56	UTS + 14.35	35	ODI
210	80	64	0.32	UTS + 20.01	27	ODI
211	80	67	1.04	UTS + 1.09	38	ODI
212	80	87	0.75	04S + 13.98	28	ODI
213	80	131	0.57	UTS + 20.01	25	ODI
214	81	17	0.36	UTS + 16.34	35	ODI
215	81	25	0.78	UTS + 17.30	34	ODI

TABLE 3
"A" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
216	81	49	0.95	UTS + 0.97	34	ODI
217	81	55	0.31	UTS + 13.07	22	ODI
			0.39	UTS + 16.66	27	ODI
			0.32	UTS + 11.50	28	ODI
218	81	56	0.72	UTS + 10.58	33	ODI
219	81	107	0.31	UTS + 9.31	26	ODI
220	81	113	0.83	15S + 4.24	32	ODI
221	81	125	0.56	LTS + 40.61	25	ODI
222	82	23	0.56	UTS + 17.36	37	ODI
223	82	27	1.02	UTS + 6.91	31	ODI
224	82	31	1.03	UTS + 17.62	32	ODI
225	82	32	0.91	UTS + 5.79	34	ODI
226	82	33	0.22	02S + 14.88	22	ODI
227	82	34	1.11	UTS + 8.66	29	ODI
228	82	37	0.49	UTS + 11.61	20	ODI
229	82	55	1.15	UTS + 12.39	32	ODI
230	82	78	0.23	10S + 29.59	36	ODI
231	82	95	0.44	06S + 25.77	29	ODI
232	83	17	0.63	UTS + 0.38	28	ODI
233	83	26	0.49	12S + 0.32	24	ODI
234	83	51	0.91	UTS + 11.00	37	ODI
235	83	96	0.35	13S + 26.79	20	ODI
236	83	112	0.39	15S + 25.67	25	ODI
237	83	122	0.46	UTS + 1.71	33	ODI
			0.39	15S + 41.08	34	ODI
			0.27	15S + 38.83	36	ODI
			0.36	15S + 45.27	36	ODI
238	83	130	0.64	UTS + 5.71	25	ODI
239	84	35	0.25	UTS + 14.81	31	ODI
240	84	45	0.54	UTS + 17.15	36	ODI
241	84	47	0.31	08S - 0.76	27	ODI
242	84	64	0.47	UTS + 8.67	26	ODI
			0.91	15S + 33.11	29	ODI
			0.45	15S + 31.95	32	ODI
243	85	13	0.71	UTS + 7.38	32	ODI
244	85	26	0.98	UTS + 7.71	36	ODI
245	85	43	1.33	UTS + 21.15	29	ODI
			0.51	UTS + 18.97	33	ODI

TABLE 3
"A" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
246	85	53	0.90	UTS + 16.72	31	ODI
			0.72	UTS + 17.30	34	ODI
247	86	12	0.68	10S - 0.75	37	ODI
248	86	16	1.72	UTS + 5.16	21	ODI
249	86	34	1.23	UTS + 8.47	31	ODI
250	86	75	0.37	UTS + 4.69	35	ODI
251	86	113	0.45	UTS + 20.91	32	ODI
252	86	128	1.56	14S + 3.69	20	ODI
253	86	130	0.94	UTS + 3.77	32	ODI
254	87	12	0.58	UTS + 5.96	35	ODI
255	87	45	0.91	UTS + 13.76	36	ODI
256	87	79	0.38	01S + 31.59	20	ODI
257	88	59	0.42	UTS + 15.13	32	ODI
258	88	61	1.46	UTS + 15.78	28	ODI
259	89	52	1.79	UTS + 17.90	30	ODI
260	90	65	0.30	15S + 24.34	36	ODI
261	91	56	0.40	UTS + 16.60	23	ODI
			0.28	UTS + 15.15	26	ODI
262	92	2	0.75	UTS + 1.01	35	ODI
263	92	4	0.50	UTS + 17.15	33	ODI
264	92	11	0.40	UTS + 0.93	33	ODI
265	92	63	0.28	13S + 14.71	20	ODI
266	92	109	0.60	UTS + 4.18	36	ODI
267	92	119	0.96	UTS + 7.23	35	ODI
268	92	127	0.41	UTS + 6.08	27	ODI
269	94	2	1.71	UTS + 6.16	32	ODI
			1.16	UTS + 1.03	35	ODI
270	94	5	0.45	UTS + 12.38	34	ODI
271	94	121	0.48	UTS + 5.76	34	ODI
272	95	30	1.04	UTS + 12.88	31	ODI
273	95	54	1.16	UTS + 15.70	27	ODI
274	95	74	0.90	UTS + 16.51	31	ODI
275	96	25	0.41	UTS + 8.43	32	ODI
276	97	53	1.09	UTS + 12.91	21	ODI
277	97	109	0.47	UTS + 3.30	29	ODI
278	97	113	0.49	14S + 20.95	23	ODI
279	97	119	0.41	UTS + 3.62	35	ODI
280	98	6	1.14	UTS + 6.21	31	ODI

TABLE 3
"A" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
281	98	123	0.80	UTS + 6.99	36	ODI
282	99	23	0.59	14S + 26.70	36	ODI
283	99	54	0.33	UTS + 16.03	21	ODI
284	99	77	0.19	01S + 26.72	34	ODI
285	99	123	1.10	UTS + 9.75	38	ODI
286	100	46	0.37	UTS + 15.37	23	ODI
287	100	51	0.57	UTS + 19.65	32	ODI
288	100	110	0.28	UTS + 4.31	27	ODI
289	101	112	0.94	UTS + 9.34	29	ODI
290	102	2	0.65	UTS + 12.63	37	ODI
			0.96	UTS + 11.39	26	ODI
291	102	14	0.69	UTS + 10.04	39	ODI
292	102	82	0.65	15S + 44.49	31	ODI
293	102	95	0.59	UTS + 19.54	30	ODI
294	102	112	0.77	UTS + 12.77	27	ODI
295	102	116	0.46	04S + 32.58	24	ODI
			0.40	04S + 12.95	35	ODI
296	103	5	0.45	UTS + 18.61	32	ODI
297	103	8	1.16	UTS + 10.49	29	ODI
298	104	15	1.79	UTS + 12.28	36	ODI
			1.96	UTS + 8.82	36	ODI
299	104	50	0.52	03S + 31.17	26	ODI
300	104	92	0.32	15S + 40.15	29	ODI
301	104	101	0.81	06S + 1.20	23	ODI
302	105	3	0.81	UTS + 9.25	30	ODI
			1.05	UTS + 14.28	34	ODI
303	105	9	0.55	UTS + 6.33	32	ODI
304	105	21	0.57	15S + 31.58	34	ODI
305	105	40	0.84	07S + 0.14	20	ODI
306	105	45	0.69	UTS + 10.74	28	ODI
307	105	112	0.32	UTS + 7.92	33	ODI
308	105	120	0.38	UTS + 4.47	32	ODI
309	106	89	0.36	15S + 26.55	32	ODI
			0.35	15S + 1.53	34	ODI
			0.52	15S + 31.50	34	ODI
			0.69	15S + 30.18	36	ODI
			0.43	15S + 18.85	38	ODI
310	107	2	0.39	08S + 0.43	22	ODI

