

June 3, 2005

Mr. R. T. Ridenoure  
Vice President - Chief Nuclear Officer  
Omaha Public Power District  
Fort Calhoun Station FC-2-4 Adm.  
Post Office Box 550  
Fort Calhoun, NE 68023-0550

SUBJECT: FORT CALHOUN STATION, UNIT NO. 1 - 2005 STEAM GENERATOR  
INSPECTION CONFERENCE CALL SUMMARY (TAC NO. MC5776)

Dear Mr. Ridenoure:

By letter dated February 9, 2005, the NRC staff requested that a teleconference be scheduled when approximately 70 percent of the 2005 steam generator tube inservice inspection is completed. The enclosure to this letter was a list of 13 questions to be used as discussion points for this call. On March 14, 2005, the NRC staff participated in a conference call with Omaha Public Power District (OPPD) representatives regarding the 2005 steam generator (SG) tube inspection activities at the Fort Calhoun Station, Unit 1 (FCS). Enclosed are the NRC staff's summary of the call, and the written material provided by OPPD in support of the call.

If you have any questions or comments regarding this summary, please call me at (301) 415-1445.

Sincerely,

**/RA/**

Alan B. Wang, Project Manager, Section 2  
Project Directorate  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosures: 1. Summary  
2. Information Provided by OPPD

cc w/encls: See next page

June 3, 2005

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Ft. Calhoun Station, Unit 1

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**MARCH 14, 2005 CONFERENCE CALL SUMMARY**

**2005 STEAM GENERATOR TUBE INSPECTIONS**

**OMAHA PUBLIC POWER DISTRICT**

**FORT CALHOUN STATION, UNIT 1**

**DOCKET NO. 50-285**

On March 14, 2005, The Nuclear Regulatory Commission (NRC) staff participated in conference calls with Fort Calhoun representatives regarding their 2005 steam generator tube inspection activities. A summary of the information provided during the call is provided below.

Fort Calhoun, Unit 1, has two Combustion Engineering steam generators. The steam generator tubes are fabricated with mill-annealed Alloy 600. The tubes were explosively expanded for the full length of the tubesheet. Each steam generator has eight tube supports. The lower six supports (i.e., those nearest the tubesheet) support all of the tubes and are termed "full supports". The highest two supports are considered partial tube supports since they only support a limited number of tubes (i.e., only tubes in the periphery of the tube bundle are supported). The tube supports are numbered from 1 to 8, with 1 being the lowest tube support (i.e., nearest the tubesheet) and 8 being the highest.

In support of the March 14, 2005 conference call, the licensee provided responses to the discussion points developed by the NRC staff (Enclosure 2). In addition the licensee provided the status of their eddy current testing (ECT) as of March 14, 2005. These documents are attached. Additional clarifying information and information not included in the documents provided is summarized below:

The area defined as the "Axial Critical Area from tube support H5 to Hot Leg Batwing", is the area where support plates are superpositioned.

The area defined as the "Circumferential Critical Area +2 to -6 inches", is the area where the drilled hole portion of a support (i.e., the patch plate) meets the eggcrate portion of the support. In this region, two lines of tubes are supported by both supports (eggcrate and drilled hole). The drilled support plate is positioned directly above the eggcrate support. The edge of the drilled plate is scalloped, having the shape of a series of semi-circles when viewed from above. One of the lines of tubes is in contact with the scalloped edge of the drilled support plate (i.e. it is only supported on one side by the drilled hole support) and is fully supported by the eggcrate support directly below it. The other line of tubes is fully supported by the drilled support and is only supported on one side by the eggcrate support directly below the drilled plate. Growth of the drilled plate from denting could result in a bending strain at and below the eggcrate where the tube is restrained by movement in the lateral plane. This area is inspected 100 percent with a rotating probe from 2 inches above the supports to 6 inches below to identify any cracks that may occur in the freespan as a result of strain caused by the interaction of

the supports. Figures depicting the Circumferential Critical Area were supplied by the licensee and are attached to this summary.

Two tubes in steam generator A had circumferential flaws in the Circumferential Critical Area. The flaws are located in the line of tubes that is fully supported by the drilled plate and partially supported by the eggcrate support. The flaws were located within the drilled hole support and were fully enveloped by the support (360 degrees). Both flaws were facing away from the drilled support and towards the eggcrate support structure. The first flaw, located at the H1 support, was 62 percent throughwall with a circumferential extent of 27 degrees. The second flaw, located at H6, was 36 percent throughwall with a circumferential extent of 90 degrees.

