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Ref: 10 CFR 50.55a

CPSES-200600312  
Log # TXX-06031  
RP-39

March 1, 2006

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)  
DOCKET NO. 50-445  
UNIT 1 ELEVENTH REFUELING OUTAGE (1RF11)  
STEAM GENERATOR TWELVE MONTH REPORT

REF: 1) TXU Power letter, logged TXX-05192, from Mike Blevins to  
the NRC; dated November 7, 2005.  
2) TXU Power letter, logged TXX-06025, from Mike Blevins to  
the NRC; dated February 3, 2006.

Gentlemen:

As Attachment 1 to this letter, TXU Generation Company LP (TXU Power) submits the Technical Specification 5.6.10.b twelve month report of the results of the steam generator tube inservice inspection completed during CPSES Unit 1 eleventh refueling outage (1RF11). Also included as an enclosure to this submittal is the Condition Monitoring Report, prepared pursuant to the guidance of NEI 97-06.

The 1RF11 fifteen-day tube plugging report and condition C-3 report were previously submitted via Reference 1. The 1RF11 90-day report prepared pursuant to the guidance of Generic Letter (GL) 95-05 "Voltage-Based Repair Criteria for Westinghouse Steam Generator Tubes Affected by Outside Diameter Stress Corrosion Cracking" was previously submitted via Reference 2.

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TXX-06031

Page 2 of 3

Enclosure 1 to this letter, SG-SGDA-05-45-P Revision 0, is the CPSES 1RF11 Condition Monitoring Report. As Enclosure 1 contains information proprietary to Westinghouse Electric Company LLC, it is supported by an affidavit signed by Westinghouse, the owner of the information. The affidavit (Enclosure 3) sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of Section 2.390 of the Commission's regulations. Accordingly, it is respectfully requested that the information which is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR Section 2.390 of the Commission's regulations.

Correspondence with respect to the copyright or proprietary aspects of the enclosed Westinghouse documents or the supporting Westinghouse affidavit should reference CAW-06-2096 and should be addressed to B. F. Maurer, Acting Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Enclosure 2 of this letter contains the non-proprietary version of Enclosure 1.

Enclosure 3 contains the Westinghouse authorization letter CAW-06-2096, accompanying affidavit, Proprietary Information Notice and Copyright Notice.

Should you require any other additional information please contact Mr. Bob Kidwell at (254) 897-5310.

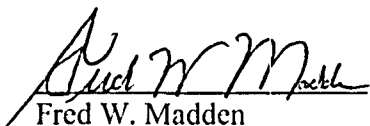
This communication contains the no new licensing basis commitments concerning CPSES Unit 1.

Sincerely,

TXU Generation Company LP

By: TXU Generation Management Company LLC,  
Its General Partner

Mike Blevins

By:   
Fred W. Madden  
Director, Regulatory Affairs

TXX-06031

Page 3 of 3

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Attachment

Enclosures

c - B. S. Mallett, Region IV (clo)  
M. C. Thadani, NRR (clo)  
Resident Inspectors, CPSES (clo)

**TXU POWER  
COMANCHE PEAK STEAM ELECTRIC STATION  
UNIT 1, ELEVENTH REFUELING OUTAGE (1RF11)  
12 MONTH REPORT OF  
STEAM GENERATOR TUBE INSPECTION RESULTS  
TECHNICAL SPECIFICATION 5.6.10.b**

### **CPSES 1RF11 Inspection Plan**

The CPSES 1RF11 inspection plan exceeded both the Technical Specification minimum requirements as well as the recommendations of EPRI TR-1003138, PWR Steam Generator Examination Guidelines: Revision 6 requirements. The 1RF11 initial inspection plan for all four SGs included:

1. 100% full bobbin examination of non-sleeved tubes in Rows 5 and greater and 100% bobbin inspection in the hot and cold leg straight sections of Rows 1 through 4 using a 0.610" diameter probe<sup>1</sup>
2. 100% bobbin examination of tubes with sleeves in rows 5 and above from the cold leg to the top of the sleeve in the hot leg using a 0.610" diameter probe
3. 100% +Pt examination of hard rolled tubes at the hot leg top of tubesheet (TTS +/- 3")
4. 100% +Pt inspection of WEXTEx tubes at the hot leg tubesheet (TTS +3" thru tube end hot)
5. 100% +Pt inspection of U-bends in rows 1 through 16
6. 25% +Pt examination of tubes expanded at cold leg baffles B (C2) and D (C3)
7. 100% +Pt examination of dents, regardless of voltage, within  $\pm 1$ " from AVB locations
8. 100% + Pt examination of AVB wear scars and 20% of baffle wear scars
9. 100% +Pt examination of mix residual indications ( $> 1.5$  volts as measured by bobbin) and hot leg dented intersections  $\geq 5$  volts (as measured by bobbin) according to the requirements of GL 95-05
10. 100% +Pt examination of all bobbin coil "I" codes (except DSI  $< 1.0$  volt at hot leg supports) for flaw confirmation and characterization
11. 100% +Pt inspection of all dented TSP intersections at the H3 TSP  $\geq 2$  volts
12. 20% +Pt inspection of freespan dings  $> 2$  volts and  $\leq 5$  volts between TSH and H3
13. 100% +Pt inspection of freespan dings  $> 5$  volts
14. 20% +Pt freespan paired ding inspection between the top 2 TSPs (hot & cold legs)
15. 20% +Pt full length inspection of TIG sleeves installed in 1RF09, inspection extent is +/- 3" from sleeve ends (SGs 2, 3 & 4)
16. 80% part length inspection of TIG sleeves +/- 3 " from top of sleeve end (SGs 2, 3 & 4)
17. 100% full length inspection of the TIG sleeves installed in 1RF09 using 0.54 inch diameter bobbin probe to look for restriction (collapse or partial collapse) in the sleeve (SGs 2, 3 & 4)
18. 100% +Point full length inspection of Alloy 800 sleeves installed in 1RF10, inspection extent is  $\pm 3$ " from sleeve ends
19. 100% tube plug video inspection
20. Tube bundle secondary side video inspection including a limited scope TTS in-bundle inspection and FOSAR at TTS and cold leg baffle plate B

The inspection plan was developed to specifically address the areas of active degradation and those areas expected to be affected based on recent industry experience as well as experience from the CPSES 1RF10 outage in April 2004.

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<sup>1</sup> 540 wide groove bobbin used for IIL low row straight sections above TIG sleeves and 520 wide groove bobbin used for IIL low row straight sections above Alloy 800 sleeves.

A C-3 condition was reported in SG 4 due to the detection of >45 circumferentially oriented ODS/CC indications of degradation at the top of tubesheet location. Since the 1RF11 base scope inspection program included a 100% sample of the hot leg top of tubesheet expansion transitions, the requirements of Section 3.4.1 of the EPRI SG Examination Guideline Revision 6 were satisfied and no further expansion was required.

Based on the observation of axial PWSCC in Row 13 U-bend in SG 4, the U-bend inspection program was expanded to include 100% of Rows 17 through 25 in the affected SG. No further PWSCC indications were observed and thus the expansion of the inspection scope was bounded by the critical area redefinition to Row 25.

#### Unit 1 Tube Plugging by Refuel Outage

| Cycle                 | EFPY    | SG 1    | SG 2    | SG 3    | SG 4    | Total |
|-----------------------|---------|---------|---------|---------|---------|-------|
| Pre Service           | 0       | 14      | 4       | 5       | 11      | 34    |
| 1RF01                 | 0.9155  | -2      | -1      | 0       | 0       | -3    |
| 1RF02                 | 1.6859  | 0       | 0       | 0       | 0       | 0     |
| 1RF03                 | 2.4164  | 0       | 0       | 0       | 0       | 0     |
| 1RF04                 | 3.5876  | 0       | 1       | 1       | 0       | 2     |
| 1RF05                 | 4.9304  | 0       | 11      | 2       | 6       | 19    |
| 1RF06                 | 6.2436  | 0       | 67      | 8       | 27      | 102   |
| 1RF07                 | 7.6410  | 8       | 20      | 35      | 57      | 120   |
| 1RF08                 | 9.0271  | 11      | 58      | 85      | 55      | 209   |
| 1RF09                 | 10.4194 | 48      | -7 (1)  | -11 (2) | -17 (3) | 13    |
| 1RF10                 | 11.6909 | -15 (4) | -61 (5) | -15 (6) | -24 (7) | -115  |
| 1RF11                 | 13.1073 | 17      | 23      | 33      | 70      | 143   |
| Total Effective Tubes |         | 81      | 115     | 143     | 185     | 524   |
| Total % per SG        |         | 1.77%   | 2.51%   | 3.12%   | 4.04%   | 2.86% |

(1) 18 tubes plugged, 33 tubes unplugged and 213 tubes sleeved (LTS)

(2) 22 tubes plugged, 42 tubes unplugged and 250 tubes sleeved (LTS)

(3) 12 tubes plugged, 39 tubes unplugged and 273 tubes sleeved (LTS)

(4) 14 tubes plugged, 32 tubes unplugged and 78 tubes sleeved (LLS)

(5) 33 tubes plugged, 100 tubes unplugged and 180 tubes sleeved (LLS) (less 14 LTS sleeved tubes plugged)

(6) 47 tubes plugged, 66 tubes unplugged and 145 tubes sleeved (LLS) (less 27 LTS sleeved tubes plugged)

(7) 43 tubes plugged, 72 tubes unplugged and 144 tubes sleeved (LLS) (less 19 LTS sleeved tubes plugged)