TABLE 3
"A" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
311	107	76	0.47	07S - 0.08	22	ODI
312	108	99	0.68	UTS + 4.07	24	ODI
313	109	19	0.28	15S + 8.42	33	ODI
			0.26	15S + 39.95	36	ODI
314	110	11	1.35	15S + 20.95	34	ODI
315	110	67	0.46	12S + 3.92	29	ODI
316	111	107	0.55	UTS + 7.05	28	ODI
317	111	109	1.07	UTS + 5.69	32	ODI
318	112	18	0.63	15S + 26.64	32	ODI
			0.77	15S + 7.75	32	ODI
			0.61	15S + 6.77	38	ODI
			0.73	15S + 8.34	38	ODI
319	112	59	0.41	01S + 1.45	24	ODI
			0.79	UTS + 13.76	38	ODI
320	113	18	0.47	15S + 41.10	35	ODI
321	114	32	0.38	07S + 0.27	31	ODI
322	114	94	0.62	UTS + 3.43	22	ODI
323	115	51	0.28	13S + 15.26	28	ODI
324	115	108	0.77	UTS + 10.54	31	ODI
325	115	114	0.34	UTS + 1.41	26	ODI
326	116	72	0.42	UTS + 14.81	26	ODI
327	116	98	0.95	UTS + 18.55	32	ODI
328	116	104	0.52	UTS + 5.07	29	ODI
329	116	106	0.62	UTS + 7.24	37	ODI
330	117	13	0.53	UTS + 8.47	28	ODI
331	117	62	0.32	15S + 27.00	28	ODI
			0.67	15S + 21.18	28	ODI
			0.33	15S + 32.48	29	ODI
332	117	66	0.44	UTS + 19.49	28	ODI
333	117	95	0.71	UTS + 16.33	29	ODI
334	117	99	1.31	UTS + 3.88	31	ODI
335	118	87	0.35	15S + 14.72	25	ODI
336	119	3	0.67	UTS + 8.27	32	ODI
337	120	87	0.95	11S - 0.68	32	ODI
338	120	96	1.50	UTS + 19.61	24	ODI
339	120	99	3.27	UTS + 18.70	28	ODI
340	120	105	0.72	UTS + 4.81	37	ODI
341	120	106	0.71	UTS + 4.08	35	ODI

TABLE 3
"A" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
342	121	72	0.82	UTS + 14.95	22	ODI
343	122	40	0.38	15S + 20.83	34	ODI
344	122	52	0.91	14S + 26.87	22	ODI
345	122	87	0.97	UTS + 19.80	26	ODI
346	123	33	0.35	09S + 18.38	21	ODI
			0.73	09S + 18.87	21	ODI
347	123	39	0.53	UTS + 17.02	25	ODI
348	123	47	0.84	UTS + 17.20	23	ODI
349	123	61	0.76	UTS + 10.05	35	ODI
350	123	93	0.35	06S + 0.62	27	ODI
351	123	100	0.58	UTS + 6.78	37	ODI
352	124	12	0.71	UTS + 12.51	24	ODI
353	125	3	0.40	13S + 2.11	28	ODI
354	125	43	0.65	UTS + 14.97	25	ODI
355	125	90	0.35	UTS + 11.33	24	ODI
356	125	98	0.76	UTS + 10.40	33	ODI
357	126	8	0.51	15S + 13.59	31	ODI
			0.69	15S + 11.36	34	ODI
358	126	12	0.58	15S + 42.03	34	ODI
359	126	29	0.80	UTS + 10.46	31	ODI
360	126	94	0.57	UTS + 8.16	24	ODI
361	126	96	0.38	UTS + 8.55	32	ODI
362	126	99	0.97	UTS + 8.41	29	ODI
363	127	1	0.76	15S + 11.46	25	ODI
364	127	27	0.39	UTS + 4.20	30	ODI
365	127	52	0.33	UTS + 14.06	24	ODI
366	127	67	0.49	UTS + 19.72	32	ODI
367	128	89	1.10	15S + 8.15	32	ODI
368	129	10	0.29	15S + 41.07	29	ODI
369	129	26	0.76	UTS + 16.30	26	ODI
370	129	91	0.98	UTS + 8.36	37	ODI
371	131	31	1.02	UTS + 14.50	27	ODI
372	131	35	0.98	UTS + 11.14	24	ODI
			0.46	UTS + 15.58	31	ODI
373	132	29	0.32	UTS + 7.73	29	ODI
374	132	80	0.25	UTS + 11.15	27	ODI
375	132	83	0.43	10S - 0.68	31	ODI
376	134	3	0.21	UTS + 7.56	29	ODI

TABLE 3
"A" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
377	134	22	0.68	UTS + 12.15	26	ODI
			0.89	UTS + 20.22	28	ODI
			0.69	UTS + 17.73	32	ODI
378	134	31	0.71	UTS + 9.83	36	ODI
379	136	33	0.63	UTS + 15.17	36	ODI
380	136	45	0.35	UTS + 14.19	22	ODI
381	136	76	0.57	UTS + 11.65	33	ODI
382	137	3	0.47	UTS + 6.98	31	ODI
383	137	12	0.40	UTS + 6.07	26	ODI
384	138	31	0.89	UTS + 5.24	31	ODI
385	138	72	0.92	UTS + 7.27	38	ODI
386	139	51	0.36	UTS + 8.76	30	ODI
387	140	29	0.60	UTS + 5.91	29	ODI
388	140	58	0.64	14S + 11.63	27	ODI
389	142	49	0.44	UTS + 6.68	29	ODI
			0.66	UTS + 7.49	32	ODI
			0.21	UTS + 10.67	20	ODI
390	144	26	0.51	02S + 21.96	26	ODI
			0.34	13S + 31.11	33	ODI
			0.31	02S + 28.88	37	ODI
			1.27	02S + 27.94	38	ODI
392	146	32	0.35	UTS + 17.35	28	ODI
393	146	48	1.02	UTS + 8.42	32	ODI
394	147	35	1.40	UTS + 17.02	22	ODI
395	147	44	0.28	05S + 1.46	25	ODI
396	147	45	0.43	05S + 1.03	39	ODI
397	148	6	0.33	UTS + 6.85	38	ODI
398	148	38	0.59	07S + 21.42	22	ODI
399	151	5	0.68	10S + 0.62	37	ODI
400	151	12	0.48	UTS + 19.04	30	ODI
401	151	14	0.33	15S + 17.78	27	ODI

TABLE 3
"A" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

LEGEND: UTS - Upper Tubesheet Secondary Face
 LTS - Lower Tube Sheet Secondary Face
 UTE - Upper Tube End
 LTE - Lower Tube End
 S - Tube Support Plate
 12S +/- X.X - Defect located X.X inches above/below the 12th TSP
 ODI - Outside Diameter Indication

TABLE 4
"B" OTSG TUBE DEGRADATION
(20 - 39% TW)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
1	3	4	0.62	UTS + 22.33	36	ODI
2	4	21	0.59	14S - 0.79	38	ODI
3	6	15	0.40	10S + 0.51	35	ODI
4	8	54	0.52	15S + 28.50	28	ODI
5	10	8	0.64	10S - 0.84	34	ODI
6	11	19	0.67	09S + 6.36	39	ODI
7	13	6	0.41	UTS + 10.97	27	ODI
8	14	6	0.42	06S - 0.38	20	ODI
9	16	11	0.44	08S - 0.76	36	ODI
10	18	23	1.75	UTS + 17.31	27	ODI
			0.70	UTS + 14.89	31	ODI
11	18	44	0.42	LTS + 24.11	25	ODI
12	19	46	0.26	01S + 34.75	33	ODI
13	21	15	0.61	UTS + 18.50	37	ODI
14	22	90	0.65	UTS + 6.24	30	ODI
15	23	41	0.44	UTS + 21.14	31	ODI
16	23	53	0.93	LTE + 13.74	28	ODI
17	24	8	1.02	UTS + 12.90	30	ODI
			0.54	UTS + 13.54	32	ODI
18	25	2	0.34	14S + 9.23	39	ODI
19	25	9	0.67	UTS + 16.69	32	ODI
20	25	13	0.51	UTS + 18.92	23	ODI
21	26	18	0.56	UTS + 7.00	37	ODI
22	27	44	0.36	05S + 0.27	23	ODI
23	29	102	1.34	UTS + 6.48	30	ODI
			1.68	UTS + 6.52	36	ODI
24	31	51	0.35	15S + 41.39	26	ODI
25	34	36	0.29	07S - 0.22	31	ODI
26	34	79	0.33	15S + 32.97	32	ODI
27	35	25	1.04	05S + 29.14	25	ODI
28	36	68	0.62	12S - 0.81	26	ODI
29	36	113	0.46	14S - 0.81	24	ODI
30	37	107	0.30	15S + 0.33	37	ODI
31	38	14	1.15	UTS + 12.65	33	ODI
32	38	43	0.27	02S + 8.61	22	ODI
33	38	63	0.23	10S + 21.26	33	ODI
34	39	13	0.62	UTS + 17.76	28	ODI
			0.88	UTS + 12.55	32	ODI
35	39	30	0.61	UTS + 22.05	26	ODI