Dents at the vertical support straps, diagonal bars, and hot leg eggcrates are inspected with a rotating probe when the voltage from the dent (as detected from the bobbin coil) is greater than 3 volts.

DBH refers to “dispositioned by history” review.

In addition to the data provided in the licensee’s summary table, steam generator A contains 2 tubes with circumferential Primary Water Stress Corrosion Cracking (PWSCC) at the top of the tubesheet on the hot leg side. These cracks are in the expansion transition area and represent the first circumferential PWSCC detected at Ft. Calhoun. Using a 300 kHz +Point™ coil, these indications measured 0.64 volts and 0.45 volts with a circumferential extent of 27 degrees and 31 degrees, respectively. The indications were present in the 2003 inspection data, but were significantly smaller at that time.

In steam generator A, a total of 7 outside diameter circumferential cracks were identified at support plates. The licensee indicated that these cracks all occurred at drilled hole support plates.

The volumetric flaw in steam generator A is attributed to a loose part.

In steam generator B a single indication was identified in the cold leg expansion transition area at the top of the tubesheet. This indication was characterized by the licensee as a series of small pits creating a circumferential volumetric indication with an eddy current voltage of 0.38 volts and a circumferential extent of 167 degrees. No estimate for the depth of the flaw was available at the time of the conference call. This indication was present in the 2003 data but was not reported. A comparison of the data showed that the indication was unchanged. Similar indications have been seen in past outages; however, none have been observed recently. In 2001, ultrasonic testing was performed on similar indications, indicating a band of pits.

The current inspections did not identify any wear caused by tube interaction with support structures.

No indications have been identified below the top of the tubesheet.

The number of indications in the tables provided by the licensee do not match some of the information listed in the "Steam Generator Eddy Current Summary" tables because the tables were created several hours apart as new data was compiled.

At the end of the call the NRC staff asked the licensee to notify them if any tubes leak during an in-situ pressure test, fail an in-situ pressure test, or if any other unexpected findings are detected in the remaining eddy current inspections.

LICENSEE PREPARED RESPONSE TO  
STEAM GENERATOR TUBE INSPECTION DISCUSSION POINTS  
PREPARED BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
OMAHA PUBLIC POWER DISTRICT FORT CALHOUN STATION, UNIT 1  
DOCKET NO. 50-285

The following discussion points have been prepared to facilitate the phone conference arranged with Omaha Public Power District to discuss the results of the steam generator (SG) tube inspections to be conducted during the upcoming Fort Calhoun Station, Unit 1 refueling outage. This phone call is scheduled to occur towards the end of the planned SG tube inspection interval, but before the unit completes the inspections and repairs (approximately 70 percent complete). The NRC staff plans to document a brief summary of the conference call as well as any material that is provided in support of the call. Please be prepared to discuss the following:

*1. Discuss any trends in the amount of primary-to-secondary leakage observed during the recently completed cycle.*

Fort Calhoun Station had no measurable primary to secondary leakage prior to shutdown.

*2. Discuss whether any secondary side pressure tests were performed during the outage and the associated results*

No secondary side pressure tests were performed.

*3. Discuss any exceptions taken to the industry guidelines.*

The Senior Analyst does not take the site specific performance demonstration (SSPD). Revision 6 of the Electrical Power Research Institute (EPRI) pressurized water reactor (PWR) SG Examination Guidelines, section 6.3.2 addresses the SSPD requirements for data analysts. The purpose of the SSPD is to orient and/or refresh the analyst to site specific conditions and for the analyst to demonstrate the applicable skills by passing a site specific practical examination. OPPD does not require the contracted senior Level III who structured the SSPD program and provided the analyzed answers to both the training and practical examination data sets to participate in the SSPD process. The Senior Analyst for Fort Calhoun has been continuously involved with the analysis of our steam generator data for approximately 20 years and typically spends several weeks prior to each examination reviewing Fort Calhoun data and updating the analysis methodology.

No other exceptions are taken to industry guidelines.

