

ACCELERATED DOCUMENT DISTRIBUTION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9404070253 DOC.DATE: 94/03/15 NOTARIZED: NO DOCKET #
 FACIL:50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana M 05000315 R
 AUTH.NAME AUTHOR AFFILIATION I
 FITZPATRICK,E. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
 RECIP.NAME RECIPIENT AFFILIATION
 RUSSELL,W.T. Document Control Branch (Document Control Desk)

SUBJECT: Constitutes required 15 day following completion of insp
 rept on results of eddy current insp & subsequent repairs
 performed on SG tubes during 1994 Unit 1 Refueling Outage. S

DISTRIBUTION CODE: A001D COPIES RECEIVED:LTR / ENCL / SIZE: 25 /
 TITLE: OR Submittal: General Distribution

NOTES:

| | RECIPIENT | | COPIES | | | RECIPIENT | | COPIES | | |
|-----------|-----------------|--|--------|------|--|---------------|--|--------|------|--|
| | ID CODE/NAME | | LTTR | ENCL | | ID CODE/NAME | | LTTR | ENCL | |
| | PD3-1 LA | | 1 | 1 | | PD3-1 PD | | 1 | 1 | |
| | HICKMAN,J | | 2 | 2 | | | | | | |
| INTERNAL: | NRR/DE/EELB | | 1 | 1 | | NRR/DORS/OTSB | | 1 | 1 | |
| | NRR/DRCH/HICB | | 1 | 1 | | NRR/DRPW | | 1 | 1 | |
| | NRR/DSSA/SPLB | | 1 | 1 | | NRR/DSSA/SRXB | | 1 | 1 | |
| | NUDOCS-ABSTRACT | | 1 | 1 | | OG-LEDCEB | | 1 | 0 | |
| | OGC/HDS2 | | 1 | 0 | | REG FILE 01 | | 1 | 1 | |
| EXTERNAL: | NRC PDR | | 1 | 1 | | NSIC | | 1 | 1 | |

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK,
 ROOM P1-37 (EXT. 504-2065) TO ELIMINATE YOUR NAME FROM DISTRIBUTION
 LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 16 ENCL 14

AA-2



AEP:NRC:11660

Donald C. Cook Nuclear Plant Unit 1
Docket No. 50-315
License No. DPR-58
STEAM GENERATOR TUBE INSPECTIONS
15 DAY REPORT

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

Attn: W. T. Russell

March 30, 1994

Dear Mr. Russell:

Pursuant to the requirements of Donald C. Cook Nuclear Plant Technical Specifications 4.4.5.5(a) and (d), this letter constitutes the required "15 day following completion of the inspection" report on the results of our eddy current inspection and subsequent repairs performed on the steam generator tubes during the 1994 Unit 1 Refueling Outage.

Eddy current inspection of the Unit 1 steam generator tubes began on February 28, 1994. All tube inspections and repairs were completed on March 15, 1994. The inspection included 100 percent of all not-previously-plugged tubes. Attachment 1 describes the eddy current inspection program performed in each steam generator for both bobbin coil and rotating pancake coil inspection techniques. Attachment No. 2 describes the examination results and repairs and contains a listing of applicable tubes with pertinent information (indication, location, and voltage) for the 2-volt Interim Plugging Criteria and F* tube repair programs.

Sincerely,

E. E. Fitzpatrick
Vice President

Attachments

dr

A001
1/1

9404070253 940315
PDR:ADOCK 05000315
PDR

Mr. W. T. Russell

-2-

AEP:NRC:11660

cc: A. A. Blind
G. Charnoff
J. B. Martin - Region III
NFEM Section Chief
NRC Resident Inspector
J. R. Padgett

ATTACHMENT 1 TO AEP:NRC:11660

EDDY CURRENT INSPECTION PROGRAM

The 1994 eddy current tube (ECT) inspection program for the Cook Nuclear Plant Unit 1 steam generators was conducted pursuant to Technical Specification 4.4.5.0. It included both bobbin coil (BC) and rotating pancake coil (RPC) probe inspection of tubes. The base inspection program consisted of a full-length BC inspection of all not-previously-plugged tubes and an RPC inspection of all not-previously-plugged or -sleeved tubes in the hot leg tubesheet region (for a distance of 3 inches above and below the tubesheet surface). Additionally, three other inspection plans were an integral part of the base program: a sampling of sleeves installed during the 1992 outage was inspected using cross-wound BC probes, a sampling of tube support plate intersections was inspected by RPC consistent with implementation of the 2-volt Interim Plugging Criteria (IPC), and RPC inspection of re-rolled tubes was performed to validate implementation of the F* criteria. The number of tubes examined by each method and extent of inspection for the ECT program are summarized in the table below.

| | Base Program BC-FL | Base Program RPC-TTS | Sleeve Program CWBC | IPC Program RPC-TSP | IPC* Program RPC-TSP >1 Volt | F* Program RPC-HL Roll |
|-------|--------------------------|----------------------------|---------------------------|---------------------------|---------------------------------------|---------------------------------|
| SG-11 | 3077 | 2250 | 24 | 15 | 10 | 21 |
| SG-12 | 3157 | 2977 | 0 | 22 | 8 | 4 |
| SG-13 | 3176 | 2717 | 20 | 20 | 9 | 17 |
| SG-14 | 3190 | 2816 | 24 | 48 | 16 | 5 |
| Total | 12600 | 10760 | 68 | 105 | 43 | 47 |

Legend:

BC - Bobbin coil
 CWBC - Cross wound bobbin coil
 RPC - Rotating pancake coil
 TTS - Top of tubesheet
 TSP - Tube support plate intersection
 FL - Full length (hot leg tube end to cold leg tube end)
 HL Roll - Partial depth tube hard roll region, hot leg
 * Subset of RPC-TSP data

ATTACHMENT 2 TO AEP:NRC:11660

INSPECTION RESULTS AND TUBE REPAIRS

Table No. 1 provides the inspection results for each steam generator by degradation location, based upon both Technical Specification tube plugging criteria and plant administrative limits. The administrative limits were used in the tube sheet crevice and tube sheet surface regions and required the repair of tubes with confirmed signals representing possible tube wall degradation, regardless of voltage or phase angle.

Table No. 2 summarizes the tube repair information from pre-1994 activities as well as the repairs completed in 1994. As indicated by Table No. 2, the plugging level after tube repairs is within the licensed limits of 15% in any one steam generator and no more than 10% cumulative in all four steam generators.

The RPC-IPC program inspected 109 hot leg side BC indications in 105 tubes. Indications selected for this program included tube dent signals >5 volts, TSP signals identified as artifact indications, typical ODSCC indications <1 volt and one non-reportable indication with an amplitude >1 volt. In addition, 43 TSP indications in 43 tubes with BC voltage >1 volt were RPC-inspected in accordance with our IPC program. No unusual RPC indications were identified by these RPC inspections.