TABLE 4
"B" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
36	40	85	0.73	UTS + 14.75	35	ODI
37	41	79	0.37	LTS + 8.62	21	ODI
38	42	4	2.83	08S - 0.57	35	ODI
39	43	39	0.80	UTS + 19.88	32	ODI
40	44	16	0.98	15S + 13.24	37	ODI
41	44	25	1.12	UTS + 14.85	22	ODI
42	44	36	2.58	15S + 31.18	33	ODI
43	44	116	1.49	LTE + 9.62	31	ODI
44	45	2	0.96	UTS + 11.40	32	ODI
45	45	11	0.47	14S + 30.89	33	ODI
46	46	4	1.36	UTS + 12.58	27	ODI
47	46	9	1.02	UTS + 20.23	20	ODI
48	47	6	0.75	UTS + 2.25	22	ODI
49	47	59	0.36	14S + 12.28	35	ODI
50	48	6	0.85	UTS + 15.39	34	ODI
51	48	15	0.42	15S + 6.86	30	ODI
52	48	58	0.77	UTS + 14.16	33	ODI
53	49	38	0.32	LTS + 8.34	22	ODI
54	50	1	0.67	UTS + 10.00	31	ODI
55	50	2	0.69	UTS + 4.16	33	ODI
			1.13	UTS + 9.98	33	ODI
			1.59	UTS + 5.13	38	ODI
56	50	6	1.06	14S - 0.57	30	ODI
57	50	55	0.31	10S + 15.10	22	ODI
58	50	120	0.70	15S + 0.76	27	ODI
59	51	6	0.54	14S - 0.71	25	ODI
60	51	16	0.93	UTS + 3.18	30	ODI
			0.56	15S + 2.79	37	ODI
61	52	6	0.36	UTS + 11.36	22	ODI
62	52	102	0.71	UTS + 3.00	25	ODI
63	52	122	0.29	UTS + 3.12	36	ODI
64	53	3	0.70	UTS + 6.76	30	ODI
			0.42	UTS + 7.87	33	ODI
65	53	5	0.30	UTS + 8.79	28	ODI
66	54	2	1.59	UTS + 4.42	35	ODI
67	54	48	0.36	08S + 23.79	25	ODI
			0.25	11S + 22.88	29	ODI

TABLE 4
"B" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
68	55	3	0.47	01S + 34.31	25	ODI
			0.28	UTS + 6.79	28	ODI
69	55	5	1.23	UTS + 11.21	25	ODI
70	55	8	0.39	UTS + 7.54	33	ODI
71	55	48	0.45	03S + 23.54	28	ODI
72	55	89	1.32	UTS + 19.06	32	ODI
73	56	9	0.60	UTS + 4.64	33	ODI
74	56	60	1.26	UTS + 21.45	22	ODI
75	56	82	0.45	04S + 31.69	33	ODI
76	56	121	0.58	04S + 36.45	33	ODI
77	57	15	0.48	15S + 2.93	34	ODI
78	58	87	1.29	UTS + 7.25	27	ODI
79	58	109	0.73	UTS + 17.95	33	ODI
80	59	2	0.25	15S + 44.17	31	ODI
81	59	14	1.18	UTS + 18.01	31	ODI
82	59	115	0.39	UTS + 9.76	31	ODI
83	60	22	0.31	UTS + 14.49	32	ODI
84	60	96	1.34	UTS + 4.46	26	ODI
85	60	113	0.87	UTS + 3.98	34	ODI
86	61	7	0.84	UTS + 17.62	26	ODI
87	61	41	0.47	09S + 36.65	30	ODI
88	61	82	0.33	13S + 14.62	21	ODI
89	61	105	0.85	UTS + 13.50	37	ODI
90	62	4	1.17	UTS + 6.28	38	ODI
91	62	15	0.56	UTS + 5.68	31	ODI
92	62	27	0.55	07S - 0.22	26	ODI
93	62	37	1.08	15S + 17.21	29	ODI
94	62	38	0.50	15S + 43.18	25	ODI
95	62	88	0.60	UTS + 15.05	36	ODI
96	63	76	0.35	09S + 2.03	22	ODI
97	64	6	0.50	UTS + 6.86	25	ODI
98	64	8	0.47	UTS + 5.87	29	ODI
99	64	51	2.54	UTS + 5.24	24	ODI
100	64	114	0.34	LTS + 22.94	26	ODI
101	65	11	0.43	UTS + 3.61	21	ODI
102	65	19	0.43	15S + 1.94	39	ODI
103	67	13	0.62	UTS + 11.48	29	ODI
104	67	14	0.34	15S + 5.52	27	ODI

TABLE 4
"B" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
105	67	16	0.91	15S + 29.27	35	ODI
106	67	94	0.58	01S + 16.00	22	ODI
107	68	15	0.80	15S + 8.73	34	ODI
108	68	23	0.44	UTS + 8.09	29	ODI
109	68	49	0.37	13S + 25.02	31	ODI
110	68	64	0.42	UTS - 1.19	25	ODI
111	69	11	1.17	UTS + 5.05	34	ODI
112	69	25	0.75	UTS + 9.42	38	ODI
113	69	40	0.80	UTS + 5.61	37	ODI
114	69	41	0.82	UTS + 20.35	26	ODI
			1.24	UTS + 5.10	28	ODI
115	69	51	1.04	UTS + 8.07	26	ODI
116	70	19	0.51	15S + 37.23	28	ODI
			0.78	UTS + 3.24	31	ODI
117	70	64	0.40	15S + 2.13	30	ODI
118	71	15	1.05	UTS + 4.75	36	ODI
119	71	18	1.01	UTS + 5.23	34	ODI
120	71	28	1.14	UTS + 3.40	31	ODI
121	71	44	0.51	07S - 0.24	22	ODI
122	72	14	1.94	UTS + 3.25	37	ODI
123	72	23	0.74	UTS + 5.06	24	ODI
124	72	24	0.53	14S + 15.94	29	ODI
125	72	27	0.85	UTS + 4.52	27	ODI
126	72	43	0.75	UTS + 2.34	23	ODI
127	72	56	1.19	UTS + 5.27	32	ODI
128	72	130	0.36	08S - 0.82	21	ODI
129	73	14	0.36	UTS + 4.39	22	ODI
130	73	16	0.35	10S + 13.54	33	ODI
			0.76	15S + 38.49	37	ODI
131	73	25	0.37	UTS + 6.42	33	ODI
132	73	26	0.64	UTS + 5.25	35	ODI
133	73	51	0.79	UTS + 7.28	36	ODI
134	73	65	0.62	UTS + 7.64	25	ODI
			0.99	UTS + 2.96	37	ODI
135	73	93	1.38	UTS + 20.82	32	ODI
136	74	31	0.54	UTS + 20.31	36	ODI
137	74	49	0.34	01S + 35.37	23	ODI