**NOTE: Hydraulic Equivalence - Leak Tight Sleeves (LTS) 28.3:1; Leak Limiting Sleeves (LLS) 27.5:1**

**Inspection Results**

The inspection results are included in the following tables which list those tubes with percent through wall indications and those tubes with indications that required or were administratively repaired via installation of mechanical plugs. The indications listed in the following tables are defined as:

DNG: Ding  
 DNT: Dent  
 MCI: Multiple circumferential indications  
 MVI: Multiple volumetric indications  
 PCT: Percent through wall indication  
 PVN: Permeability variation  
 RBD: Retest Bad data  
 RRT: Restricted tube  
 SAI: Single axial indication  
 SCI: Single circumferential indication  
 SVI: Single volumetric indication

**SG 1 Tubes with Percent Through Wall Indications**

| Row | Col | Ind | Per | Locn | Inch1 |
|-----|-----|-----|-----|------|-------|
| 34  | 13  | PCT | 18  | AV2  | 0     |
| 32  | 25  | PCT | 14  | AV4  | 0     |
| 45  | 29  | PCT | 23  | AV1  | 0     |
| 48  | 42  | PCT | 4   | C3   | 0.28  |
| 49  | 52  | PCT | 3   | C7   | -0.31 |
| 20  | 58  | PCT | 7   | C3   | -0.09 |
| 20  | 58  | PCT | 5   | C3   | 0.23  |
| 21  | 60  | PCT | 3   | C5   | 0.37  |
| 47  | 67  | PCT | 10  | C3   | -0.06 |
| 47  | 69  | PCT | 6   | C3   | 0     |
| 45  | 71  | PCT | 11  | C3   | 0.29  |
| 45  | 71  | PCT | 8   | C2   | 0.06  |
| 36  | 72  | PCT | 5   | C2   | -0.09 |
| 47  | 73  | PCT | 3   | C7   | 0     |
| 47  | 73  | PCT | 4   | C3   | 0.03  |
| 48  | 73  | PCT | 7   | C7   | -0.23 |
| 48  | 73  | PCT | 4   | C5   | 0     |
| 48  | 73  | PCT | 27  | C3   | 0.09  |

| Row | Col | Ind | Per | Locn | Inch1 |
|-----|-----|-----|-----|------|-------|
| 48  | 73  | PCT | 26  | C2   | 0.12  |
| 48  | 74  | PCT | 7   | C7   | -0.23 |
| 47  | 75  | PCT | 10  | C3   | 0.03  |
| 47  | 75  | PCT | 5   | C2   | 0.09  |
| 48  | 75  | PCT | 4   | C7   | 0     |
| 48  | 75  | PCT | 8   | C5   | 0.17  |
| 48  | 75  | PCT | 36  | C3   | 0.18  |
| 48  | 75  | PCT | 11  | C2   | 0     |
| 48  | 76  | PCT | 2   | C5   | -0.15 |
| 48  | 76  | PCT | 34  | C3   | 0.12  |
| 48  | 76  | PCT | 13  | C2   | 0.14  |
| 48  | 77  | PCT | 10  | C3   | 0.18  |
| 48  | 78  | PCT | 5   | C5   | 0.17  |
| 48  | 79  | PCT | 3   | C5   | -0.29 |
| 48  | 79  | PCT | 5   | C5   | 0.29  |
| 48  | 79  | PCT | 4   | C3   | -0.23 |
| 45  | 82  | PCT | 5   | C7   | -0.14 |

**SG 1 Tubes Removed from Service by Mechanical Plugging**

| Row | Col | Ind | Locn | Inch1 |
|-----|-----|-----|------|-------|
| 5   | 10  | SCI | H11  | 22.48 |
| 39  | 17  | SVI | H8   | 0.3   |
| 27  | 23  | SAI | C10  | 38.31 |
| 26  | 24  | SAI | C7   | 37.57 |
| 15  | 25  | SAI | C7   | 9.08  |
| 24  | 29  | SCI | HTE  | 1.57  |
| 35  | 37  | SAI | C8   | 5.27  |
| 49  | 42  | SAI | AV4  | 1.61  |
| 24  | 45  | SCI | HTS  | -0.03 |

| Row | Col | Ind | Locn | Inch1 |
|-----|-----|-----|------|-------|
| 6   | 50  | SAI | C10  | 4.4   |
| 46  | 70  | SVI | C8   | -0.17 |
| 6   | 78  | SCI | HTS  | -0.17 |
| 25  | 82  | SCI | HTS  | -0.08 |
| 26  | 84  | SCI | HTS  | -0.21 |
| 37  | 95  | SCI | HTS  | -0.07 |
| 32  | 99  | SAI | C8   | 0.61  |
| 1   | 107 | SVI | H3   | 25.62 |