*4. For each steam generator, provide a description of the inspections performed including the areas examined and the probes used (e.g., dents/dings, sleeves, expansion- transition, U-bends with a rotating probe), the scope of the inspection (e.g., 100 percent of dents/dings greater than 5 volts and a 20 percent sample between 2 and 5 volts), and the expansion*

*Enclosure 2*

criteria. Also, discuss the extent of the rotating probe inspections performed in the portion of tube below the expansion-transition region (reference NRC Generic Letter 2004-01, "Requirements for Steam Generator Tube Inspections").

#### Bobbin Probe

- q 100% Full Length

#### Plus Point RPC

- q 100% HTS from 12 Inches Below the Tubesheet to 3 Inches Above
- q 100% of All Hot Leg Drilled Supports  $\pm$  2 Inches
- q 100% of All Tubes in Axial Critical Area from H5 to Hot Leg Batwing
- q 100% of All Tubes in Circumferential Critical Area +2 to -6 Inches
- q 100% of Square Bends Above Hot Leg Critical Area
- q 100% of the Dents at Vertical Support Straps & Diagonal Bars
- q 100% of the Dents at Hot Leg Eggcrates
- q 100% of the Hot Leg Dings > 5 Volts
- q Remainder of U-Bends in Rows 1 to 4 (Mid- Range Coil) to Complete 100% Inspection in 60 EFPM
- q 100% of the U-bends in Rows 1 & 2 (High Frequency Coil)
- q 20% Bobbin DBH Codes
- q MRPC Diagnostics from Bobbin Program as Required

Expansion criteria for each of the inspections listed above are consistent with EPRI guidelines.

5. For each area examined (e.g., tube supports, dents/dings, sleeves, etc), provide a summary of the number of indications identified to-date of each degradation mode (e.g., number of circumferential primary water stress corrosion cracking indications at the expansion-transition). For the most significant indications in each area, provide an estimate of the severity of the indication (e.g., provide the voltage, depth, and length of the indication). In particular, address whether tube integrity (structural and accident induced leakage integrity) was maintained during the previous operating cycle. In addition, discuss whether any location exhibited a degradation mode that had not previously been observed at this location at this unit (e.g., observed circumferential primary water stress corrosion cracking at the expansion-transition for the first time at this unit).

#### Steam Generator RC-2A

| Area     | Circ OD | Max Flaw     | Axial OD | Max Flaw      | Volumetric | Max Flaw      |
|----------|---------|--------------|----------|---------------|------------|---------------|
| HTS EXP  | 0       | N/A          | 0        | N/A           | 0          | N/A           |
| Sludge   | 0       | N/A          | 4        | .33v/33%/.22" | 0          | N/A           |
| Support  | 7       | .29v/63%/77° | 14       | .58v/44%/.43" | 1          | .73v/37%/.42" |
| Freespan | 0       | N/A          | 22       | .61v/50%/.69" | 0          | N/A           |
| U-bend   | 0       | N/A          | 0        | N/A           | 0          | N/A           |
| CTS EXP  | 0       | N/A          | 0        | N/A           | 0          | N/A           |

None of the flaw indications detected to date exceed the ISPT screening criteria.  
Four indications > 0.5 volts

## Steam Generator RC-2B

| Area     | Circ OD | Max Flaw     | Axial OD | Max Flaw      | Volumetric | Max Flaw     |
|----------|---------|--------------|----------|---------------|------------|--------------|
| HTS EXP  | 0       | N/A          | 0        | N/A           | 0          | N/A          |
| Sludge   | 0       | N/A          | 4        | .26v/33%/.20" | 0          | N/A          |
| Support  | 1       | .41v/36%/94° | 15       | .53v/43%/.72" | 0          | N/A          |
| Freespan | 0       | N/A          | 10       | .34v/38%/.58" | 0          | N/A          |
| U-bend   | 0       | N/A          | 0        | N/A           | 0          | N/A          |
| CTS EXP  | 0       | N/A          | 0        | N/A           | 1          | .38v/NQ/167° |

None of the flaw indications detected to date exceed the ISPT screening criteria.  
One indication > 0.5 volts

*6. Describe repair / plugging plans.*

All tubes with flaws identified from the ECT inspection will be repaired with rolled mechanical plugs.

*7. Describe in-situ pressure test and tube pull plans and results (as applicable and if available)*

There are no plans to remove tubes during this outage. All tubes with flaw indications exceeding the in-situ pressure test (ISPT) screening thresholds will be in-situ pressure tested.

To date, there are no such flaws.