TABLE 4
"B" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
138	74	58	0.43	UTS + 4.49	38	ODI
			0.34	UTS + 3.41	39	ODI
139	75	1	0.32	LTS + 26.02	38	ODI
140	75	37	0.50	UTS + 4.95	29	ODI
141	75	44	0.86	UTS + 5.26	33	ODI
142	75	56	0.54	03S + 11.23	36	ODI
143	75	65	0.46	15S + 19.21	23	ODI
144	77	77	0.63	10S + 17.11	34	ODI
145	77	125	0.29	10S - 0.95	32	ODI
146	78	24	0.38	04S - 0.78	38	ODI
147	78	36	1.99	UTS + 16.49	26	ODI
148	78	37	1.78	UTS + 8.75	37	ODI
149	78	39	0.62	UTS + 20.29	27	ODI
150	78	44	1.18	UTS + 3.99	28	ODI
151	78	58	0.79	UTS + 3.27	24	ODI
152	78	63	1.61	UTS + 5.81	25	ODI
			0.37	UTS + 7.97	29	ODI
153	78	68	0.50	UTS + 5.09	38	ODI
154	78	76	0.21	04S + 24.62	21	ODI
155	79	7	0.80	08S + 0.68	37	ODI
156	79	24	1.17	UTS + 17.78	31	ODI
157	79	32	0.69	UTS + 4.94	27	ODI
158	79	35	1.23	UTS + 18.07	36	ODI
159	79	53	1.56	UTS + 5.97	35	ODI
160	79	57	1.65	UTS + 6.06	25	ODI
161	79	63	2.69	UTS + 4.40	27	ODI
			2.33	UTS + 2.89	32	ODI
			0.46	UTS + 4.05	35	ODI
			1.50	UTS + 3.42	38	ODI
162	80	18	1.04	UTS + 11.90	34	ODI
	80	18	0.52	UTS + 8.93	38	ODI
163	80	22	0.63	UTS + 4.90	22	ODI
164	80	28	0.84	UTS + 8.00	28	ODI
			0.54	UTS + 4.25	32	ODI
165	80	53	0.82	UTS + 11.26	29	ODI
166	80	101	0.59	UTE - 1.84	33	ODI
167	81	27	0.49	05S - 0.64	33	ODI
168	81	28	0.50	UTS + 4.69	32	ODI

TABLE 4
 "B" OTSG TUBE DEGRADATION
 (20 - 39% TW)
 (Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
169	81	56	0.47	07S - 0.13	27	ODI
170	82	17	0.94	UTS + 3.13	38	ODI
171	82	26	1.12	UTS + 3.42	21	ODI
172	82	45	1.07	UTS + 7.09	34	ODI
173	82	56	1.38	UTS + 8.95	36	ODI
174	82	58	0.27	UTS + 7.99	23	ODI
175	82	77	0.24	LTS + 1.47	36	ODI
176	83	14	0.53	UTS + 13.75	25	ODI
			0.64	UTS + 10.56	37	ODI
177	83	17	1.19	UTS + 2.46	34	ODI
178	83	38	0.28	UTS + 7.33	31	ODI
179	83	47	0.75	UTS + 6.52	36	ODI
180	83	118	0.33	02S - 0.25	25	ODI
181	84	20	1.27	UTS + 17.44	34	ODI
182	84	30	0.84	UTS + 4.47	28	ODI
			0.81	UTS + 5.43	37	ODI
183	84	54	0.42	15S + 44.68	30	ODI
184	85	16	0.59	UTS + 3.52	24	ODI
185	85	18	0.62	UTS + 3.79	24	ODI
186	85	19	0.83	UTS + 21.46	27	ODI
187	85	39	0.45	06S + 0.19	34	ODI
188	85	45	1.00	UTS + 8.13	39	ODI
189	86	25	0.53	UTS + 6.29	29	ODI
			0.40	UTS + 4.33	37	ODI
190	86	110	0.23	12S + 15.24	28	ODI
191	86	118	0.17	11S + 23.34	29	ODI
192	87	16	0.24	15S + 36.77	26	ODI
193	87	25	0.36	UTS + 7.78	27	ODI
194	87	61	0.74	UTS + 5.23	37	ODI
195	88	15	0.62	UTS + 13.19	37	ODI
196	88	55	0.26	14S + 13.98	22	ODI
197	89	10	0.55	UTS + 6.29	27	ODI
198	89	15	0.47	15S + 33.95	31	ODI
199	89	110	0.53	UTS + 20.26	29	ODI
			0.69	UTS + 21.46	34	ODI
200	90	11	0.80	UTS + 11.92	22	ODI
201	90	38	0.47	10S + 0.35	38	ODI

TABLE 4
"B" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
202	91	69	0.54	UTS + 14.26	25	ODI
			0.30	UTS + 14.60	33	ODI
203	91	126	0.67	06S - 0.78	37	ODI
204	93	5	0.52	UTS + 5.76	24	ODI
205	95	6	0.64	15S + 22.91	29	ODI
206	96	1	0.69	UTS + 4.54	25	ODI
			0.89	UTS + 5.11	31	ODI
207	96	3	0.96	UTS + 1.08	32	ODI
208	96	8	0.96	UTS + 6.90	35	ODI
209	96	14	0.41	UTS + 5.61	21	ODI
210	96	18	0.47	UTS + 6.07	33	ODI
211	96	22	0.49	UTS + 5.02	30	ODI
			0.76	UTS + 0.42	35	ODI
212	96	34	0.43	UTS + 4.02	21	ODI
213	96	89	1.02	12S + 19.55	28	ODI
214	97	53	0.56	06S + 30.61	38	ODI
215	98	9	0.47	UTS + 5.94	22	ODI
			0.52	UTS + 6.40	36	ODI
216	98	40	0.57	15S + 4.97	30	ODI
217	98	106	0.34	15S + 4.92	26	ODI
218	99	48	0.43	UTS + 17.85	28	ODI
219	99	84	0.38	15S + 33.55	21	ODI
220	100	5	1.29	UTS + 7.16	23	ODI
221	100	11	0.59	UTS + 7.09	31	ODI
222	101	10	1.19	UTS + 6.62	30	ODI
223	101	78	0.28	09S + 12.04	39	ODI
224	102	9	1.30	UTS + 6.60	25	ODI
225	102	24	1.20	UTS + 11.44	26	ODI
226	102	41	0.36	15S + 44.40	38	ODI
227	103	17	0.66	UTS + 7.41	27	ODI
228	103	19	0.86	UTS + 4.65	32	ODI
229	103	22	0.70	UTS + 7.04	28	ODI
230	103	86	0.61	15S + 17.78	29	ODI
231	104	2	0.51	UTS + 3.94	30	ODI
232	104	5	0.72	LTE + 12.03	37	ODI
233	105	22	0.90	08S + 17.33	25	ODI
234	106	17	0.40	UTS + 5.98	21	ODI
235	106	23	0.67	10S + 13.69	32	ODI