**SG 2 Tubes with Percent Through Wall Indications**

| Row | Col | Ind | Per | Locn | Inch1 |
|-----|-----|-----|-----|------|-------|
| 48  | 33  | PCT | 4   | C7   | -0.27 |
| 48  | 33  | PCT | 4   | C3   | 0.09  |
| 48  | 33  | PCT | 7   | C2   | 0.07  |
| 48  | 37  | PCT | 4   | C7   | 0.2   |
| 48  | 38  | PCT | 12  | C7   | 0.02  |
| 48  | 38  | PCT | 10  | C3   | 0.04  |
| 48  | 38  | PCT | 16  | C2   | 0.14  |
| 49  | 38  | PCT | 5   | C7   | -0.11 |
| 47  | 39  | PCT | 5   | C7   | -0.02 |
| 48  | 39  | PCT | 7   | C9   | 0.29  |
| 48  | 39  | PCT | 8   | C8   | 0     |
| 48  | 39  | PCT | 8   | C7   | 0.11  |
| 48  | 39  | PCT | 9   | C5   | 0.27  |
| 48  | 39  | PCT | 13  | C3   | 0.13  |
| 47  | 40  | PCT | 4   | C7   | -0.25 |
| 47  | 40  | PCT | 9   | C2   | 0.2   |
| 48  | 42  | PCT | 6   | C3   | 0.07  |
| 45  | 43  | PCT | 4   | C7   | -0.2  |
| 44  | 45  | PCT | 5   | C3   | 0.16  |
| 46  | 45  | PCT | 10  | C7   | -0.18 |
| 46  | 45  | PCT | 8   | C3   | -0.02 |
| 47  | 45  | PCT | 15  | C3   | 0.27  |
| 49  | 45  | PCT | 8   | C7   | 0.13  |
| 49  | 46  | PCT | 16  | C7   | 0.11  |
| 44  | 47  | PCT | 7   | C2   | 0.36  |
| 49  | 47  | PCT | 5   | C7   | 0.13  |
| 45  | 48  | PCT | 10  | C2   | 0.13  |
| 47  | 48  | PCT | 5   | C7   | 0.04  |
| 47  | 48  | PCT | 19  | C3   | 0.18  |
| 47  | 48  | PCT | 12  | C2   | 0.11  |

| Row | Col | Ind | Per | Locn | Inch1 |
|-----|-----|-----|-----|------|-------|
| 47  | 49  | PCT | 8   | C5   | 0.02  |
| 47  | 49  | PCT | 26  | C3   | 0.16  |
| 47  | 49  | PCT | 3   | C2   | 0.2   |
| 46  | 50  | PCT | 26  | C3   | -0.18 |
| 44  | 53  | PCT | 9   | C2   | 0.02  |
| 36  | 56  | PCT | 8   | C3   | 0.07  |
| 36  | 56  | PCT | 10  | C2   | -0.02 |
| 35  | 59  | PCT | 10  | C2   | 0.2   |
| 44  | 60  | PCT | 6   | C3   | 0.11  |
| 44  | 60  | PCT | 12  | C2   | -0.02 |
| 45  | 60  | PCT | 8   | C3   | 0.18  |
| 42  | 62  | PCT | 10  | C2   | 0.04  |
| 46  | 67  | PCT | 15  | C3   | 0.04  |
| 47  | 67  | PCT | 38  | C3   | 0     |
| 47  | 67  | PCT | 7   | C2   | 0.18  |
| 47  | 68  | PCT | 8   | C3   | 0.02  |
| 47  | 68  | PCT | 9   | C2   | 0.04  |
| 46  | 70  | PCT | 7   | C3   | 0.13  |
| 47  | 71  | PCT | 5   | C3   | -0.02 |
| 45  | 73  | PCT | 3   | C3   | 0.2   |
| 47  | 73  | PCT | 15  | C3   | 0.18  |
| 48  | 73  | PCT | 5   | C3   | 0.07  |
| 48  | 73  | PCT | 7   | C2   | 0.09  |
| 48  | 75  | PCT | 4   | C7   | -0.07 |
| 48  | 76  | PCT | 5   | C5   | -0.33 |
| 48  | 79  | PCT | 7   | C5   | 0.09  |
| 48  | 79  | PCT | 9   | C3   | 0.07  |
| 49  | 80  | PCT | 6   | C5   | 0.07  |
| 15  | 112 | PCT | 7   | C11  | -0.38 |

