

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

March 10, 1992

U. S. Nuclear Regulatory Commission
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Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNIT 1
STEAM GENERATOR TUBE PLUGGING REPORT

North Anna Unit 1 recently completed its mid-cycle Steam Generator Tube Inspection outage. In accordance with Technical Specification 4.4.5.5.a, we are submitting this summary of the tube plugging activities performed during the outage.

Attachment 1 provides a listing of those tubes plugged during the outage including one previously plugged tube for which the cold leg plug was replaced. Attachment 2 provides a summary of the current plugging level of each steam generator.

If you have any further questions, please contact us.

Very truly yours,



W. L. Stewart

Senior Vice President - Nuclear

Attachments

pc: U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N.W.
Suite 2900
Atlanta, Georgia 30323

Mr. M. S. Lesser
NRC Senior Resident Inspector
North Anna Power Station

ADD 1

NORTH ANNA UNIT 1
MID-CYCLE O JTAGE 1992
STEAM GENERATOR "A" - TUBE PLUGGING SUMMARY

| Row | Col. | Row | Col. |
|-----|------|-----|------|
| 2 | 2 | 4 | 16 |
| 5 | 2 | 18 | 16 |
| 5 | 3 | 17 | 18 |
| 12 | 3 | 21 | 18 |
| 13 | 3 | 2 | 19 |
| 3 | 4 | 2 | 20 |
| 5 | 4 | 18 | 20 |
| 6 | 4 | 19 | 20 |
| 7 | 4 | 2 | 21 |
| 10 | 4 | 28 | 21 |
| 7 | 5 | 34 | 21 |
| 14 | 5 | 5 | 22 |
| 17 | 5 | 20 | 22 |
| 18 | 5 | 22 | 22 |
| 19 | 5 | 27 | 22 |
| 6 | 6 | 33 | 22 |
| 7 | 6 | 20 | 23 |
| 7 | 9 | 21 | 23 |
| 11 | 7 | 38 | 23 |
| 17 | 7 | 39 | 23 |
| 2 | 8 | 7 | 24 |
| 22 | 9 | 8 | 24 |
| 4 | 10 | 10 | 24 |
| 8 | 10 | 22 | 24 |
| 17 | 10 | 30 | 24 |
| 18 | 10 | 12 | 26 |
| 17 | 11 | 15 | 26 |
| 9 | 12 | 5 | 27 |
| 17 | 13 | 7 | 27 |
| 6 | 14 | 9 | 27 |
| 5 | 15 | 7 | 28 |
| 22 | 15 | 26 | 28 |

NORTH ANNA UNIT 1
MID-CYCLE OUTAGE 1992
STEAM GENERATOR "A" - TUBE PLUGGING SUMMARY

| Row | Col. | Row | Col. |
|-------|------|-----|------|
| 5 | 29 | 20 | 45 |
| 19 | 29 | 31 | 45 |
| 24 | 29 | 13 | 46 |
| 5 | 30 | 19 | 47 |
| 15 | 30 | 20 | 47 |
| 29 | 30 | 23 | 47 |
| 31 | 31 | 33 | 47 |
| 10 | 32 | 3 | 48 |
| 16 | 32 | 13 | 48 |
| 19 | 32 | 32 | 48 |
| ***24 | 33 | 46 | 48 |
| 36 | 33 | 2 | 49 |
| 4 | 35 | 10 | 49 |
| 18 | 35 | 32 | 50 |
| 13 | 36 | 33 | 50 |
| 11 | 38 | 45 | 50 |
| 28 | 38 | 38 | 51 |
| 18 | 39 | 42 | 51 |
| 40 | 39 | 46 | 51 |
| 34 | 40 | 8 | 52 |
| 38 | 40 | 44 | 52 |
| 41 | 40 | 22 | 53 |
| 42 | 40 | 11 | 54 |
| 44 | 40 | 32 | 54 |
| 4 | 41 | 37 | 54 |
| 12 | 41 | 39 | 54 |
| 39 | 41 | 46 | 54 |
| 5 | 42 | 3 | 55 |
| 7 | 42 | 25 | 55 |
| 9 | 42 | 7 | 56 |
| 34 | 42 | 15 | 56 |
| *13 | 43 | 2 | 57 |