All steam generators were initially considered as candidates for implementation of the F* tube repair criteria using tube re-rolling. A total of 47 hot leg tube ends with BC indications in the hard roll transition region were inspected by RPC prior to re-rolling tubes. However, the re-rolling program was only implemented in steam generators Nos. 11 and 13 since the number of tubes in the remaining steam generators that could be saved by re-rolling was very limited.

To qualify the use of the F* re-rolling process, a special 16 tube BC and RPC sample program was performed. This program included a BC inspection before and after re-rolling, and an RPC inspection of the tubesheet surface region before and after re-rolling. Three of the 16 tubes selected had known degradation at the top of the tubesheet. These three tubes were chosen to confirm that the re-rolling process would have no impact on existing degradation at the top of the tubesheet. These tubes were plugged at the conclusion of the special sample program. The favorable inspection results were as follows: no tube degradation was found in the newly re-rolled regions, no change was noted to the three degraded tubes at the top of tubesheet, and no indications were found at the top of the tubesheet regions of the remaining 13 tubes.

All F* tubes returned to service were inspected by RPC and BC after the re-rolling process. In steam generator No. 11, 15 of 17 candidate tubes were recovered. Two tubes which did not meet re-rolling criteria were plugged. In steam generator No. 13, all 17 candidate tubes were recovered.

During this outage, one tube in steam generator No. 11 was removed from service based on the low row tube fatigue analysis study conducted by Westinghouse as a commitment to NRC Bulletin 88-02. This study identified one tube, row 8-column 35, as requiring repair this refueling outage. A dampener cable was installed and the tube was plugged with a sentinel plug on the hot leg tube end and a solid plug on the cold leg tube end.

Table No. 3 summarizes the results of the RPC inspection of the TTS region of all not-previously-plugged or sleeved tubes in each steam generator. The results reported are the total number of circumferentially oriented indications (COI), single axial indications (SAI), and multiple axial indications (MAI). All tubes with these indications were plugged, and as a preventive measure, four of the COI tube indications had stabilizers installed.

The appendix to this letter contains the information required by Technical Specification 4.4.5.5.d, i.e., the listing of tubes for which the F* and IPC have been applied, and the location and extent of degradation (voltage).

Table No.1
1994 Steam Generator Inspection
Total Repaired Tubes*

| Location | SG11 | SG12 | SG13 | SG14 | Total |
|---------------------|-------|------|-------|------|-------|
| TSP-CLT,>39% | 3 | 10 | 4 | 6 | 23 |
| AVB,>39% | 0 | 1 | 2 | 1 | 4 |
| Miscellaneous | 2 | 0 | 0 | 0 | 2 |
| TTS/CREVICE | 80 | 58 | 21 | 78 | 237 |
| TSP-HL (>2 Volt) | 0 | 0 | 0 | 0 | 0 |
| ROLL-HL | 17(a) | 4 | 17(b) | 4 | 42 |
| TOTAL | 102 | 73 | 44 | 89 | 308 |

* Includes all BC and RPC results

(a) 15 of 17 recovered by F* re-rolling

(b) 17 of 17 recovered by F* re-rolling

Legend:

| | |
|--------------|---|
| TSP-CLT: | Cold Leg Thinning at TSPs |
| AVB: | Fretting wear at Anti-Vibration Bars |
| Misc.: | One tube plugged due to NRC Bulletin 88-02 and another due to an anomalous indication |
| TTS/Crevise: | ODSCC at the top of tubesheet and tubesheet crevice |
| TSP-HL: | Outside diameter stress corrosion cracking (ODSCC) at hot leg TSPs |
| Roll-HL: | PWSCC at the tube roll transition region |

Table No. 2
Steam Generator Tube Repair Summary

| Pre '94 | SG11 | SG12 | SG13 | SG14 | Total |
|-------------------------|-------|------|------|------|-------|
| Plugged | 311 | 231 | 212 | 198 | 952 |
| Sleeved | 827 | 180 | 459 | 374 | 1840 |
| Equiv Plug | 346 | 239 | 232 | 214 | 1031 |
| % Plugged | 10.2% | 7.1% | 6.8% | 6.3% | 7.6% |
| '94 Plugged | | | | | |
| CLT | 3 | 10 | 4 | 6 | 23 |
| AVB | 0 | 1 | 2 | 1 | 4 |
| MISCL | 2 | 0 | 0 | 0 | 2 |
| TTS/CREVICE | 80 | 58 | 21 | 78 | 237 |
| TSP-HL (>2 Volt) | 0 | 0 | 0 | 0 | 0 |
| ROLL-HL | 2 | 4 | 0 | 4 | 10 |
| Total Cum. % Plugged | 12.8% | 9.2% | 7.6% | 8.9% | 9.6% |

Table No. 3
RPC-TTS Indications

| | SG-11 | SG-12 | SG-13 | SG-14 | Total |
|-----|-------|-------|-------|-------|-------|
| COI | 0 | 8 | 2 | 1 | 11 |
| SAI | 61 | 39 | 13 | 68 | 181 |
| MAI | 20 | 13 | 2 | 12 | 47 |

COI - Circumferentially Oriented Indications
SAI - Single Axial Indications
MAI - Multiple Axial Indications

APPENDIX

F* AND INTERIM PLUGGING CRITERIA
APPLICATION INFORMATION

Date : 03/25/94
Page : 1

COOK UNIT 1
COMPONENT : SG-11
OUTAGE : UIRO94

F* TUBES WITH RE-ROLL

| Row | Col | IND | LOCATION | Voltage |
|-----|-----|-----|----------|---------|
| --- | --- | --- | --- | --- |
| 6 | 11 | DRI | TEH 2.7 | 53.96 |
| 1 | 25 | DRI | TEH 2.4 | 48.53 |
| 9 | 37 | DRI | TEH 2.5 | 57.52 |
| 16 | 38 | DRI | TEH 2.6 | 52.93 |
| 18 | 39 | DRI | TEH 2.6 | 52.57 |
| 2 | 40 | DRI | TEH 2.5 | 46.88 |
| 2 | 45 | DRI | TEH 2.4 | 52.45 |
| 1 | 51 | DRI | TEH 2.3 | 41.77 |
| 2 | 55 | DRI | TEH 2.3 | 41.34 |
| 12 | 65 | DRI | TEH 2.4 | 41.23 |
| 6 | 68 | DRI | TEH 2.2 | 19.60 |
| 7 | 74 | DRI | TEH 2.3 | 14.56 |
| 9 | 74 | DRI | TEH 2.4 | 17.40 |
| 22 | 74 | DRI | TEH 2.3 | 27.05 |
| 6 | 75 | DRI | TEH 2.6 | 20.11 |