**SG 2 Tubes Removed from Service by Mechanical Plugging**

| Row | Col | Ind | Locn | Inch1 |
|-----|-----|-----|------|-------|
| 5   | 20  | SCI | H11  | 18.74 |
| 5   | 23  | SCI | H11  | 15.87 |
| 42  | 23  | SAI | C8   | 24.48 |
| 1   | 25  | SAI | C2   | 23.58 |
| 6   | 31  | SVI | C2   | 7.14  |
| 29  | 31  | SCI | HTS  | -0.07 |
| 46  | 51  | SCI | HTE  | 0.8   |
| 39  | 52  | PVN | H10  | 4.52  |
| 26  | 65  | SAI | H5   | 0.07  |
| 30  | 65  | SAI | H3   | 33.11 |
| 34  | 66  | RRT | -    | -     |
| 22  | 70  | RRT | -    | -     |

| Row | Col | Ind | Locn | Inch1 |
|-----|-----|-----|------|-------|
| 31  | 78  | SVI | H1   | 4.68  |
| 32  | 84  | SCI | HTS  | -0.07 |
| 30  | 85  | RRT | -    | -     |
| 33  | 89  | MCI | HTS  | -0.05 |
| 11  | 91  | SAI | H10  | 9.83  |
| 27  | 91  | MCI | HTS  | -0.11 |
| 6   | 95  | SCI | HTS  | -0.05 |
| 13  | 96  | SCI | HTS  | -0.12 |
| 7   | 98  | SCI | HTS  | -0.06 |
| 15  | 99  | SCI | HTS  | -0.05 |
| 21  | 110 | SCI | HTS  | -0.11 |

**SG 3 Tubes with Percent Through Wall Indications**

| Row | Col | Ind | Per | Locn | Inch1 |
|-----|-----|-----|-----|------|-------|
| 48  | 34  | PCT | 11  | C7   | 0.05  |
| 47  | 37  | PCT | 4   | C5   | 0.17  |
| 48  | 40  | PCT | 5   | C5   | -0.15 |
| 46  | 41  | PCT | 14  | C2   | 0.34  |
| 47  | 41  | PCT | 7   | C3   | 0.37  |
| 48  | 41  | PCT | 7   | C3   | -0.15 |
| 48  | 41  | PCT | 32  | C2   | 0     |
| 48  | 42  | PCT | 29  | C3   | -0.15 |
| 48  | 42  | PCT | 21  | C2   | 0.15  |
| 49  | 43  | PCT | 6   | C7   | -0.15 |
| 46  | 45  | PCT | 7   | C3   | -0.15 |
| 47  | 45  | PCT | 5   | C3   | 0.15  |
| 47  | 45  | PCT | 8   | C2   | 0.15  |
| 44  | 46  | PCT | 8   | C3   | 0.34  |
| 44  | 46  | PCT | 9   | C2   | 0.17  |
| 46  | 46  | PCT | 15  | C3   | 0.25  |
| 43  | 48  | PCT | 6   | C3   | 0.28  |
| 43  | 48  | PCT | 8   | C2   | 0.21  |
| 46  | 50  | PCT | 7   | C3   | -0.15 |
| 43  | 51  | PCT | 7   | C3   | 0.3   |
| 43  | 52  | PCT | 7   | C3   | 0.11  |
| 45  | 54  | PCT | 34  | C3   | 0.07  |
| 45  | 54  | PCT | 9   | C2   | 0.24  |
| 43  | 55  | PCT | 8   | C2   | 0     |
| 45  | 55  | PCT | 7   | C3   | 0     |
| 25  | 56  | PCT | 3   | C3   | 0.33  |
| 27  | 56  | PCT | 9   | C3   | 0     |
| 20  | 59  | PCT | 8   | C3   | 0.14  |

| Row | Col | Ind | Per | Locn | Inch1 |
|-----|-----|-----|-----|------|-------|
| 21  | 59  | PCT | 8   | C3   | 0.37  |
| 36  | 59  | PCT | 14  | C3   | 0.21  |
| 41  | 59  | PCT | 21  | AV3  | -0.26 |
| 43  | 59  | PCT | 25  | AV2  | 0     |
| 43  | 59  | PCT | 32  | AV3  | 0     |
| 45  | 62  | PCT | 9   | C3   | 0.11  |
| 45  | 70  | PCT | 11  | C3   | 0.32  |
| 45  | 70  | PCT | 5   | C2   | 0.12  |
| 48  | 73  | PCT | 8   | C3   | 0.11  |
| 48  | 75  | PCT | 11  | C5   | -0.14 |
| 47  | 76  | PCT | 9   | C2   | -0.36 |
| 48  | 79  | PCT | 6   | C5   | 0     |
| 48  | 79  | PCT | 8   | C2   | -0.36 |
| 49  | 79  | PCT | 5   | C7   | 0     |
| 46  | 80  | PCT | 8   | C2   | -0.39 |
| 48  | 80  | PCT | 6   | C5   | 0     |
| 47  | 81  | PCT | 7   | C7   | 0.09  |
| 48  | 81  | PCT | 7   | C7   | -0.15 |
| 48  | 81  | PCT | 7   | C3   | 0.15  |
| 48  | 81  | PCT | 7   | C2   | -0.15 |
| 48  | 82  | PCT | 5   | C7   | -0.09 |
| 48  | 82  | PCT | 7   | C2   | 0.11  |
| 48  | 83  | PCT | 7   | C7   | 0.03  |
| 46  | 89  | PCT | 8   | C2   | 0     |
| 45  | 90  | PCT | 5   | C2   | 0.17  |
| 45  | 91  | PCT | 9   | C3   | -0.03 |
| 45  | 91  | PCT | 6   | C2   | -0.14 |