NORTH ANNA UNIT 1
MID-CYCLE OUTAGE 1992
STEAM GENERATOR "A" - TUBE PLUGGING SUMMARY

| Row | Col. | Row | Col. |
|-----|------|-----|------|
| 33 | 58 | 19 | 75 |
| 5 | 59 | 36 | 75 |
| 25 | 59 | 20 | 76 |
| 43 | 59 | 6 | 81 |
| 8 | 60 | 22 | 81 |
| 3 | 61 | 4 | 84 |
| 8 | 62 | 6 | 88 |
| 42 | 64 | 11 | 88 |
| 5 | 66 | 5 | 89 |
| 9 | 66 | 11 | 89 |
| 23 | 66 | 19 | 90 |
| 15 | 67 | 12 | 91 |
| 2 | 68 | 3 | 92 |
| 9 | 68 | **7 | 92 |
| 5 | 70 | **6 | 93 |
| 14 | 70 | 7 | 93 |
| 36 | 70 | **8 | 93 |
| 10 | 71 | 5 | 94 |
| 32 | 72 | **7 | 94 |
| 17 | 73 | | |

>> TOTAL TUBES PLUGGED (HOT LEG) = 166

>> TOTAL TUBES PLUGGED (COLD LEG) = 167

* PREVIOUSLY INSTALLED PLUG REMOVED IN COLD LEG ONLY, NEW PLUG INSTALLED

** SENTINEL PLUG IN COLD LEG

*** TUBE PLUGGED AND STABILIZED

NORTH ANNA UNIT 1
MID-CYCLE OUTAGE 1992
STEAM GENERATOR "B" - TUBE PLUGGING SUMMARY

| Row | Col. | Row | Col. |
|-----|------|-----|------|
| 2 | 4 | 35 | 22 |
| 4 | 6 | 2 | 23 |
| 16 | 6 | 3 | 23 |
| 11 | 7 | 6 | 24 |
| 11 | 8 | 7 | 24 |
| 12 | 8 | 15 | 24 |
| *25 | 8 | 22 | 24 |
| 6 | 9 | 20 | 25 |
| 15 | 9 | 21 | 25 |
| 2 | 11 | 39 | 25 |
| 11 | 11 | 5 | 27 |
| 16 | 11 | 7 | 27 |
| 18 | 12 | 8 | 27 |
| 2 | 13 | 14 | 27 |
| 8 | 13 | 21 | 27 |
| 10 | 13 | 37 | 27 |
| 11 | 13 | 9 | 28 |
| 13 | 14 | 11 | 28 |
| 15 | 14 | 12 | 28 |
| 17 | 14 | 20 | 28 |
| 12 | 15 | 37 | 28 |
| 20 | 15 | 5 | 29 |
| 18 | 16 | 9 | 29 |
| 8 | 17 | 3 | 30 |
| 2 | 20 | 6 | 30 |
| 10 | 21 | 15 | 30 |
| 14 | 21 | 6 | 31 |
| 36 | 21 | 10 | 31 |
| 37 | 21 | 15 | 31 |
| 3 | 22 | 21 | 31 |
| 16 | 22 | 12 | 32 |
| 21 | 22 | 3 | 33 |