TABLE 4
"B" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
236	106	74	2.50	UTS + 20.29	30	ODI
237	107	9	0.31	UTS + 3.11	36	ODI
238	107	73	0.41	UTE - 1.67	29	ODI
239	107	120	1.45	UTS + 15.81	25	ODI
240	109	117	0.94	UTS + 7.78	23	ODI
241	110	2	0.83	UTS + 6.06	38	ODI
242	110	39	1.15	02S + 7.13	26	ODI
243	111	41	0.73	UTS + 16.64	30	ODI
244	111	115	0.32	UTS + 4.90	21	ODI
245	113	10	0.28	15S + 21.14	20	ODI
			0.33	15S + 29.82	21	ODI
			0.47	15S + 16.49	28	ODI
			0.34	15S + 23.51	31	ODI
246	113	46	0.64	UTS + 3.71	21	ODI
247	114	31	0.39	07S - 0.20	23	ODI
			0.47	07S - 0.20	23	ODI
248	115	7	0.62	UTS + 14.19	24	ODI
249	115	90	0.51	15S + 21.61	35	ODI
250	117	3	0.57	UTS + 4.92	24	ODI
251	117	4	1.57	UTS + 5.69	39	ODI
252	117	92	0.36	08S + 0.67	26	ODI
253	117	105	0.41	09S + 0.77	21	ODI
254	118	3	0.47	UTS + 5.49	28	ODI
			0.62	UTS + 4.89	30	ODI
255	118	5	0.10	15S + 2.29	24	ODI
			0.36	15S + 2.52	32	ODI
256	118	7	0.36	15S + 31.32	23	ODI
			0.27	15S + 30.07	28	ODI
257	119	1	1.01	UTS + 11.57	29	ODI
258	119	4	0.44	UTS + 5.01	29	ODI
259	120	15	0.43	02S + 15.59	30	ODI
260	121	4	1.02	UTS + 4.44	38	ODI
261	121	90	0.72	15S + 14.54	22	ODI
262	122	1	0.53	UTS + 2.97	23	ODI
263	122	5	0.55	15S + 39.26	20	ODI
264	123	8	0.37	UTS + 8.21	34	ODI
265	124	1	0.28	09S + 0.36	35	ODI
			0.59	15S + 1.77	29	ODI

TABLE 4
"B" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
266	124	7	0.75	15S + 14.21	30	ODI
267	124	34	0.49	UTS + 18.18	30	ODI
268	124	55	0.27	15S + 14.57	35	ODI
269	124	65	0.49	03S + 18.15	28	ODI
270	125	5	0.52	UTS + 7.37	26	ODI
271	125	23	2.59	UTS + 14.90	25	ODI
272	125	97	0.35	09S + 0.58	23	ODI
273	126	8	1.04	UTS + 3.76	38	ODI
274	126	23	0.50	UTS + 16.13	21	ODI
275	128	75	0.53	02S + 29.62	26	ODI
276	129	4	0.45	04S + 21.27	35	ODI
277	130	49	0.39	15S + 20.28	33	ODI
278	130	75	0.46	11S + 24.80	27	ODI
279	131	1	0.36	15S + 6.50	36	ODI
			0.39	15S + 7.77	37	ODI
280	131	7	0.68	UTS + 3.37	38	ODI
281	131	9	1.09	UTS + 13.83	23	ODI
282	131	15	0.56	15S + 39.01	36	ODI
283	131	19	2.25	UTE - 1.47	20	ODI
284	132	60	0.59	08S + 23.68	33	ODI
285	133	1	0.90	UTS + 17.20	24	CDI
286	133	65	0.61	15S + 7.45	32	ODI
			0.95	15S + 6.32	33	ODI
287	134	36	1.00	UTS + 13.99	20	ODI
288	135	70	0.44	15S + 18.91	31	ODI
289	137	6	0.43	UTS + 6.19	35	ODI
290	137	22	1.09	UTS + 4.36	29	ODI
291	137	58	0.44	01S + 23.07	30	ODI
292	139	64	0.65	15S + 24.81	29	ODI
293	140	3	0.72	15S + 29.65	21	ODI
			0.37	15S + 15.89	30	ODI
			0.37	15S + 5.50	36	ODI
294	141	23	0.64	15S + 7.80	31	ODI
295	141	52	0.31	15S + 8.72	37	ODI
296	141	53	0.46	15S + 22.70	37	ODI
297	143	6	0.28	UTS + 13.02	20	ODI
298	143	15	0.44	LTS + 32.28	23	ODI
299	144	18	1.09	UTS + 5.01	30	ODI

TABLE 4
"B" OTSG TUBE DEGRADATION
(20 - 39% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
300	144	26	0.38	13S + 33.86	24	ODI
301	146	45	0.36	14S + 3.61	33	ODI
302	147	15	0.81	13S - 0.69	29	ODI
303	147	24	0.50	15S + 14.98	29	ODI
304	148	1	1.13	UTS + 19.57	36	ODI
305	149	1	0.93	08S + 0.67	33	ODI
306	149	3	0.42	11S + 8.13	29	ODI
307	149	13	0.51	UTS + 4.43	32	ODI
308	149	17	0.30	15S + 14.80	32	ODI
309	150	18	0.93	UTS + 6.06	25	ODI
310	151	1	0.32	06S - 0.84	38	ODI

LEGEND: UTS - Upper Tubesheet Secondary Face
LTS - Lower Tube Sheet Secondary Face
UTE - Upper Tube End
LTE - Lower Tube End
S - Tube Support Plate
12S +/- X.X - Defect located X.X inches above/below the 12th TSP
ODI - Outside Diameter Indication

TABLE 5
"A" OTSG TUBE IMPERFECTIONS
(1 - 19% TW)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
1	1	16	0.26	15S + 40.85	17	ODI
2	2	8	0.40	10S + 0.44	13	ODI
3	2	24	0.59	07S + 26.67	10	ODI
4	2	27	0.49	14S + 27.84	19	ODI
5	3	5	0.43	11S - 0.25	13	ODI
6	3	7	0.54	10S + 0.22	13	ODI
7	5	34	0.46	LTE + 8.95	14	ODI
8	5	37	0.65	09S - 0.08	7	ODI
9	5	42	0.93	08S + 23.78	7	ODI
10	6	27	0.51	10S + 1.46	10	ODI
11	6	44	1.00	05S + 29.43	5	ODI
12	7	26	0.50	UTS + 19.79	12	ODI
13	7	34	0.47	LTS + 25.33	3	ODI
14	7	44	0.74	10S + 22.80	7	ODI
15	8	27	0.75	03S + 30.07	4	ODI
16	8	57	0.46	10S + 0.54	3	ODI
17	9	23	0.70	UTS + 6.64	9	ODI
18	9	60	0.59	10S + 0.57	17	ODI
19	11	44	0.20	UTS + 5.03	16	ODI
20	11	60	0.36	06S + 0.24	17	ODI
21	11	61	0.60	07S + 0.30	6	ODI
22	11	68	0.58	14S + 30.21	19	ODI
23	12	2	1.49	UTS + 22.56	8	ODI
24	12	20	0.25	12S + 27.08	11	ODI
25	12	68	0.88	10S + 0.54	2	ODI
26	15	46	1.00	LTE + 10.23	15	ODI
27	15	49	0.63	03S + 7.70	5	ODI
28	16	42	0.37	11S + 6.22	12	ODI
29	16	80	0.88	10S + 0.65	8	ODI
30	17	42	0.67	02S + 9.30	14	ODI
31	19	14	0.40	13S + 32.38	11	ODI
			1.35	11S + 13.79	16	ODI
32	19	53	0.16	UTS + 5.72	16	ODI
33	20	57	1.16	12S + 3.60	8	ODI
34	20	75	1.61	08S - 0.30	8	ODI
35	23	63	1.23	13S + 18.09	15	ODI
36	23	64	0.53	09S + 35.13	3	ODI
37	24	79	0.18	LTS + 4.81	9	ODI
38	25	51	0.19	01S + 1.71	12	ODI