**SG 3 Tubes Removed from Service by Mechanical Plugging**

| Row | Col | Ind | Locn | Inch1 |
|-----|-----|-----|------|-------|
| 3   | 15  | SCI | H11  | 16.61 |
| 20  | 19  | SCI | HTS  | -0.23 |
| 18  | 21  | PVN | HTS  | 4.48  |
| 31  | 31  | SCI | HTS  | -0.09 |
| 2   | 36  | SCI | HTS  | -0.09 |
| 34  | 47  | RRT | -    | -     |
| 5   | 49  | RRT | -    | -     |
| 25  | 49  | SCI | HTS  | -0.15 |
| 21  | 53  | MCI | HTS  | -0.19 |
| 25  | 56  | SVI | HTS  | -0.13 |
| 32  | 61  | SCI | HTS  | -0.19 |
| 38  | 65  | RRT | -    | -     |
| 42  | 67  | MCI | HTS  | -0.2  |
| 22  | 71  | SCI | HTS  | -0.02 |
| 44  | 73  | SCI | HTS  | -0.22 |
| 24  | 79  | MCI | HTS  | -0.24 |
| 36  | 79  | MCI | HTS  | -0.17 |

| Row | Col | Ind | Locn | Inch1 |
|-----|-----|-----|------|-------|
| 27  | 80  | MCI | HTS  | -0.24 |
| 42  | 80  | DNG | AV1  | -1.61 |
| 46  | 83  | SCI | HTS  | -0.22 |
| 17  | 85  | MVI | H1   | 0.45  |
| 17  | 94  | SCI | HTS  | -0.18 |
| 1   | 95  | MCI | HTS  | -0.18 |
| 22  | 95  | SCI | HTS  | -0.17 |
| 16  | 96  | SCI | HTS  | -0.05 |
| 21  | 99  | SCI | HTS  | -0.22 |
| 34  | 99  | SCI | HTS  | -0.14 |
| 8   | 102 | MCI | HTS  | -0.23 |
| 11  | 102 | SCI | HTS  | -0.13 |
| 13  | 102 | MCI | HTS  | -0.18 |
| 15  | 102 | SCI | HTS  | -0.05 |
| 20  | 109 | SVI | HTS  | -0.68 |
| 21  | 109 | MCI | HTS  | -0.92 |

## SG 4 Tubes with Percent Through Wall Indications

| Row | Col | Ind | Per | Locn | Inch1 |
|-----|-----|-----|-----|------|-------|
| 22  | 6   | PCT | 3   | C2   | -0.03 |
| 23  | 6   | PCT | 3   | C4   | 0     |
| 30  | 10  | PCT | 5   | C2   | 0     |
| 33  | 13  | PCT | 4   | C4   | 0.27  |
| 33  | 13  | PCT | 4   | C2   | 0.05  |
| 44  | 23  | PCT | 6   | C2   | 0     |
| 45  | 24  | PCT | 11  | C5   | 0.16  |
| 45  | 24  | PCT | 26  | C3   | 0.16  |
| 45  | 24  | PCT | 12  | C2   | 0     |
| 12  | 26  | PCT | 11  | C6   | -0.11 |
| 46  | 26  | PCT | 8   | C3   | 0.03  |
| 48  | 32  | PCT | 6   | C5   | 0.03  |
| 48  | 32  | PCT | 7   | C3   | 0.05  |
| 47  | 33  | PCT | 2   | C2   | -0.4  |
| 48  | 33  | PCT | 5   | C5   | -0.14 |
| 48  | 33  | PCT | 6   | C3   | 0.11  |
| 47  | 34  | PCT | 4   | C5   | 0.11  |
| 47  | 34  | PCT | 10  | C3   | 0.05  |
| 47  | 34  | PCT | 3   | C2   | -0.22 |
| 48  | 34  | PCT | 21  | C3   | 0.08  |
| 48  | 34  | PCT | 7   | C2   | 0.05  |
| 47  | 36  | PCT | 4   | C5   | 0.05  |
| 47  | 36  | PCT | 6   | C3   | 0.08  |
| 48  | 36  | PCT | 4   | C3   | -0.19 |
| 48  | 36  | PCT | 9   | C2   | 0.03  |
| 48  | 37  | PCT | 6   | C5   | 0.31  |
| 46  | 38  | PCT | 4   | C3   | 0.03  |
| 46  | 39  | PCT | 5   | C3   | 0.05  |
| 48  | 39  | PCT | 5   | C5   | 0.08  |
| 48  | 39  | PCT | 45  | C3   | 0.24  |
| 48  | 39  | PCT | 9   | C2   | 0.03  |
| 48  | 41  | PCT | 3   | C3   | 0.17  |
| 47  | 42  | PCT | 3   | C3   | 0.08  |
| 48  | 42  | PCT | 7   | C5   | -0.34 |
| 47  | 43  | PCT | 9   | C5   | 0.11  |
| 45  | 44  | PCT | 7   | C3   | 0.14  |
| 45  | 44  | PCT | 5   | C2   | -0.03 |
| 46  | 45  | PCT | 4   | C5   | 0     |
| 47  | 45  | PCT | 7   | C2   | -0.06 |
| 44  | 48  | PCT | 6   | C2   | 0.05  |
| 45  | 48  | PCT | 25  | C3   | 0.16  |
| 47  | 48  | PCT | 6   | C7   | 0.05  |
| 47  | 48  | PCT | 11  | C5   | 0.05  |
| 47  | 48  | PCT | 24  | C3   | 0.14  |
| 49  | 49  | PCT | 3   | C5   | -0.33 |
| 49  | 52  | PCT | 4   | C7   | 0     |
| 36  | 54  | PCT | 4   | C2   | 0.11  |
| 21  | 55  | PCT | 8   | C3   | 0.02  |
| 25  | 55  | PCT | 8   | C2   | -0.08 |
| 29  | 55  | PCT | 4   | C2   | -0.23 |
| 35  | 55  | PCT | 3   | C2   | 0.11  |