NORTH ANNA UNIT 1
MID-CYCLE OUTAGE 1992
STEAM GENERATOR "B" - TUBE PLUGGING SUMMARY

| Row | Col. | Row | Col. |
|-----|------|-----|------|
| 6 | 33 | 28 | 42 |
| 10 | 33 | 33 | 42 |
| 18 | 33 | 41 | 42 |
| 22 | 33 | 37 | 43 |
| 2 | 34 | 39 | 43 |
| 15 | 34 | 13 | 44 |
| 4 | 35 | 19 | 44 |
| 2 | 36 | 6 | 45 |
| 9 | 36 | 14 | 45 |
| 15 | 36 | 10 | 46 |
| 18 | 36 | 19 | 46 |
| *25 | 36 | 20 | 46 |
| 4 | 37 | 45 | 46 |
| 8 | 37 | 6 | 47 |
| 28 | 37 | 10 | 47 |
| 6 | 40 | 27 | 47 |
| 7 | 40 | 26 | 48 |
| 15 | 40 | 28 | 48 |
| 41 | 40 | 29 | 49 |
| 2 | 41 | 33 | 50 |
| 4 | 41 | 20 | 51 |
| 5 | 41 | 34 | 51 |
| 9 | 41 | 40 | 51 |
| 18 | 41 | 45 | 51 |
| 22 | 41 | 12 | 52 |
| 28 | 41 | 33 | 53 |
| 34 | 41 | 46 | 53 |
| 41 | 41 | 10 | 54 |
| 10 | 42 | 14 | 54 |
| 14 | 42 | 27 | 54 |
| 23 | 42 | 34 | 54 |
| 26 | 42 | 35 | 54 |

NORTH ANNA UNIT 1
MID-CYCLE OUTAGE 1992
STEAM GENERATOR "B" - TUBE PLUGGING SUMMARY

| Row | Col. | Row | Col. |
|-----|------|-----|------|
| 39 | 54 | 4 | 66 |
| 43 | 54 | 10 | 66 |
| 42 | 55 | 32 | 66 |
| 9 | 56 | 8 | 68 |
| 13 | 56 | 15 | 70 |
| 16 | 56 | 13 | 72 |
| 8 | 58 | 35 | 72 |
| 26 | 59 | 38 | 72 |
| 18 | 60 | 12 | 74 |
| 36 | 62 | 15 | 74 |
| 3 | 63 | 33 | 74 |
| 26 | 64 | 2 | 76 |
| 34 | 64 | 16 | 76 |
| 9 | 65 | 15 | 77 |
| 13 | 65 | 22 | 83 |
| 16 | 65 | 13 | 90 |

➤ TOTAL TUBES PLUGGED = 160

* TUBES PLUGGED AND STABILIZED

NORTH ANNA UNIT 1
MID-CYCLE OUTAGE 1992
STEAM GENERATOR "C" - TUBE PLUGGING SUMMARY

| Row | Col. | Row | Col. |
|-----|------|-----|------|
| 6 | 3 | 9 | 14 |
| 2 | 4 | 11 | 14 |
| 6 | 4 | 11 | 16 |
| 12 | 4 | 26 | 16 |
| 14 | 4 | 27 | 16 |
| 12 | 5 | 29 | 16 |
| 13 | 5 | 19 | 17 |
| 16 | 5 | 24 | 17 |
| 14 | 6 | 27 | 17 |
| 17 | 6 | 17 | 18 |
| 3 | 7 | 27 | 18 |
| 16 | 7 | 30 | 18 |
| 17 | 7 | 11 | 19 |
| 21 | 7 | 22 | 19 |
| 14 | 8 | 5 | 20 |
| 25 | 8 | 20 | 20 |
| 4 | 9 | 22 | 20 |
| 8 | 9 | 37 | 20 |
| 15 | 9 | 12 | 21 |
| 20 | 9 | 16 | 21 |
| 12 | 10 | 22 | 21 |
| 14 | 10 | 2 | 22 |
| 16 | 10 | 5 | 22 |
| 24 | 10 | 15 | 22 |
| 5 | 11 | 32 | 22 |
| 18 | 11 | 2 | 23 |
| 24 | 11 | 10 | 23 |
| 26 | 11 | 23 | 23 |
| 27 | 11 | 30 | 23 |
| 25 | 12 | 5 | 24 |
| 6 | 13 | 6 | 24 |
| 4 | 14 | 8 | 24 |