*8. Provide the schedule for steam generator-related activities during the remainder of the current outage.*

1. Currently the estimated completion date for the ECT inspection is March 20, 2005.
2. ISPT, if required, will occur on March 19<sup>th</sup> or 20<sup>th</sup>, depending on which SG the test(s) are done in
3. Plugging is currently scheduled for 48 hours based on the projected number of repairs.
4. Clearing of SG Platforms is scheduled for March 23<sup>rd</sup>

*9. Discuss the following regarding loose parts:*

- q what inspections are performed to detect loose parts,*
- q a description of any loose parts detected and their location within the SG,*
- q if the loose parts were removed from the SG,*
- q indications of tube damage associated with the loose parts, and*
- q the source or nature of the loose parts if known.*

*In previous examinations the secondary side has been opened and FOSAR exams have been conducted in addition to ECT detection. Historically, only a small number of tubes have been repaired for loose part damage. In 2003 two tubes were plugged due for wear at the top of the*

tubesheet from spiral wound gasket material. The estimated depths were 19 percent and 20 percent through-wall.

Based on an evaluation performed as part of the degradation assessment using historical secondary side maintenance and loose parts records there are no plans to open the secondary side. Detection of loose parts will be based on the ECT inspection data. As of 3/14/05 the ECT of the periphery has been completed.

### PLP Indications

SG RC-2A Row 6 Line 125 at the number one eggcrate on the cold leg side. This tube is on the periphery of the tube bundle and there is also volumetric wear within the eggcrate which is estimated at 33 percent through-wall by the bobbin coil and 37 percent by MRPC. The flaw length and width are measured as 0.42" and 0.54" which due to the coil field extension overestimate the actual dimensions. The flaw is in the center of the eggcrate. The PLP extends from the middle of the eggcrate to about 2.4 inches below the bottom edge. The tubes immediately adjacent to this one show no evidence of a PLP. The flaw indication was present in 2003 as well and was reported as a DSI from the bobbin coil. This location was subsequently tested with MRPC and neither the primary or secondary analysts reported a flaw. A review of this data shows a negligible change in the signal response.

SG RC-2A Row 98 Line 65 in the freespan area between the hot leg support 8 and the diagonal bar. There is no wear associated with the PLP which is present on the 1999 MRPC data (first test of this area). This tube also has a PLP at the top of the hot leg tubesheet which is present on the 1996 MRPC data (first test of this area). There is no wear associated with the PLP.

SG RC-2A Row 81 Line 98, Row 82 Line 99, and Row 83 Line 98 all have small PLP indications at the top of the hot leg tubesheet. These are neighboring tubes located on the periphery of the tube bundle. The PLPs were first present in the 2001, 1996, and 1996 examinations respectively. There is no wear present at these locations.

SG RC-2B Row 27 Line 16 in the freespan area between hot leg supports H3 and H4. This indication was initially reported in the 2002 examination. The area has been scanned by MRPC in 2002 and 2003 and reported as NDD. A review of this data shows that the bobbin PLP is actually a deposit.

SG RC-2B Row 85 Line 32 at the top of the hot leg tubesheet. The PLP has been present since the first time that it was tested with MRPC in 1996. There is no wear associated with the PLP.

SG RC-2B Row 5 Line 4 at the top of the hot leg tubesheet. This indication was initially reported in the 2001 examination and again in 2003. During the 2003 FOSAR inspection of the secondary side, a piece of spiral wound gasket material was removed. The low frequency pancake coil signal from the tube where gasket material was observed was compared to Row 5 Line 4 and the responses are similar. There is no evidence of wear from the PLP.

The spiral wound material is most likely from the secondary side manway gasket. The secondary manway is an internal design that opens in to the secondary side of the steam generator. If the gasket is not completely intact when the manway is opened, small pieces of

*gasket material may fall into the secondary side.*

*10. Discuss whether any circumferential indications were identified at any location other than: (1) at or below the expansion-transition, (2) in the chord region, or (3) at drilled hole support plates. Please discuss whether any freespan circumferential indications were detected outside a critical area. Please clarify whether there are any unique circumstances (e.g., dents/dings) at the location of these indications. If not, discuss the basis for the scope of inspection around the tube support (e.g., from 2-inches above and below the centerline of the support).*