| Row | Col | Ind | Per | Locn | Inch1 |
|-----|-----|-----|-----|------|-------|
| 45  | 55  | PCT | 14  | C3   | 0.05  |
| 25  | 56  | PCT | 11  | C2   | 0.16  |
| 29  | 56  | PCT | 15  | C3   | 0     |
| 35  | 56  | PCT | 7   | C2   | -0.03 |
| 25  | 59  | PCT | 11  | C3   | 0.11  |
| 30  | 59  | PCT | 5   | C3   | -0.15 |
| 31  | 59  | PCT | 11  | C3   | -0.03 |
| 33  | 59  | PCT | 4   | C4   | -0.05 |
| 33  | 59  | PCT | 20  | C3   | 0.08  |
| 33  | 59  | PCT | 7   | C2   | 0     |
| 21  | 60  | PCT | 7   | C3   | 0.03  |
| 31  | 60  | PCT | 4   | C3   | 0     |
| 32  | 60  | PCT | 4   | C3   | -0.31 |
| 33  | 60  | PCT | 10  | C3   | 0     |
| 33  | 60  | PCT | 3   | C2   | -0.05 |
| 49  | 60  | PCT | 21  | AV4  | 0     |
| 29  | 61  | PCT | 3   | C3   | -0.2  |
| 42  | 61  | PCT | 6   | C3   | 0.17  |
| 45  | 61  | PCT | 7   | C3   | 0     |
| 45  | 61  | PCT | 6   | C2   | 0.03  |
| 46  | 62  | PCT | 14  | C3   | -0.17 |
| 46  | 63  | PCT | 12  | C3   | 0.06  |
| 45  | 64  | PCT | 5   | C5   | 0     |
| 45  | 64  | PCT | 25  | C3   | 0.15  |
| 47  | 65  | PCT | 5   | C3   | 0.11  |
| 47  | 65  | PCT | 6   | C2   | 0.17  |
| 49  | 65  | PCT | 4   | C7   | -0.25 |
| 38  | 66  | PCT | 13  | AV3  | -0.11 |
| 45  | 66  | PCT | 11  | C2   | 0.03  |
| 46  | 66  | PCT | 9   | C3   | 0.06  |
| 46  | 67  | PCT | 6   | C2   | -0.06 |
| 45  | 68  | PCT | 7   | C3   | 0     |
| 45  | 68  | PCT | 6   | C2   | 0     |
| 47  | 70  | PCT | 6   | C2   | -0.32 |
| 48  | 73  | PCT | 19  | C3   | 0.15  |
| 48  | 73  | PCT | 11  | C2   | -0.09 |
| 46  | 74  | PCT | 5   | C3   | 0.14  |
| 47  | 74  | PCT | 8   | C3   | 0.06  |
| 47  | 74  | PCT | 6   | C2   | 0.11  |
| 49  | 74  | PCT | 7   | C5   | 0.14  |
| 46  | 76  | PCT | 3   | C3   | 0.09  |
| 47  | 77  | PCT | 5   | C3   | -0.06 |
| 35  | 78  | PCT | 3   | C2   | -0.27 |
| 48  | 83  | PCT | 5   | C3   | 0.03  |
| 13  | 87  | PCT | 4   | C6   | -0.03 |
| 14  | 88  | PCT | 4   | C6   | 0.17  |
| 15  | 88  | PCT | 5   | C6   | 0.2   |
| 16  | 88  | PCT | 5   | C6   | -0.03 |
| 11  | 89  | PCT | 4   | C5   | 0.17  |
| 13  | 89  | PCT | 5   | C6   | 0.03  |
| 14  | 89  | PCT | 4   | C6   | 0.11  |