Number of Tubes : 15

Date : 03/25/94
Page : 1

COOK UNIT 1
COMPONENT : SG-13
OUTAGE : UIRO94

F* TUBES WITH RE-ROLL

| Row | Col | IND | LOCATION | Voltage |
|-----|-----|-----|----------|---------|
| --- | --- | --- | --- | --- |
| 2 | 18 | DRI | TEH 2.6 | 33.93 |
| 14 | 22 | | 0.0 | 0.00 X |
| 2 | 33 | DRI | TEH 2.6 | 46.15 |
| 3 | 37 | DRI | TEH 2.9 | 41.88 |
| 4 | 54 | DRI | TEH 2.7 | 18.33 |
| 3 | 58 | DRI | TEH 2.4 | 45.23 |
| 3 | 71 | DRI | TEH 1.7 | 64.24 |
| 6 | 71 | DRI | TEH 3.0 | 55.75 |
| 29 | 71 | DRI | TEH 2.3 | 53.50 |
| 30 | 71 | DRI | TEH 2.6 | 49.23 |
| 12 | 72 | DRI | TEH 2.7 | 53.55 |
| 14 | 72 | DRI | TEH 2.8 | 59.06 |
| 11 | 73 | DRI | TEH 2.8 | 51.84 |
| 8 | 74 | DRI | TEH 2.9 | 48.04 |
| 12 | 74 | DRI | TEH 2.4 | 48.69 |
| 15 | 74 | DRI | TEH 2.5 | 59.31 |
| 9 | 75 | DRI | TEH 2.7 | 54.05 |
| 10 | 83 | DRI | TEH 2.5 | 50.19 |

Number of Tubes : 18

X Inadvertently re-rolled, had no indication

Date : 03/28/94

Page : 1

COOK UNIT 1
 COMPONENT : SG-11
 OUTAGE : UIRO94

ODSCC TUBE INDICATIONS AT SUPPORT PLATE INTERSECTIONS

| Row --- | Col --- | IND --- | LOCATION ----- | Voltage ----- |
|------------|------------|------------|-------------------|------------------|
| 5 | 3 | PI | 2H 0.0 | 0.81 |
| 16 | 4 | PI | 1H 0.0 | 0.87 |
| 24 | 10 | PI | 1H 0.0 | 0.33 |
| 21 | 11 | PI | 1H 0.0 | 1.12 |
| 28 | 11 | PI | 1H 0.0 | 0.55 |
| 21 | 12 | PI | 1H 0.0 | 1.27 |
| 24 | 12 | PI | 1H 0.0 | 0.80 |
| 28 | 15 | PI | 2H 0.0 | 0.56 |
| 1 | 16 | PI | 2H 0.0 | 0.90 |
| 31 | 16 | PI | 1H 0.0 | 0.33 |
| 29 | 17 | PI | 4H 0.0 | 0.22 |
| 35 | 19 | PI | 1H 0.0 | 0.44 |
| 15 | 20 | PI | 2H 0.0 | 0.35 |
| 4 | 21 | PI | 1H 0.0 | 0.52 |
| 17 | 22 | PI | 1H 0.0 | 0.35 |
| 35 | 24 | PI | 1H 0.0 | 1.03 |
| 12 | 30 | PI | 1H 0.0 | 0.53 |
| 24 | 32 | PI | 2H 0.0 | 0.68 |
| 38 | 32 | PI | 1H 0.0 | 0.46 |
| 33 | 35 | PI | 1H 0.0 | 0.60 |
| 44 | 35 | PI | 2H 0.0 | 0.73 |
| 15 | 36 | PI | 1H 0.0 | 0.48 |
| 4 | 38 | PI | 2H 0.0 | 0.74 |
| 5 | 38 | PI | 1H 0.0 | 0.39 |
| 11 | 39 | PI | 3H 0.0 | 0.37 |
| 33 | 40 | PI | 1H 0.0 | 1.03 |
| 40 | 40 | PI | 2H 0.0 | 1.03 |
| 20 | 41 | PI | 1H 0.0 | 0.51 |
| 5 | 42 | PI | 2H 0.0 | 0.91 |
| 8 | 42 | PI | 2H 0.0 | 0.39 |
| 42 | 42 | PI | 3H 0.0 | 0.31 |
| 19 | 43 | PI | 1H 0.0 | 1.09 |
| 20 | 43 | PI | 1H 0.0 | 0.61 |
| 42 | 43 | PI | 3H 0.0 | 0.88 |
| 20 | 44 | PI | 1H 0.0 | 0.73 |
| 22 | 44 | PI | 2H 0.0 | 0.44 |
| 32 | 44 | PI | 1H 0.0 | 0.59 |
| 46 | 44 | PI | 1H 0.0 | 0.34 |
| 4 | 45 | PI | 2H 0.0 | 0.65 |
| 20 | 45 | PI | 1H 0.0 | 0.70 |
| 20 | 45 | PI | 2H 0.0 | 0.79 |
| 25 | 45 | PI | 1H 0.0 | 0.83 |
| 25 | 45 | PI | 2H 0.0 | 0.84 |
| 1 | 46 | PI | 1H 0.0 | 0.65 |

Date : 03/28/94

Page : 2

COOK UNIT 1
 COMPONENT : SG-11
 OUTAGE : U1R094

ODSCC TUBE INDICATIONS AT SUPPORT PLATE INTERSECTIONS

| Row | Col | IND | LOCATION | Voltage |
|-----|-----|-----|----------|---------|
| --- | --- | --- | ----- | ----- |
| 1 | 46 | PI | 2H 0.0 | 0.83 |
| 1 | 46 | PI | 3H 0.0 | 0.54 |
| 8 | 46 | PI | 1H 0.0 | 0.55 |
| 42 | 46 | PI | 2H 0.0 | 0.47 |
| 25 | 47 | PI | 1H 0.0 | 0.69 |
| 25 | 47 | PI | 2H 0.0 | 0.64 |
| 29 | 47 | PI | 1H 0.0 | 0.68 |
| 33 | 47 | PI | 1H 0.0 | 0.55 |
| 36 | 47 | PI | 2H 0.0 | 0.41 |
| 5 | 48 | PI | 1H 0.0 | 0.61 |
| 5 | 48 | PI | 2H 0.0 | 0.80 |
| 9 | 48 | PI | 1H 0.0 | 0.59 |
| 36 | 48 | PI | 1H 0.0 | 0.36 |
| 38 | 48 | PI | 2H 0.0 | 0.62 |
| 46 | 48 | PI | 3H 0.0 | 0.72 |
| 15 | 49 | PI | 1H 0.0 | 1.11 |
| 46 | 49 | PI | 1H 0.0 | 0.24 |
| 21 | 50 | PI | 1H 0.0 | 0.83 |
| 31 | 50 | PI | 1H 0.0 | 0.24 |
| 32 | 50 | PI | 1H 0.0 | 0.37 |
| 31 | 51 | PI | 1H 0.0 | 0.77 |
| 33 | 51 | PI | 1H 0.0 | 0.65 |
| 27 | 52 | PI | 1H 0.0 | 0.52 |
| 34 | 52 | PI | 1H 0.0 | 1.03 |
| 34 | 52 | PI | 2H 0.0 | 0.47 |
| 38 | 52 | PI | 2H 0.0 | 0.51 |
| 38 | 52 | PI | 4H 0.0 | 0.34 |
| 33 | 53 | PI | 1H 0.0 | 0.64 |
| 46 | 53 | PI | 3H 0.0 | 0.40 |
| 22 | 54 | PI | 1H 0.0 | 0.78 |
| 25 | 54 | PI | 1H 0.0 | 0.68 |
| 25 | 54 | PI | 2H 0.0 | 0.48 |
| 29 | 54 | PI | 1H 0.0 | 0.55 |
| 39 | 54 | PI | 2H 0.0 | 0.73 |
| 21 | 55 | PI | 1H 0.0 | 0.63 |
| 33 | 55 | PI | 1H 0.0 | 0.76 |
| 40 | 56 | PI | 1H 0.0 | 0.42 |
| 41 | 57 | PI | 6H 0.0 | 0.39 |
| 45 | 58 | PI | 1H 0.0 | 0.20 |
| 5 | 59 | PI | 1H 0.0 | 0.67 |
| 37 | 59 | PI | 1H 0.0 | 0.37 |
| 25 | 60 | PI | 1H 0.0 | 0.66 |
| 31 | 60 | PI | 1H 0.0 | 0.49 |
| 42 | 60 | PI | 1H 0.0 | 0.84 |