TABLE 5
"A" OTSG TUBE IMPERFECTIONS
(1 - 19% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
39	25	89	0.42	07S + 0.41	13	ODI
40	26	65	0.49	13S + 3.05	11	ODI
			0.82	12S + 29.03	11	ODI
			0.76	13S + 6.04	16	ODI
41	27	49	0.84	UTS + 17.05	18	ODI
42	27	53	0.41	01S + 9.33	6	ODI
			1.24	01S + 29.51	15	ODI
			1.20	LTE + 12.05	8	ODI
43	30	98	1.20	LTE + 12.05	8	ODI
44	31	50	1.90	01S + 1.04	9	ODI
45	31	56	0.41	02S + 19.46	14	ODI
46	32	4	0.98	09S + 0.52	15	ODI
47	34	27	0.90	13S + 24.26	8	ODI
48	35	52	0.61	12S + 24.51	15	ODI
49	36	70	0.56	LTE + 10.09	18	ODI
50	37	9	0.71	08S + 33.78	1	ODI
			0.49	11S + 26.67	3	ODI
51	38	31	0.59	01S + 11.85	3	ODI
52	39	71	0.29	UTS + 14.43	16	ODI
			0.67	UTS + 10.08	19	ODI
53	40	61	0.52	LTE + 8.91	10	ODI
54	41	33	1.69	02S + 10.42	3	ODI
			2.60	02S + 6.42	13	ODI
55	41	80	0.76	02S + 13.41	5	ODI
56	41	97	0.42	UTS + 10.83	12	ODI
57	41	99	1.20	UTS + 17.13	19	ODI
58	41	111	0.45	14S + 32.91	13	ODI
59	46	86	0.46	11S + 22.84	13	ODI
60	47	25	0.67	11S + 32.80	7	ODI
61	48	24	0.68	11S + 8.44	1	ODI
			0.65	11S + 8.44	3	ODI
62	48	90	0.50	07S + 16.31	11	ODI
63	48	110	0.84	06S + 27.44	18	ODI
64	49	36	1.22	13S + 16.89	19	ODI
65	51	111	0.49	01S + 23.61	9	ODI
66	53	16	1.09	09S + 2.24	9	ODI
67	53	62	2.99	08S + 33.27	5	ODI
68	54	13	0.73	12S + 13.56	5	ODI
69	54	118	0.29	06S - 0.16	9	ODI

TABLE 5
"A" OTSG TUBE IMPERFECTIONS
(1 - 19% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
70	54	126	0.42	09S + 0.38	9	ODI
71	55	55	0.46	06S + 0.52	9	ODI
72	56	23	0.17	UTS + 11.35	16	ODI
73	56	70	0.90	LTE + 10.58	19	ODI
74	56	125	0.46	08S + 0.24	3	ODI
75	57	53	1.29	14S + 24.74	4	ODI
			0.74	14S + 22.85	12	ODI
76	58	36	0.26	UTS + 15.86	12	ODI
77	60	68	0.52	LTS + 1.59	16	ODI
78	60	77	0.44	06S + 0.00	17	ODI
79	60	84	0.96	06S + 29.67	12	ODI
			0.82	06S + 30.40	14	ODI
80	60	111	1.02	UTS + 18.83	14	ODI
81	60	121	0.60	09S + 5.45	12	ODI
82	60	128	0.37	06S + 25.20	8	ODI
83	61	73	0.64	06S + 28.77	8	ODI
84	61	111	0.71	14S + 1.27	5	ODI
85	62	55	0.64	LTS + 12.58	16	ODI
86	62	104	1.67	14S + 29.54	1	ODI
87	62	111	0.60	01S + 21.50	10	ODI
88	64	59	0.42	14S + 22.75	19	ODI
89	65	73	1.01	02S + 11.93	19	ODI
90	65	78	0.75	LTE + 10.59	15	ODI
91	66	43	0.28	UTS + 9.91	16	ODI
92	66	45	0.70	14S + 23.85	14	ODI
93	66	76	1.11	04S + 22.29	6	ODI
94	67	25	0.51	UTS + 7.90	16	ODI
95	67	40	0.60	11S + 24.90	14	ODI
96	67	73	0.65	LTS + 0.78	7	ODI
97	67	130	0.56	10S + 30.26	11	ODI
98	68	3	0.39	09S + 0.54	10	ODI
99	68	73	0.89	LTS + 0.89	7	ODI
100	68	105	1.56	LTE + 13.01	7	ODI
			1.28	LTE + 14.94	14	ODI
101	70	74	2.24	12S + 31.69	15	ODI
102	70	116	0.69	03S + 12.35	8	ODI
103	70	129	0.37	13S - 0.48	9	ODI
104	71	19	0.57	UTS + 9.95	19	ODI

TABLE 5
"A" OTSG TUBE IMPERFECTIONS
(1 - 19% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
105	71	67	0.46	07S + 0.65	9	ODI
106	71	110	0.57	04S + 18.50	7	ODI
107	72	78	1.24	09S + 31.62	6	ODI
108	73	6	0.82	LTS + 2.26	14	ODI
109	73	71	0.38	12S + 1.16	15	ODI
110	74	55	1.00	UTS + 20.35	13	ODI
111	74	99	0.58	09S + 34.37	4	ODI
112	75	115	0.38	06S + 0.54	17	ODI
113	76	89	1.22	LTE + 10.55	12	ODI
114	77	100	0.42	04S + 17.19	17	ODI
115	77	102	0.24	07S + 31.78	18	ODI
116	78	69	0.51	06S - 0.22	11	ODI
117	80	51	0.65	08 - 0.27	17	ODI
118	80	65	0.32	LTE + 17.49	11	ODI
119	81	16	1.05	08S + 0.43	1	ODI
120	81	48	0.35	08S - 0.81	8	ODI
121	81	55	0.36	UTS + 11.72	15	ODI
122	81	56	0.59	UTS + 15.33	13	ODI
123	82	27	0.47	13S + 0.68	15	ODI
124	82	33	0.50	08S + 24.09	8	ODI
125	82	79	0.53	LTS + 10.33	7	ODI
126	82	127	1.17	07S - 0.41	17	ODI
127	83	29	1.08	LTE + 12.83	10	ODI
128	83	50	0.45	UTS + 21.62	18	ODI
129	83	108	0.32	05S + 14.88	8	ODI
130	84	66	0.35	LTS + 29.29	13	ODI
131	86	52	3.57	LTE + 11.13	4	ODI
132	86	110	1.19	LTS + 21.22	17	ODI
133	88	68	0.66	LTS + 1.00	5	ODI
134	88	69	0.65	LTS + 1.33	7	ODI
135	88	129	0.49	02S + 32.22	11	ODI
136	89	59	0.51	03S + 0.22	6	ODI
137	90	99	1.49	10S + 1.17	10	ODI
138	90	105	0.46	01S + 15.98	8	ODI
139	91	24	0.70	11S + 1.50	4	ODI
140	91	27	0.82	09S + 33.31	3	ODI
			0.37	06S + 6.82	4	ODI
			0.88	06S + 14.75	15	ODI