## SG 4 Tubes Removed from Service by Mechanical Plugging

| Row | Col | Ind | Locn | Inch1 |
|-----|-----|-----|------|-------|
| 6   | 2   | RBD | -    | -     |
| 13  | 4   | SAI | AV4  | 4.93  |
| 24  | 12  | PVN | AV1  | 8.32  |
| 9   | 13  | SCI | HTS  | -0.17 |
| 9   | 19  | SCI | HTS  | 0.19  |
| 5   | 20  | SCI | HTS  | -0.18 |
| 8   | 21  | MCI | HTS  | 0.17  |
| 24  | 22  | SAI | C9   | 1.91  |
| 32  | 25  | SVI | HTS  | -3.46 |
| 4   | 28  | SCI | HTS  | -0.22 |
| 4   | 30  | SCI | HTS  | -0.27 |
| 2   | 31  | SCI | HTS  | -0.31 |
| 4   | 31  | SCI | HTS  | 0.21  |
| 9   | 32  | SCI | HTS  | -0.26 |
| 3   | 35  | SVI | HTS  | -1.12 |
| 9   | 39  | SAI | C8   | 10.35 |
| 48  | 39  | PCT | C3   | 0.24  |
| 3   | 42  | SCI | HTS  | -0.19 |
| 12  | 42  | SCI | HTS  | -0.12 |
| 30  | 42  | SCI | HTS  | -0.06 |
| 33  | 42  | SCI | HTS  | -0.05 |
| 24  | 43  | SCI | HTS  | -0.08 |
| 31  | 43  | SCI | HTS  | -0.15 |
| 7   | 46  | SCI | HTS  | -0.18 |
| 3   | 49  | SCI | HTS  | -0.21 |
| 11  | 49  | SCI | HTS  | -0.18 |
| 32  | 49  | SCI | HTS  | -0.07 |
| 3   | 50  | SCI | HTS  | -0.15 |
| 32  | 50  | SCI | HTS  | -0.07 |
| 8   | 51  | SCI | HTS  | -0.1  |
| 6   | 53  | SCI | HTS  | -0.16 |
| 9   | 53  | SCI | HTS  | -0.13 |
| 19  | 53  | SCI | HTS  | -0.04 |
| 6   | 54  | SCI | HTS  | -0.08 |
| 9   | 54  | SCI | HTS  | -0.1  |

| Row | Col | Ind | Locn | Inch1 |
|-----|-----|-----|------|-------|
| 12  | 54  | SCI | HTS  | -0.15 |
| 30  | 55  | SCI | HTS  | 0     |
| 33  | 55  | SCI | HTS  | -0.05 |
| 11  | 56  | SCI | HTS  | -0.14 |
| 1   | 59  | SCI | HTS  | 0     |
| 20  | 59  | SCI | HTS  | -0.16 |
| 32  | 60  | SCI | HTS  | -0.22 |
| 38  | 60  | SCI | HTS  | 0     |
| 20  | 64  | SCI | HTS  | -0.17 |
| 5   | 65  | SCI | HTS  | 0     |
| 5   | 69  | SCI | HTS  | 0     |
| 30  | 69  | SCI | HTS  | -0.17 |
| 10  | 74  | SCI | HTS  | -0.17 |
| 11  | 75  | SCI | HTS  | -0.18 |
| 32  | 75  | SCI | HTS  | -0.19 |
| 34  | 76  | SCI | HTS  | -0.25 |
| 9   | 77  | SCI | HTS  | -0.18 |
| 25  | 77  | PVN | AV3  | 3.44  |
| 6   | 78  | SCI | HTS  | -0.22 |
| 36  | 78  | SCI | HTS  | -0.16 |
| 37  | 78  | SCI | HTS  | -0.17 |
| 41  | 79  | SCI | HTS  | -0.27 |
| 8   | 80  | SCI | HTS  | -0.16 |
| 35  | 80  | RRT | -    | -     |
| 34  | 81  | SCI | HTS  | -0.22 |
| 35  | 81  | MCI | HTS  | -0.27 |
| 40  | 82  | SCI | HTS  | -0.12 |
| 1   | 86  | SCI | HTS  | -0.21 |
| 12  | 96  | SCI | HTS  | -0.19 |
| 26  | 98  | SCI | HTS  | 0     |
| 2   | 99  | SAI | HTS  | -0.2  |
| 1   | 100 | SAI | H11  | 0.09  |
| 23  | 108 | SCI | HTS  | -0.04 |
| 17  | 110 | SCI | HTS  | -0.28 |
| 12  | 111 | DNT | H10  | -0.59 |