Date : 03/28/94
Page : 3

COOK UNIT 1
COMPONENT : SG-11
OUTAGE : U1R094

ODSCC TUBE INDICATIONS AT SUPPORT PLATE INTERSECTIONS

| Row | Col | IND | LOCATION | Voltage |
|-----|-----|-----|----------|---------|
| --- | --- | --- | --- | --- |
| 44 | 60 | PI | 3H 0.0 | 0.46 |
| 2 | 61 | PI | 1H 0.0 | 0.73 |
| 29 | 61 | PI | 1H 0.0 | 0.73 |
| 39 | 61 | PI | 2H 0.0 | 0.82 |
| 43 | 62 | PI | 3H 0.0 | 0.58 |
| 4 | 63 | PI | 1H 0.0 | 0.96 |
| 4 | 63 | PI | 2H 0.0 | 0.69 |
| 38 | 63 | PI | 1H 0.0 | 0.63 |
| 2 | 64 | PI | 1H 0.0 | 0.48 |
| 15 | 64 | PI | 2H 0.0 | 0.87 |
| 2 | 65 | PI | 1H 0.0 | 0.95 |
| 32 | 65 | PI | 1H 0.0 | 0.82 |
| 15 | 66 | PI | 2H 0.0 | 0.44 |
| 25 | 66 | PI | 1H 0.0 | 0.94 |
| 26 | 66 | PI | 1H 0.0 | 1.03 |
| 27 | 66 | PI | 1H 0.0 | 0.95 |
| 8 | 67 | PI | 1H 0.0 | 0.44 |
| 33 | 67 | PI | 1H 0.0 | 0.47 |
| 33 | 67 | PI | 3H 0.0 | 0.36 |
| 22 | 68 | PI | 1H 0.0 | 0.81 |
| 30 | 68 | PI | 1H 0.0 | 0.42 |
| 33 | 68 | PI | 1H 0.0 | 0.57 |
| 36 | 68 | PI | 2H 0.0 | 0.93 |
| 1 | 71 | PI | 1H 0.0 | 0.45 |
| 5 | 71 | PI | 1H 0.0 | 0.56 |
| 8 | 71 | PI | 1H 0.0 | 0.49 |
| 27 | 71 | PI | 1H 0.0 | 0.52 |
| 20 | 72 | PI | 1H 0.0 | 0.18 |
| 28 | 73 | PI | 1H 0.0 | 0.44 |
| 11 | 74 | PI | 1H 0.0 | 0.52 |
| 14 | 74 | PI | 1H 0.0 | 0.80 |
| 24 | 74 | PI | 1H 0.0 | 0.87 |
| 35 | 74 | PI | 1H 0.0 | 0.47 |
| 18 | 75 | PI | 1H 0.0 | 0.59 |
| 22 | 75 | PI | 1H 0.0 | 1.00 |
| 26 | 76 | PI | 1H 0.0 | 0.29 |
| 14 | 77 | PI | 2H 0.0 | 0.54 |
| 19 | 77 | PI | 1H 0.0 | 0.59 |
| 30 | 77 | PI | 2H 0.0 | 0.62 |
| 16 | 80 | PI | 1H 0.0 | 0.45 |
| 10 | 82 | PI | 1H 0.0 | 0.73 |
| 23 | 82 | PI | 1H 0.0 | 0.67 |
| 27 | 82 | PI | 1H 0.0 | 0.50 |
| 28 | 82 | PI | 1H 0.0 | 0.40 |

Date : 03/28/94
Page : 4

COOK UNIT 1
COMPONENT : SG-11
OUTAGE : U1R094

ODSCC TUBE INDICATIONS AT SUPPORT PLATE INTERSECTIONS

| Row | Col | IND | LOCATION | Voltage |
|-----|-----|-----|----------|---------|
| --- | --- | --- | --- | --- |
| 31 | 82 | PI | 1H 0.0 | 0.70 |
| 6 | 83 | PI | 1H 0.0 | 1.53 |
| 26 | 83 | PI | 1H 0.0 | 0.41 |
| 28 | 83 | PI | 1H 0.0 | 0.80 |
| 3 | 84 | PI | 1H 0.0 | 0.53 |
| 10 | 84 | PI | 2H 0.0 | 0.33 |
| 10 | 85 | PI | 2H 0.0 | 0.60 |
| 3 | 86 | PI | 1H 0.0 | 0.48 |
| 19 | 86 | PI | 1H 0.0 | 0.33 |
| 1 | 87 | PI | 1H 0.0 | 0.65 |
| 4 | 87 | PI | 1H 0.0 | 0.85 |
| 14 | 87 | PI | 1H 0.0 | 0.59 |
| 9 | 88 | PI | 1H 0.0 | 0.74 |
| 2 | 89 | PI | 1H 0.0 | 0.57 |
| 2 | 89 | PI | 2H 0.0 | 0.71 |
| 3 | 89 | PI | 3H 0.0 | 0.53 |
| 7 | 89 | PI | 1H 0.0 | 0.74 |
| 15 | 89 | PI | 2H 0.0 | 0.33 |
| 10 | 90 | PI | 1H 0.0 | 0.59 |
| 12 | 91 | PI | 1H 0.0 | 0.73 |
| 12 | 91 | PI | 3H 0.0 | 0.81 |
| 12 | 91 | PI | 4H 0.0 | 0.39 |
| 10 | 93 | PI | 1H 0.0 | 0.68 |
| 2 | 94 | PI | 2H 0.0 | 0.34 |