TABLE 5
 "A" OTSG TUBE IMPERFECTIONS
 (1 - 19% TW)
 (Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
141	91	49	1.65	UTS + 10.55	19	ODI
142	92	87	1.14	15S + 0.52	18	ODI
143	93	112	0.31	12S + 22.60	8	ODI
144	94	6	0.35	09S + 31.05	14	ODI
145	95	53	0.63	03S + 0.08	16	ODI
146	95	106	0.45	LTS + 6.17	9	ODI
147	97	65	0.54	01S + 33.19	4	ODI
			0.38	01S + 32.84	13	ODI
148	97	98	1.18	UTS + 4.54	19	ODI
149	98	17	0.58	LTS + 23.18	13	ODI
150	100	16	0.50	LTS + 30.49	10	ODI
151	100	76	0.76	10S + 29.82	8	ODI
152	102	104	0.48	UTS + 9.10	19	ODI
153	102	120	0.53	08S - 0.19	8	ODI
154	103	119	0.55	09S - 0.63	3	ODI
155	104	102	0.33	03S - 0.41	9	ODI
156	106	86	0.87	12S + 32.13	11	ODI
157	107	2	0.46	04S + 29.86	5	ODI
158	107	51	0.54	LTS + 5.04	10	ODI
159	107	54	0.24	07S + 0.11	16	ODI
160	108	68	0.22	06S - 0.08	18	ODI
161	110	68	1.09	02S + 24.92	8	ODI
162	111	20	0.33	12S + 14.36	19	ODI
163	112	58	1.19	12S + 17.23	18	ODI
164	112	90	0.42	07S - 0.41	5	ODI
165	113	3	0.97	08S + 0.43	6	ODI
166	113	60	0.53	LTS + 16.71	11	ODI
167	113	109	0.87	12S + 21.72	1	ODI
168	114	24	0.68	07S + 24.33	11	ODI
169	115	50	1.14	02S + 26.99	3	ODI
170	116	31	1.51	07S + 0.65	12	ODI
171	116	92	0.92	15S + 0.86	15	ODI
172	118	42	0.80	UTS + 6.77	12	ODI
173	118	63	0.56	02S + 4.37	11	ODI
			2.68	03S + 6.51	16	ODI
174	119	64	0.76	03S + 3.11	14	ODI
175	120	93	0.33	06S + 29.38	16	ODI
176	121	88	0.46	05S + 22.73	18	ODI

TABLE 5
"A" OTSG TUBE IMPERFECTIONS
(1 - 19% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
177	122	1	0.50	06S + 15.07	9	ODI
178	123	33	0.98	07S + 25.70	5	ODI
179	123	104	1.27	05S + 0.95	6	ODI
180	124	85	0.68	15S + 41.52	13	ODI
181	124	91	0.35	UTS + 13.51	18	ODI
182	126	84	0.42	10S + 22.42	8	ODI
183	126	96	0.19	UTS + 9.15	16	ODI
184	126	99	0.20	UTS + 8.09	18	ODI
185	127	50	1.16	05S + 32.74	15	ODI
186	130	20	0.51	12S + 28.09	13	ODI
187	131	11	0.37	11S + 2.74	9	ODI
188	131	38	0.29	UTS + 12.35	17	ODI
189	131	58	0.92	15S + 0.82	10	ODI
190	133	47	0.43	13S + 13.62	15	ODI
191	133	57	1.53	01S + 24.35	5	ODI
192	134	81	0.54	06S + 24.38	5	ODI
193	134	85	0.52	05S + 0.92	14	ODI
194	135	10	0.99	02S + 7.23	8	ODI
195	135	14	0.68	12S + 21.67	4	ODI
196	137	5	0.73	LTE + 6.90	12	ODI
197	137	34	0.43	05S + 2.87	12	ODI
198	138	35	0.86	14S + 3.23	12	ODI
199	139	31	0.17	UTS + 5.62	11	ODI
200	139	52	0.40	UTS + 6.13	15	ODI
201	141	40	1.11	03S + 16.13	14	ODI
202	143	49	0.64	03S + 0.46	17	ODI
203	144	26	1.14	02S + 19.97	6	ODI
			1.84	06S + 21.85	8	ODI
			0.41	01S + 7.55	11	ODI
			1.49	02S + 34.16	16	ODI
204	148	4	0.90	LTS + 29.67	15	ODI
205	150	7	0.33	08S + 0.30	14	ODI
206	150	18	0.89	10S - 0.57	16	ODI

TABLE 5
"A" OTSG TUBE IMPERFECTIONS
(1 - 19% TW)
(Continued)

LEGEND: UTS - Upper Tubesheet Secondary Face
LTS - Lower Tube Sheet Secondary Face
LTE - Lower Tube End
S - Tube Support Plate
12S +/- X.X - Defect located X.X inches above/below the 12th TSP
ODI - Outside Diameter Indication

TABLE 6
"B" OTSG TUBE IMPERFECTIONS
(1 - 19% TW)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
1	4	34	0.56	14S + 2.46	8	ODI
2	6	2	1.44	LTS + 21.85	13	ODI
3			0.65	LTS + 15.85	14	ODI
4	7	12	0.63	05S + 24.58	1	ODI
5	11	34	0.46	01S + 15.23	9	ODI
			0.50	02S + 15.70	18	ODI
6	11	58	0.52	05S + 31.34	1	ODI
7	12	18	0.36	07S + 0.68	14	ODI
8	12	45	0.80	07S - 0.19	5	ODI
9	15	59	0.98	05S + 19.40	1	ODI
10	18	53	0.75	10S + 7.89	12	ODI
11	18	56	0.39	03S + 14.06	17	ODI
12	18	79	0.25	07S + 0.16	10	ODI
13	21	39	0.20	02S + 34.23	19	ODI
14	21	81	0.45	04S + 18.01	7	ODI
15	22	91	0.45	10S + 0.62	12	ODI
16	25	2	0.94	13S + 24.07	17	ODI
17	27	67	0.49	09S + 19.19	8	ODI
18	32	60	0.76	02S + 11.56	12	ODI
19	32	102	0.69	LTS + 22.89	4	ODI
20	36	5	0.66	08S - 0.24	8	ODI
21	36	27	1.24	LTS - 1.33	3	ODI
22	37	97	0.16	07S + 24.09	19	ODI
23	37	114	0.55	07S - 0.71	2	ODI
24	38	11	1.10	06S + 17.33	1	ODI
25	38	43	0.73	02S + 4.78	14	ODI
26	39	103	0.44	09S - 0.76	9	ODI
27	41	46	0.39	01S - 0.73	9	ODI
28	42	75	0.35	02S - 0.85	19	ODI
29	43	97	0.51	06S + 33.29	2	ODI
			0.69	07S + 1.56	19	ODI
30	44	44	0.35	07S + 36.76	6	ODI
			0.74	07S + 35.18	9	ODI
31	44	105	0.38	02S + 10.19	13	ODI
32	45	44	0.90	03S + 8.48	11	ODI
33	47	59	0.76	14S + 7.49	3	ODI
34	48	7	1.77	UTS + 4.36	8	ODI
35	51	56	0.99	03S + 13.20	4	ODI
36	51	77	0.60	13S + 13.97	17	ODI