*For the 2005 examination a critical area was defined for freespan circumferential outer diameter stress corrosion cracking (ODSCC). This is comprised of the two lines of tubes surrounding the partial drilled support plates where the relative displacement of the drilled support and eggcrate structure resulted in a bending strain below the eggcrate. The bending strain dissipates with increasing distance below the structure. The tubes in this critical area were tested to a distance of 6 inches below the centerline of the eggcrate (2 inches thick). This distance is based on engineering judgment as well as the results from the 2003 examination which showed that the flaw furthest away from the support was 2.38 inches below the lower edge of the eggcrate.*

*No freespan circumferential indications have been detected in the 2005 examination.*

*11. Discuss any multiple indications that were identified (such as the parallel circumferential cracks identified at the 8th support plate in 2003) and the potential that these indications are interacting (e.g., the burst pressure or leakage of one of the flaws is affected by the proximity of the other flaws).*

*To date, a total of 8 circumferential flaws have been identified at the drilled support plates. Of these, 6 appear to have multiple layers of cracking. The cracks are separated axially and are parallel, so they will not coalesce into a larger crack. The burst pressure is conservatively considered to be a function of the enveloping percent degraded area (PDA) which would be the collective shadow of the cracks.*

*12. During past inspections a 20 percent sample of the bobbin indications previously inspected with a rotating probe and which showed no change from previous bobbin coil data were retested with a rotating probe in order to validate the analysis methodology. Discuss the results of any such analysis verification performed during this outage.*

*The practice of examining 20 percent of these indications with MRPC was adopted starting in 2002. For the selection of the sample set in 2005 those indications which were tested in 2002 and 2003 will be excluded (sampling without replacement). In addition, some of the indications were reported in areas already scanned by MRPC and these will be excluded as well. Because the bobbin coil exams are not yet 100 percent complete the 2005 dispositioned by history (DBH) program has not been conducted at this time.*

*13. During the 2003 inspection several indications were identified within the influence region of the drilled support plates. These indications were directly above or below drilled supports but were not encompassed by the support. Please discuss any freespan indications attributed to the drilled supports. Are there dents associated with these indications? In addition, discuss the basis for selecting 2-inches above and below the center of the support as an adequate inspection area for the drilled supports.*

*The +2/-2 inch MRPC test extent provides data over the entire 1 inch drilled support area. Although the denting may extend slightly above and below the plate the test extent of 1.5 inches above and below the plate edges ensures that any deformation from denting by the support structure is included in the scan area. In addition, any freespan ding > 5 volts is tested with MRPC.*

7  
**Ft. Calhoun 2005 RFO**  
**Steam Generator Eddy Current Inspection**  
**Summary**

| <b>Steam Generator A</b>             |               |               |              |             |               |
|--------------------------------------|---------------|---------------|--------------|-------------|---------------|
| Test Type                            | Tests Planned | Latest Tested | Total Tested | Final       | % Complete    |
| HL .560 Bobbin                       | 232           | 0             | 0            | 0           | 0.00%         |
| HL .560 RRT Bobbin                   | 0             | 0             | 0            | 0           | 0.00%         |
| HL TTS +PT                           | 4697          | 729           | 1855         | 1622        | 34.53%        |
| HL +PT For Bobbin RRT                | 0             | 0             | 0            | 0           | 0.00%         |
| HL Drilled/Eggerate TSP +Pt.         | 2174          | 0             | 395          | 395         | 18.17%        |
| HL HS - DBH/V1 Critical Area +PT     | 425           | 0             | 393          | 393         | 92.47%        |
| HL History Dent/Ding Straight +PT    | 1684          | 0             | 1205         | 1205        | 71.56%        |
| HL History Dent/Ding Square Bend +PT | 261           | 0             | 0            | 0           | 0.00%         |
| HL Drilled/Eggerate Overlap +PT      | 535           | 0             | 535          | 531         | 99.25%        |
| CL .560 Bobbin                       | 4697          | 0             | 4691         | 4691        | 99.87%        |
| CL +PT For Bobbin RRT                | 0             | 0             | 0            | 0           | 0.00%         |
| CL U-Bend MR +PT                     | 77            | 1             | 77           | 77          | 100.00%       |
| CL U-Bend HF +PT                     | 113           | 30            | 113          | 113         | 100.00%       |
| CL History Dent/Ding Square Bend +PT | 717           | 5             | 712          | 712         | 99.30%        |
| 20% History Review +PT               | 0             | 0             | 0            | 0           | 0.00%         |
| HL SI & PID +PT                      | 169           | 0             | 0            | 0           | 0.00%         |
| CL SI & PID +PT                      | 52            | 4             | 21           | 19          | 36.54%        |
| <b>Total HL Tests</b>                | <b>10177</b>  | <b>729</b>    | <b>4383</b>  | <b>4146</b> | <b>40.74%</b> |
| <b>Total CL Tests</b>                | <b>5656</b>   | <b>40</b>     | <b>5614</b>  | <b>5612</b> | <b>99.22%</b> |
| <b>TOTAL</b>                         | <b>15833</b>  | <b>769</b>    | <b>9997</b>  | <b>9758</b> | <b>61.63%</b> |