Number of Tubes : 142

DC Cook Unit
 COMPONENT : SG-12
 OUTAGE : U1R094

ODSCC TUBE INDICATIONS AT SUPPORT PLATE INTERSECTIONS

| Row | Col | IND | LOCATION | Voltage |
|-----|-----|-----|----------|---------|
| --- | --- | --- | --- | --- |
| 3 | 2 | PI | 1H 0.0 | 0.59 |
| 8 | 3 | PI | 2H 0.0 | 1.13 |
| 3 | 5 | PI | 2H 0.0 | 0.63 |
| 3 | 5 | PI | 4H 0.0 | 0.59 |
| 6 | 5 | PI | 1H 0.0 | 0.68 |
| 4 | 6 | PI | 1H 0.0 | 0.62 |
| 4 | 6 | PI | 3H 0.0 | 0.43 |
| 19 | 6 | PI | 2H 0.0 | 0.50 |
| 8 | 7 | PI | 2H 0.0 | 0.62 |
| 12 | 7 | PI | 1H 0.0 | 0.94 |
| 12 | 7 | PI | 2H 0.0 | 0.60 |
| 8 | 8 | PI | 2H 0.0 | 0.42 |
| 9 | 8 | PI | 1H 0.0 | 0.24 |
| 9 | 8 | PI | 2H 0.0 | 0.38 |
| 9 | 8 | PI | 4H 0.0 | 0.27 |
| 12 | 8 | PI | 2H 0.0 | 0.57 |
| 4 | 9 | PI | 2H 0.0 | 0.84 |
| 12 | 9 | PI | 4H 0.0 | 0.53 |
| 8 | 10 | PI | 1H 0.0 | 0.48 |
| 6 | 11 | PI | 2H 0.0 | 0.79 |
| 4 | 12 | PI | 1H 0.0 | 0.40 |
| 8 | 12 | PI | 1H 0.0 | 0.98 |
| 8 | 12 | PI | 2H 0.0 | 0.46 |
| 8 | 13 | PI | 1H 0.0 | 0.79 |
| 15 | 13 | PI | 1H 0.0 | 0.58 |
| 23 | 14 | PI | 1H 0.0 | 0.64 |
| 8 | 15 | PI | 1H 0.0 | 0.82 |
| 23 | 15 | PI | 1H 0.0 | 0.86 |
| 8 | 17 | PI | 1H 0.0 | 0.74 |
| 8 | 17 | PI | 2H 0.0 | 0.81 |
| 15 | 17 | PI | 1H 0.0 | 0.72 |
| 4 | 18 | PI | 1H 0.0 | 0.93 |
| 4 | 18 | PI | 2H 0.0 | 0.81 |
| 13 | 18 | PI | 2H 0.0 | 0.50 |
| 8 | 19 | PI | 1H 0.0 | 1.20 |
| 8 | 19 | PI | 2H 0.0 | 0.59 |
| 8 | 20 | PI | 2H 0.0 | 0.80 |
| 20 | 20 | PI | 1H 0.0 | 0.53 |
| 8 | 22 | PI | 1H 0.0 | 0.90 |
| 18 | 22 | PI | 1H 0.0 | 0.40 |
| 8 | 24 | PI | 1H 0.0 | 0.61 |
| 8 | 24 | PI | 2H 0.0 | 1.54 |
| 16 | 24 | PI | 1H 0.0 | 0.76 |
| 18 | 24 | PI | 1H 0.0 | 0.50 |

Date : 03/28/94
Page : 2

DC Cook Unit
COMPONENT : SG-12
OUTAGE : U1R094

ODSCC TUBE INDICATIONS AT SUPPORT PLATE INTERSECTIONS

| Row | Col | IND | LOCATION | Voltage |
|-----|-----|-----|----------|---------|
| --- | --- | --- | ----- | ----- |
| 20 | 24 | PI | 1H 0.0 | 0.62 |
| 4 | 26 | PI | 2H 0.0 | 0.44 |
| 24 | 26 | PI | 4H 0.0 | 0.35 |
| 40 | 28 | PI | 1H 0.0 | 0.48 |
| 10 | 29 | PI | 4H 0.0 | 0.18 |
| 37 | 29 | PI | 2H 0.0 | 0.40 |
| 40 | 29 | PI | 5H 0.0 | 0.43 |
| 11 | 32 | PI | 1H 0.0 | 0.49 |
| 23 | 32 | PI | 1H 0.0 | 0.62 |
| 38 | 33 | PI | 1H 0.0 | 0.71 |
| 23 | 35 | PI | 2H 0.0 | 0.53 |
| 12 | 37 | PI | 2H 0.0 | 0.95 |
| 23 | 37 | PI | 3H 0.0 | 0.37 |
| 8 | 39 | PI | 1H 0.0 | 0.99 |
| 5 | 43 | PI | 1H 0.0 | 0.82 |
| 38 | 43 | PI | 1H 0.0 | 0.73 |
| 41 | 44 | PI | 2H 0.0 | 0.18 |
| 23 | 47 | PI | 1H 0.0 | 0.50 |
| 34 | 47 | PI | 1H 0.0 | 0.41 |
| 45 | 47 | PI | 3H 0.0 | 0.43 |
| 11 | 48 | PI | 2H 0.0 | 0.37 |
| 46 | 48 | PI | 2H 0.0 | 0.43 |
| 41 | 49 | PI | 1H 0.0 | 0.33 |
| 29 | 51 | PI | 1H 0.0 | 0.40 |
| 18 | 52 | PI | 1H 0.0 | 0.96 |
| 11 | 55 | PI | 2H 0.0 | 1.72 |
| 3 | 56 | PI | 2H 0.0 | 0.73 |
| 11 | 56 | PI | 2H 0.0 | 1.40 |
| 34 | 56 | PI | 1H 0.0 | 0.74 |
| 3 | 58 | PI | 2H 0.0 | 0.58 |
| 11 | 59 | PI | 1H 0.0 | 0.90 |
| 43 | 61 | PI | 2H 0.0 | 0.91 |
| 43 | 61 | PI | 3H 0.0 | 0.74 |
| 40 | 62 | PI | 1H 0.0 | 0.54 |
| 44 | 62 | PI | 1H 0.0 | 0.43 |
| 13 | 66 | PI | 2H 0.0 | 0.96 |
| 11 | 68 | PI | 1H 0.0 | 1.18 |
| 13 | 69 | PI | 2H 0.0 | 0.48 |
| 11 | 70 | PI | 2H 0.0 | 1.77 |
| 26 | 70 | PI | 2H 0.0 | 0.14 |
| 8 | 71 | PI | 2H 0.0 | 0.41 |
| 8 | 71 | PI | 4H 0.0 | 0.51 |
| 2 | 72 | PI | 1H 0.0 | 0.88 |
| 13 | 72 | PI | 2H 0.0 | 0.77 |