TABLE 6
"B" OTSG TUBE IMPERFECTIONS
(1 - 19% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
37	52	28	0.46	07S + 18.83	15	ODI
38	52	121	0.92	15S + 0.80	6	ODI
39	53	5	0.56	UTS + 5.80	15	ODI
40	56	7	1.06	UTS + 14.86	17	ODI
41	58	41	0.54	UTS + 5.54	12	ODI
42	61	47	0.53	11S + 2.31	17	ODI
43	61	71	0.26	03S + 15.25	9	ODI
44	62	3	0.30	09S - 0.35	14	ODI
45	62	73	2.40	UTS + 18.19	18	ODI
46	62	75	0.88	LTE + 12.31	2	ODI
47	62	86	0.37	13S + 24.73	8	ODI
48	63	50	0.78	06S + 5.04	17	ODI
49	64	82	1.01	03S + 15.38	8	ODI
50	65	72	0.52	06S + 7.60	9	ODI
51	66	51	0.94	LTE + 7.68	14	ODI
52	67	47	0.56	03S - 0.03	16	ODI
53	67	97	0.52	02S + 21.33	19	ODI
54	68	69	0.47	LTE + 20.94	12	ODI
55	69	56	1.63	06S + 22.82	14	ODI
56	70	90	0.49	07S + 29.72	15	ODI
57	71	43	0.37	07S + 0.45	13	ODI
58	71	127	0.50	08S + 0.56	19	ODI
59	72	88	0.62	06S + 0.33	17	ODI
60	73	63	0.40	04S + 19.46	12	ODI
61	73	126	0.39	07S + 0.68	5	ODI
62	74	3	0.34	13S - 0.47	3	ODI
63	75	30	0.56	03S + 6.40	17	ODI
64	75	51	0.74	04S + 25.40	18	ODI
65	75	62	0.25	07S + 8.96	7	ODI
66	76	119	0.55	05S - 0.70	1	ODI
67	77	37	2.64	UTS + 20.43	17	ODI
68	77	46	0.85	10S + 4.45	13	ODI
69	78	39	0.80	UTS + 21.78	16	ODI
70	78	69	0.58	UTS + 2.69	19	ODI
71	79	24	0.60	UTS + 18.52	17	ODI
72	79	41	0.51	08S + 23.00	17	ODI
73	79	63	1.87	UTS + 3.81	13	ODI
74	80	18	0.58	UTS + 7.55	3	ODI

TABLE 6
"B" OTSG TUBE IMPERFECTIONS
(1 - 19% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
75	80	84	1.18	LTS + 2.82	16	ODI
76	80	86	0.44	14S + 24.75	8	ODI
77	80	111	3.67	LTS + 23.49 to + 31.18	7	ODI
78	80	122	0.27	12S + 19.66	6	ODI
79	82	1	0.20	07S - 0.70	2	ODI
80	82	25	0.62	08S + 17.52	4	ODI
81	83	118	0.46	02S + 0.00	12	ODI
82	84	30	0.90	LTE + 19.81	13	ODI
83	85	14	0.44	UTS + 3.77	13	ODI
84	85	21	0.28	UTS + 11.43	15	ODI
85	85	34	0.46	LTS + 22.91	14	ODI
86	86	84	0.55	01S + 27.41	10	ODI
87	88	23	0.44	02S + 29.26	11	ODI
88	90	11	1.08	13S + 24.63	7	ODI
89	91	52	0.84	09S + 30.71	12	ODI
90	92	17	0.54	11S + 13.62	8	ODI
91	92	87	0.25	05S + 0.25	3	ODI
92	94	4	0.39	11S + 3.03	10	ODI
			0.57	07S + 8.28	15	ODI
93	94	38	0.70	01S + 16.10	9	ODI
94	96	42	0.88	14S + 5.59	10	ODI
			0.81	14S + 5.60	17	ODI
95	96	98	0.77	13S + 7.23	7	ODI
96	96	127	0.61	03S + 25.93	7	ODI
97	99	34	1.60	09S + 25.65	11	ODI
98	99	54	0.33	UTS + 6.16	16	ODI
99	99	94	0.63	13S + 2.44	13	ODI
100	100	94	1.37	02S + 29.56	2	ODI
101	101	10	0.41	UTS + 6.26	7	ODI
102	101	69	1.57	15S + 20.73	19	ODI
103	102	16	0.55	07S + 23.38	5	ODI
104	103	110	0.53	08S - 0.50	3	ODI
105	103	115	0.75	02S + 33.27	10	ODI
			1.46	02S + 4.61	17	ODI
106	104	5	0.72	LTE + 11.04	16	ODI
107	105	8	0.51	LTE + 13.68	13	ODI
108	105	33	0.40	UTS + 18.58	12	ODI

TABLE 6
"B" OTSG TUBE IMPERFECTIONS
(1 - 19% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
109	105	119	0.84	14S - 0.73	2	ODI
110	106	4	0.84	02S + 36.15	5	ODI
111	107	47	0.63	02S + 16.35	12	ODI
112	108	6	0.42	12S + 25.96	16	ODI
113	108	84	1.56	04S + 29.23	18	ODI
114	109	4	0.45	09S + 25.99	13	ODI
115	109	5	0.80	LTE + 11.55	7	ODI
116	109	11	0.49	14S + 20.97	19	ODI
117	110	51	0.49	01S + 15.44	6	ODI
118	110	108	0.50	15S + 0.55	16	ODI
119	111	9	0.63	14S + 2.76	15	ODI
120	112	103	1.31	03S + 22.70	18	ODI
121	114	73	1.17	01S + 15.96	2	ODI
			4.92	07S + 27.20	15	ODI
122	115	75	0.57	05S + 10.60	10	ODI
123	116	2	0.77	UTS + 7.14	17	ODI
124	116	19	1.04	03S + 5.88	11	ODI
125	117	1	0.51	12S + 18.60	17	ODI
126	117	16	0.31	05S + 11.19	8	ODI
127	118	3	0.57	UTS + 4.23	19	ODI
128	118	103	0.46	09S + 0.47	19	ODI
129	119	1	0.63	UTS + 17.29	18	ODI
130	119	108	0.45	07S - 0.76	12	ODI
131	120	5	0.27	UTS + 3.87	17	ODI
132	120	15	0.33	LTS + 10.08	10	ODI
133	121	15	0.47	LTS + 32.61	16	ODI
134	122	39	0.58	07S - 0.53	6	ODI
135	123	5	0.72	13S + 29.63	19	ODI
136	124	1	0.53	14S + 1.92	14	ODI
137	124	29	0.59	LTE + 16.37	10	ODI
138	124	37	0.56	02S + 5.75	4	ODI
139	127	1	0.38	14S + 28.86	16	ODI
140	129	59	0.63	08S + 8.85	18	ODI
141	131	6	0.33	02S + 35.90	2	ODI
142	132	22	1.35	LTE + 19.18	4	ODI
143	134	74	0.56	09S + 8.20	10	ODI
144	138	62	0.63	03S + 24.66	16	ODI
145	139	16	0.88	LTS + 29.10	10	ODI

TABLE 6
"B" OTSG TUBE IMPERFECTIONS
(1 - 19% TW)
(Continued)

<u>Number</u>	<u>Row</u>	<u>Line</u>	<u>Volts</u>	<u>Location</u>	<u>%TW</u>	<u>Indication Code</u>
146	139	64	0.45	01S + 24.77	7	ODI
147	140	3	0.83	15S + 10.20	8	ODI
			0.53	15S + 23.60	10	ODI
			0.41	15S + 2.85	19	ODI
148	140	54	0.33	10S + 22.61	9	ODI
149	141	20	1.63	LTE + 6.43	3	ODI
150	143	3	0.61	12S + 26.44	11	ODI
151	143	23	0.49	13S - 0.75	5	ODI
152	144	28	0.38	UTS + 17.19	14	ODI
153	144	49	0.97	11S + 33.88	11	ODI
154	145	11	0.90	UTS + 5.15	17	ODI
155	146	8	0.38	08S + 0.67	10	ODI
156	146	10	1.28	08S - 0.75	2	ODI
157	146	38	0.69	UTS + 4.17	10	ODI
158	148	15	0.76	12S + 13.31	14	ODI
159	149	3	0.79	06S - 0.75	14	ODI

LEGEND: UTS - Upper Tubesheet Secondary Face
LTS - Lower Tube Sheet Secondary Face
LTE - Lower Tube End
S - Tube Support Plate
12S +/- X.X - Defect located X.X inches above/below the 12th TSP
ODI - Outside Diameter Indication