NORTH ANNA UNIT 1
MID-CYCLE OUTAGE 1992
STEAM GENERATOR "C" - TUBE PLUGGING SUMMARY

| Row | Col. | Row | Col. |
|-----|------|-----|------|
| 17 | 24 | 7 | 36 |
| 35 | 24 | 11 | 36 |
| 3 | 25 | 14 | 36 |
| 23 | 25 | 24 | 36 |
| 7 | 26 | 33 | 36 |
| 10 | 26 | 38 | 36 |
| 22 | 26 | 40 | 36 |
| 2 | 27 | 5 | 37 |
| 21 | 27 | 7 | 37 |
| 24 | 27 | 26 | 37 |
| 15 | 28 | 32 | 37 |
| 10 | 29 | 23 | 38 |
| 18 | 29 | 11 | 39 |
| 16 | 30 | 13 | 39 |
| 18 | 30 | 5 | 40 |
| 38 | 31 | 6 | 40 |
| 40 | 31 | 25 | 40 |
| 5 | 33 | 36 | 40 |
| 6 | 33 | 15 | 41 |
| 8 | 33 | 34 | 41 |
| 9 | 33 | 45 | 41 |
| 36 | 33 | 34 | 42 |
| 38 | 33 | 41 | 42 |
| 11 | 34 | 45 | 42 |
| 21 | 34 | 3 | 43 |
| 11 | 35 | 8 | 43 |
| 12 | 35 | 15 | 43 |
| 13 | 35 | 20 | 43 |
| 25 | 35 | 37 | 43 |
| 38 | 35 | 16 | 44 |
| 39 | 35 | 18 | 44 |
| 4 | 36 | 36 | 44 |

NORTH ANNA UNIT 1
MID-CYCLE OUTAGE 1992
STEAM GENERATOR "C" - TUBE PLUGGING SUMMARY

| Row | Col. | Row | Col. |
|-----|------|-----|------|
| 11 | 45 | 32 | 57 |
| 19 | 45 | 12 | 58 |
| 16 | 46 | 44 | 58 |
| 18 | 46 | 28 | 59 |
| 27 | 46 | 12 | 60 |
| 26 | 47 | 27 | 60 |
| 37 | 47 | 10 | 61 |
| 28 | 48 | 28 | 61 |
| 8 | 49 | 17 | 62 |
| 9 | 49 | 6 | 63 |
| 14 | 49 | 17 | 63 |
| 15 | 49 | 30 | 63 |
| 16 | 49 | 11 | 64 |
| 17 | 49 | 23 | 64 |
| 37 | 49 | 9 | 64 |
| 22 | 50 | 11 | 64 |
| 25 | 50 | 9 | 65 |
| 44 | 50 | 10 | 65 |
| 18 | 51 | 30 | 65 |
| 35 | 51 | 4 | 66 |
| 20 | 52 | 24 | 66 |
| 36 | 52 | 15 | 67 |
| 42 | 53 | 30 | 67 |
| 18 | 54 | 34 | 68 |
| 37 | 54 | 7 | 69 |
| 16 | 55 | 29 | 69 |
| 33 | 55 | 3 | 70 |
| 25 | 56 | 4 | 70 |
| 26 | 56 | 18 | 70 |
| 7 | 57 | 28 | 70 |
| 10 | 57 | 30 | 70 |
| 25 | 57 | 27 | 71 |

NORTH ANNA UNIT 1
MID-CYCLE OUTAGE 1992
STEAM GENERATOR "C" - TUBE PLUGGING SUMMARY

| Row | Col. | Row | Col. |
|-----|------|-----|------|
| 10 | 72 | 11 | 83 |
| 26 | 72 | 6 | 86 |
| 3 | 73 | 11 | 86 |
| 27 | 75 | 12 | 87 |
| 17 | 80 | | |

>> TOTAL TUBES PLUGGED = 201

NORTH ANNA UNIT 1
MID-CYCLE OUTAGE 1992
STEAM GENERATOR TUBE PLUGGING SUMMARY

| | Steam Generator | | | | |
|--|-----------------|------|------|---|-------|
| | A | B | C | ⇒ | TOTAL |
| No. Previously Plugged Tubes | 463 | 425 | 650 | ⇒ | 1538 |
| No. Tubes Plugged in 1992 Mid Cycle Outage | 166 | 160 | 201 | ⇒ | 527 |
| Total Tubes Plugged | 629 | 585 | 851 | ⇒ | 2065 |
| % TUBES PLUGGED | 18.6 | 17.3 | 25.1 | | 20.3 |