Date : 03/28/94
Page : 3

DC Cook Unit
COMPONENT : SG-12
OUTAGE : U1R094

ODSCC TUBE INDICATIONS AT SUPPORT PLATE INTERSECTIONS

| Row | Col | IND | LOCATION | Voltage |
|-----|-----|-----|----------|---------|
| --- | --- | --- | --- | --- |
| 37 | 73 | PI | 4H 0.0 | 0.38 |
| 28 | 74 | PI | 1H 0.0 | 0.53 |
| 34 | 74 | PI | 1H 0.0 | 1.00 |
| 36 | 74 | PI | 3H 0.0 | 0.48 |
| 37 | 74 | PI | 1H 0.0 | 0.43 |
| 26 | 75 | PI | 1H 0.0 | 0.34 |
| 34 | 75 | PI | 5H 0.0 | 0.32 |
| 37 | 75 | PI | 4H 0.0 | 0.28 |
| 37 | 75 | PI | 5H 0.0 | 0.66 |
| 21 | 76 | PI | 1H 0.0 | 1.08 |
| 29 | 77 | PI | 1H 0.0 | 0.48 |
| 28 | 78 | PI | 1H 0.0 | 0.64 |
| 15 | 80 | PI | 2H 0.0 | 0.71 |
| 2 | 84 | PI | 1H 0.0 | 0.59 |
| 12 | 93 | PI | 2H 0.0 | 0.63 |

Number of Tubes : 90

Date : 03/28/94
Page : 1

COOK UNIT 1
COMPONENT : SG-13
OUTAGE : U1R094

ODSCC TUBE INDICATIONS AT SUPPORT PLATE INTERSECTIONS

| Row | Col | IND | LOCATION | Voltage |
|-----|-----|-----|----------|---------|
| --- | --- | --- | --- | --- |
| 7 | 2 | PI | 3H 0.0 | 0.57 |
| 15 | 4 | PI | 2H 0.0 | 0.45 |
| 4 | 5 | PI | 3H 0.0 | 0.29 |
| 19 | 5 | PI | 5H 0.0 | 0.77 |
| 15 | 6 | PI | 1H 0.0 | 0.71 |
| 15 | 7 | PI | 2H 0.0 | 0.43 |
| 15 | 7 | PI | 3H 0.0 | 0.62 |
| 23 | 7 | PI | 1H 0.0 | 0.43 |
| 4 | 9 | PI | 2H 0.0 | 0.71 |
| 7 | 9 | PI | 2H 0.0 | 0.80 |
| 6 | 12 | PI | 1H 0.0 | 0.99 |
| 8 | 13 | PI | 1H 0.0 | 0.59 |
| 10 | 14 | PI | 1H 0.0 | 0.37 |
| 4 | 16 | PI | 2H 0.0 | 1.12 |
| 34 | 16 | PI | 2H 0.0 | 0.91 |
| 15 | 17 | PI | 1H 0.0 | 0.62 |
| 25 | 18 | PI | 2H 0.0 | 0.32 |
| 32 | 23 | PI | 1H 0.0 | 0.23 |
| 39 | 23 | PI | 2H 0.0 | 0.97 |
| 35 | 27 | PI | 2H 0.0 | 0.49 |
| 38 | 28 | PI | 5H 0.0 | 0.18 |
| 34 | 29 | PI | 1H 0.0 | 0.99 |
| 39 | 29 | PI | 1H 0.0 | 0.35 |
| 35 | 32 | PI | 1H 0.0 | 0.66 |
| 21 | 34 | PI | 2H 0.0 | 0.75 |
| 36 | 35 | PI | 2H 0.0 | 0.44 |
| 18 | 36 | PI | 1H 0.0 | 0.46 |
| 18 | 36 | PI | 2H 0.0 | 0.90 |
| 18 | 38 | PI | 1H 0.0 | 0.76 |
| 43 | 38 | PI | 3H 0.0 | 0.37 |
| 24 | 48 | PI | 1H 0.0 | 0.76 |
| 20 | 50 | PI | 1H 0.0 | 0.90 |
| 27 | 50 | PI | 1H 0.0 | 0.67 |
| 35 | 50 | PI | 1H 0.0 | 0.81 |
| 38 | 50 | PI | 1H 0.0 | 0.29 |
| 14 | 52 | PI | 2H 0.0 | 0.51 |
| 11 | 53 | PI | 1H 0.0 | 1.02 |
| 11 | 53 | PI | 3H 0.0 | 0.86 |
| 16 | 53 | PI | 3H 0.0 | 0.46 |
| 15 | 55 | PI | 1H 0.0 | 0.50 |
| 23 | 57 | PI | 1H 0.0 | 0.75 |
| 24 | 57 | PI | 1H 0.0 | 0.55 |
| 27 | 57 | PI | 1H 0.0 | 0.52 |
| 6 | 58 | PI | 1H 0.0 | 1.19 |

Date : 03/28/94
Page : 2

COOK UNIT 1
COMPONENT : SG-13
OUTAGE : UIRO94

ODSCC TUBE INDICATIONS AT SUPPORT PLATE INTERSECTIONS

| Row | Col | IND | LOCATION | Voltage |
|-----|-----|-----|----------|---------|
| --- | --- | --- | --- | --- |
| 8 | 58 | PI | 1H 0.0 | 0.44 |
| 10 | 58 | PI | 1H 0.0 | 1.15 |
| 5 | 60 | PI | 1H 0.0 | 1.11 |
| 20 | 61 | PI | 1H 0.0 | 0.51 |
| 6 | 63 | PI | 1H 0.0 | 0.71 |
| 39 | 63 | PI | 1H 0.0 | 0.52 |
| 15 | 64 | PI | 1H 0.0 | 1.50 |
| 18 | 65 | PI | 1H 0.0 | 0.41 |
| 24 | 65 | PI | 1H 0.0 | 0.37 |
| 39 | 65 | PI | 2H 0.0 | 0.40 |
| 11 | 67 | PI | 1H 0.0 | 0.74 |
| 18 | 69 | PI | 1H 0.0 | 0.56 |
| 30 | 69 | PI | 1H 0.0 | 0.58 |
| 36 | 71 | PI | 1H 0.0 | 0.39 |
| 6 | 72 | PI | 1H 0.0 | 0.28 |
| 31 | 72 | PI | 1H 0.0 | 1.35 |
| 24 | 73 | PI | 2H 0.0 | 0.75 |
| 15 | 75 | PI | 1H 0.0 | 0.55 |
| 8 | 76 | PI | 1H 0.0 | 0.94 |
| 21 | 76 | PI | 1H 0.0 | 0.34 |
| 1 | 77 | PI | 2H 0.0 | 0.68 |
| 17 | 78 | PI | 1H 0.0 | 0.56 |
| 1 | 80 | PI | 1H 0.0 | 0.38 |
| 6 | 80 | PI | 1H 0.0 | 0.87 |
| 8 | 80 | PI | 1H 0.0 | 0.35 |
| 17 | 81 | PI | 1H 0.0 | 0.29 |
| 6 | 82 | PI | 1H 0.0 | 0.80 |
| 10 | 83 | PI | 2H 0.0 | 0.89 |
| 2 | 84 | PI | 1H 0.0 | 0.53 |
| 11 | 84 | PI | 1H 0.0 | 1.05 |
| 15 | 84 | PI | 1H 0.0 | 0.38 |
| 29 | 84 | PI | 1H 0.0 | 0.70 |
| 2 | 85 | PI | 2H 0.0 | 0.43 |
| 4 | 86 | PI | 1H 0.0 | 0.77 |
| 6 | 86 | PI | 2H 0.0 | 0.48 |
| 11 | 87 | PI | 1H 0.0 | 0.83 |
| 6 | 88 | PI | 1H 0.0 | 0.50 |
| 7 | 89 | PI | 2H 0.0 | 0.62 |
| 4 | 94 | PI | 1H 0.0 | 0.58 |
| 4 | 94 | PI | 2H 0.0 | 1.12 |

Number of Tubes : 80

Date : 03/28/94

Page : 1

COOK UNIT 1
 COMPONENT : SG-14
 OUTAGE : U1R094

ODSCC TUBE INDICATIONS AT SUPPORT PLATE INTERSECTIONS

| Row | Col | IND | LOCATION | Voltage |
|-----|-----|-----|----------|---------|
| --- | --- | --- | --- | --- |
| 5 | 1 | PI | 2H 0.0 | 0.40 |
| 5 | 3 | PI | 2H 0.0 | 0.51 |
| 5 | 3 | PI | 5H 0.0 | 0.31 |
| 15 | 3 | PI | 1H 0.0 | 0.62 |
| 16 | 4 | PI | 1H 0.0 | 0.71 |
| 17 | 4 | PI | 3H 0.0 | 0.55 |
| 11 | 6 | PI | 1H 0.0 | 0.76 |
| 11 | 6 | PI | 2H 0.0 | 0.37 |
| 9 | 7 | PI | 3H 0.0 | 0.28 |
| 17 | 7 | PI | 2H 0.0 | 0.48 |
| 8 | 8 | PI | 1H 0.0 | 0.68 |
| 11 | 8 | PI | 3H 0.0 | 0.39 |
| 16 | 8 | PI | 1H 0.0 | 0.75 |
| 4 | 9 | PI | 2H 0.0 | 0.27 |
| 11 | 9 | PI | 1H 0.0 | 0.74 |
| 20 | 9 | PI | 3H 0.0 | 0.31 |
| 9 | 10 | PI | 3H 0.0 | 0.31 |
| 16 | 10 | PI | 2H 0.0 | 0.76 |
| 25 | 10 | PI | 1H 0.0 | 0.60 |
| 9 | 12 | PI | 2H 0.0 | 0.28 |
| 28 | 12 | PI | 5H 0.0 | 0.62 |
| 9 | 14 | PI | 2H 0.0 | 0.34 |
| 8 | 15 | PI | 1H 0.0 | 0.70 |
| 11 | 15 | PI | 1H 0.0 | 1.38 |
| 11 | 15 | PI | 2H 0.0 | 0.51 |
| 7 | 17 | PI | 2H 0.0 | 0.27 |
| 8 | 17 | PI | 2H 0.0 | 0.38 |
| 8 | 18 | PI | 1H 0.0 | 0.62 |
| 8 | 18 | PI | 3H 0.0 | 0.84 |
| 2 | 19 | PI | 2H 0.0 | 0.92 |
| 8 | 19 | PI | 3H 0.0 | 1.14 |
| 21 | 19 | PI | 1H 0.0 | 0.57 |
| 21 | 19 | PI | 2H 0.0 | 0.68 |
| 22 | 19 | PI | 1H 0.0 | 0.71 |
| 22 | 19 | PI | 2H 0.0 | 0.27 |
| 22 | 19 | PI | 3H 0.0 | 0.59 |
| 8 | 20 | PI | 1H 0.0 | 0.76 |
| 9 | 20 | PI | 1H 0.0 | 0.51 |
| 21 | 20 | PI | 1H 0.0 | 0.50 |
| 37 | 20 | PI | 1H 0.0 | 0.50 |
| 28 | 21 | PI | 1H 0.0 | 0.27 |
| 28 | 21 | PI | 2H 0.0 | 0.83 |
| 28 | 21 | PI | 3H 0.0 | 0.43 |
| 30 | 21 | PI | 1H 0.0 | 0.40 |

Date : 03/28/94
Page : 2

COOK UNIT 1
COMPONENT : SG-14
OUTAGE : U1R094

ODSCC TUBE INDICATIONS AT SUPPORT PLATE INTERSECTIONS

| Row | Col | IND | LOCATION | Voltage |
|-----|-----|-----|----------|---------|
| --- | --- | --- | --- | --- |
| 38 | 21 | PI | 1H 0.0 | 0.43 |
| 11 | 22 | PI | 1H 0.0 | 1.52 |
| 11 | 22 | PI | 3H 0.0 | 0.99 |
| 28 | 22 | PI | 1H 0.0 | 0.93 |
| 28 | 22 | PI | 2H 0.0 | 0.53 |
| 28 | 23 | PI | 3H 0.0 | 0.53 |
| 11 | 24 | PI | 3H 0.0 | 0.43 |
| 8 | 26 | PI | 2H 0.0 | 0.61 |
| 38 | 27 | PI | 1H 0.0 | 0.84 |
| 21 | 29 | PI | 1H 0.0 | 0.36 |
| 40 | 29 | PI | 1H 0.0 | 0.42 |
| 5 | 30 | PI | 1H 0.0 | 0.66 |
| 5 | 30 | PI | 2H 0.0 | 1.32 |
| 5 | 30 | PI | 3H 0.0 | 0.85 |
| 32 | 30 | PI | 1H 0.0 | 0.56 |
| 28 | 32 | PI | 1H 0.0 | 0.36 |
| 32 | 32 | PI | 1H 0.0 | 0.83 |
| 8 | 33 | PI | 2H 0.0 | 0.65 |
| 12 | 33 | PI | 2H 0.0 | 0.80 |
| 40 | 33 | PI | 3H 0.0 | 0.54 |
| 30 | 34 | PI | 1H 0.0 | 0.39 |
| 30 | 34 | PI | 2H 0.0 | 0.58 |
| 40 | 34 | PI | 1H 0.0 | 0.68 |
| 43 | 34 | PI | 3H 0.0 | 0.41 |
| 3 | 35 | PI | 1H 0.0 | 0.97 |
| 29 | 36 | PI | 1H 0.0 | 0.91 |
| 29 | 37 | PI | 1H 0.0 | 0.87 |
| 32 | 37 | PI | 1H 0.0 | 0.64 |
| 38 | 37 | PI | 1H 0.0 | 0.33 |
| 38 | 37 | PI | 2H 0.0 | 0.95 |
| 6 | 38 | PI | 1H 0.0 | 0.59 |
| 45 | 38 | PI | 2H 0.0 | 0.49 |
| 45 | 38 | PI | 3H 0.0 | 0.59 |
| 29 | 39 | PI | 1H 0.0 | 1.02 |
| 41 | 39 | PI | 2H 0.0 | 0.38 |
| 25 | 40 | PI | 1H 0.0 | 0.69 |
| 42 | 40 | PI | 2H 0.0 | 0.71 |
| 23 | 41 | PI | 1H 0.0 | 0.83 |
| 28 | 41 | PI | 1H 0.0 | 1.08 |
| 29 | 41 | PI | 1H 0.0 | 1.00 |
| 34 | 41 | PI | 1H 0.0 | 0.31 |
| 38 | 41 | PI | 1H 0.0 | 0.87 |
| 42 | 41 | PI | 1H 0.0 | 0.57 |
| 18 | 42 | PI | 1H 0.0 | 0.95 |

Date : 03/28/94
Page : 3

COOK UNIT 1
COMPONENT : SG-14
OUTAGE : U1R094

ODSCC TUBE INDICATIONS AT SUPPORT PLATE INTERSECTIONS

| Row | Col | IND | LOCATION | Voltage |
|-----|-----|-----|----------|---------|
| --- | --- | --- | ----- | ----- |
| 29 | 42 | PI | 1H 0.0 | 0.69 |
| 29 | 42 | PI | 2H 0.0 | 0.41 |
| 39 | 42 | PI | 1H 0.0 | 0.20 |
| 42 | 42 | PI | 1H 0.0 | 0.70 |
| 42 | 42 | PI | 4H 0.0 | 0.60 |
| 1 | 43 | PI | 2H 0.0 | 0.53 |
| 21 | 43 | PI | 1H 0.0 | 0.71 |
| 29 | 43 | PI | 1H 0.0 | 0.97 |
| 18 | 44 | PI | 1H 0.0 | 0.43 |
| 29 | 44 | PI | 1H 0.0 | 1.32 |
| 1 | 45 | PI | 1H 0.0 | 0.80 |
| 46 | 46 | PI | 1H 0.0 | 1.15 |
| 46 | 46 | PI | 2H 0.0 | 0.42 |
| 10 | 47 | PI | 2H 0.0 | 1.14 |
| 28 | 48 | PI | 1H 0.0 | 1.02 |
| 46 | 49 | PI | 1H 0.0 | 0.89 |
| 12 | 50 | PI | 1H 0.0 | 0.34 |
| 23 | 51 | PI | 1H 0.0 | 0.54 |
| 43 | 53 | PI | 2H 0.0 | 0.23 |
| 30 | 54 | PI | 1H 0.0 | 0.54 |
| 25 | 55 | PI | 2H 0.0 | 0.94 |
| 44 | 55 | PI | 2H 0.0 | 0.58 |
| 44 | 55 | PI | 7H 0.0 | 0.35 |
| 23 | 56 | PI | 1H 0.0 | 1.06 |
| 30 | 57 | PI | 1H 0.0 | 0.85 |
| 30 | 57 | PI | 3H 0.0 | 0.41 |
| 21 | 58 | PI | 1H 0.0 | 1.27 |
| 45 | 58 | PI | 3H 0.0 | 0.41 |
| 38 | 59 | PI | 2H 0.0 | 0.16 |
| 22 | 60 | PI | 1H 0.0 | 0.50 |
| 12 | 61 | PI | 1H 0.0 | 0.74 |
| 17 | 61 | PI | 1H 0.0 | 0.47 |
| 20 | 61 | PI | 1H 0.0 | 0.66 |
| 13 | 62 | PI | 1H 0.0 | 0.48 |
| 35 | 62 | PI | 1H 0.0 | 0.56 |
| 26 | 63 | PI | 1H 0.0 | 1.00 |
| 2 | 64 | PI | 3H 0.0 | 0.27 |
| 6 | 65 | PI | 1H 0.0 | 0.36 |
| 17 | 65 | PI | 1H 0.0 | 0.98 |
| 22 | 65 | PI | 1H 0.0 | 0.95 |
| 30 | 65 | PI | 1H 0.0 | 0.69 |
| 31 | 65 | PI | 1H 0.0 | 0.74 |
| 38 | 65 | PI | 1H 0.0 | 0.34 |
| 18 | 66 | PI | 2H 0.0 | 0.68 |



Date : 03/28/94
Page : 4

COOK UNIT 1
COMPONENT : SG-14
OUTAGE : U1R094

ODSCC TUBE INDICATIONS AT SUPPORT PLATE INTERSECTIONS

| Row | Col | IND | LOCATION | Voltage |
|-----|-----|-----|----------|---------|
| --- | --- | --- | --- | --- |
| 20 | 66 | PI | 1H 0.0 | 1.03 |
| 25 | 66 | PI | 1H 0.0 | 0.97 |
| 22 | 68 | PI | 1H 0.0 | 0.64 |
| 31 | 70 | PI | 1H 0.0 | 0.75 |
| 38 | 70 | PI | 1H 0.0 | 0.62 |
| 3 | 71 | PI | 2H 0.0 | 0.58 |
| 26 | 71 | PI | 3H 0.0 | 0.32 |
| 31 | 71 | PI | 1H 0.0 | 0.75 |
| 4 | 72 | PI | 2H 0.0 | 0.67 |
| 38 | 72 | PI | 2H 0.0 | 0.58 |
| 6 | 73 | PI | 2H 0.0 | 0.90 |
| 30 | 73 | PI | 1H 0.0 | 0.68 |
| 33 | 73 | PI | 1H 0.0 | 0.88 |
| 30 | 74 | PI | 1H 0.0 | 0.84 |
| 33 | 74 | PI | 1H 0.0 | 0.71 |
| 33 | 74 | PI | 2H 0.0 | 0.64 |
| 16 | 75 | PI | 2H 0.0 | 0.66 |
| 29 | 75 | PI | 1H 0.0 | 0.62 |
| 4 | 76 | PI | 2H 0.0 | 0.93 |
| 30 | 76 | PI | 1H 0.0 | 0.35 |
| 31 | 76 | PI | 3H 0.0 | 0.63 |
| 33 | 76 | PI | 1H 0.0 | 0.86 |
| 23 | 78 | PI | 3H 0.0 | 0.76 |
| 26 | 78 | PI | 2H 0.0 | 0.59 |
| 28 | 78 | PI | 2H 0.0 | 0.52 |
| 10 | 79 | PI | 1H 0.0 | 0.54 |
| 4 | 80 | PI | 2H 0.0 | 1.08 |
| 24 | 81 | PI | 2H 0.0 | 0.96 |
| 26 | 81 | PI | 1H 0.0 | 0.81 |
| 1 | 82 | PI | 2H 0.0 | 0.70 |
| 11 | 82 | PI | 2H 0.0 | 0.59 |
| 1 | 86 | PI | 4H 0.0 | 0.42 |
| 26 | 86 | PI | 2H 0.0 | 1.03 |
| 5 | 87 | PI | 2H 0.0 | 1.06 |
| 18 | 87 | PI | 3H 0.0 | 0.63 |
| 19 | 89 | PI | 2H 0.0 | 0.93 |
| 21 | 89 | PI | 3H 0.0 | 0.39 |
| 4 | 92 | PI | 2H 0.0 | 0.46 |
| 2 | 94 | PI | 2H 0.0 | 0.45 |
| 2 | 94 | PI | 4H 0.0 | 0.32 |

Number of Tubes : 149