|                               |    |
|-------------------------------|----|
| A - Estimated Pluggable Tubes | 30 |
|-------------------------------|----|

| <b>Steam Generator B</b>             |               |               |              |              |                |
|--------------------------------------|---------------|---------------|--------------|--------------|----------------|
| Test Type                            | Tests Planned | Latest Tested | Total Tested | Final        | % Complete     |
| HL .560 Bobbin                       | 234           | 0             | 0            | 0            | 0.00%          |
| HL .560 RRT Bobbin                   | 0             | 0             | 0            | 0            | 0.00%          |
| HL TTS +PT                           | 4665          | 421           | 1798         | 1434         | 30.74%         |
| HL +PT For Bobbin RRT                | 0             | 0             | 0            | 0            | 0.00%          |
| HL Drilled/Eggerate TSP +Pt.         | 3373          | 0             | 509          | 509          | 15.09%         |
| HL HS - DBH/V1 Critical Area +PT     | 352           | 0             | 320          | 320          | 90.91%         |
| HL History Dent/Ding Straight +PT    | 2860          | 0             | 2309         | 2309         | 80.73%         |
| HL History Dent/Ding Square Bend +PT | 316           | 0             | 0            | 0            | 0.00%          |
| HL Drilled/Eggerate Overlap +PT      | 522           | 0             | 522          | 521          | 99.81%         |
| CL .560 Bobbin                       | 4664          | 0             | 4664         | 4664         | 100.00%        |
| CL +PT For Bobbin RRT                | 0             | 0             | 0            | 0            | 0.00%          |
| CL U-Bend MR +PT                     | 73            | 1             | 73           | 73           | 100.00%        |
| CL U-Bend HF +PT                     | 113           | 0             | 113          | 113          | 100.00%        |
| CL History Dent/Ding Square Bend +PT | 692           | 8             | 692          | 692          | 100.00%        |
| 20% History Review +PT               | 0             | 0             | 0            | 0            | 0.00%          |
| HL SI & PID +PT                      | 240           | 0             | 0            | 0            | 0.00%          |
| CL SI & PID +PT                      | 79            | 6             | 79           | 79           | 100.00%        |
| <b>Total HL Tests</b>                | <b>12562</b>  | <b>421</b>    | <b>5458</b>  | <b>5093</b>  | <b>40.54%</b>  |
| <b>Total CL Tests</b>                | <b>5621</b>   | <b>15</b>     | <b>5621</b>  | <b>5621</b>  | <b>100.00%</b> |
| <b>TOTAL</b>                         | <b>18183</b>  | <b>436</b>    | <b>11079</b> | <b>10714</b> | <b>58.92%</b>  |

|                               |    |
|-------------------------------|----|
| B - Estimated Pluggable Tubes | 27 |
|-------------------------------|----|

| <b>Steam Generators A &amp; B</b> |               |               |              |              |               |
|-----------------------------------|---------------|---------------|--------------|--------------|---------------|
| Grand Totals                      | Tests Planned | Latest Tested | Total Tested | Final        | % Complete    |
| <b>Total HL Tests</b>             | <b>22739</b>  | <b>1150</b>   | <b>9841</b>  | <b>9239</b>  | <b>40.63%</b> |
| <b>Total CL Tests</b>             | <b>11277</b>  | <b>55</b>     | <b>11235</b> | <b>11233</b> | <b>99.61%</b> |
| <b>Grand Total Tests</b>          | <b>34016</b>  | <b>1205</b>   | <b>21076</b> | <b>20472</b> | <b>60.18%</b> |

Data As Of 0400 On 3/14/05

Figure 1  
Eggcrate and Tube Support Plate Intersection – Top View

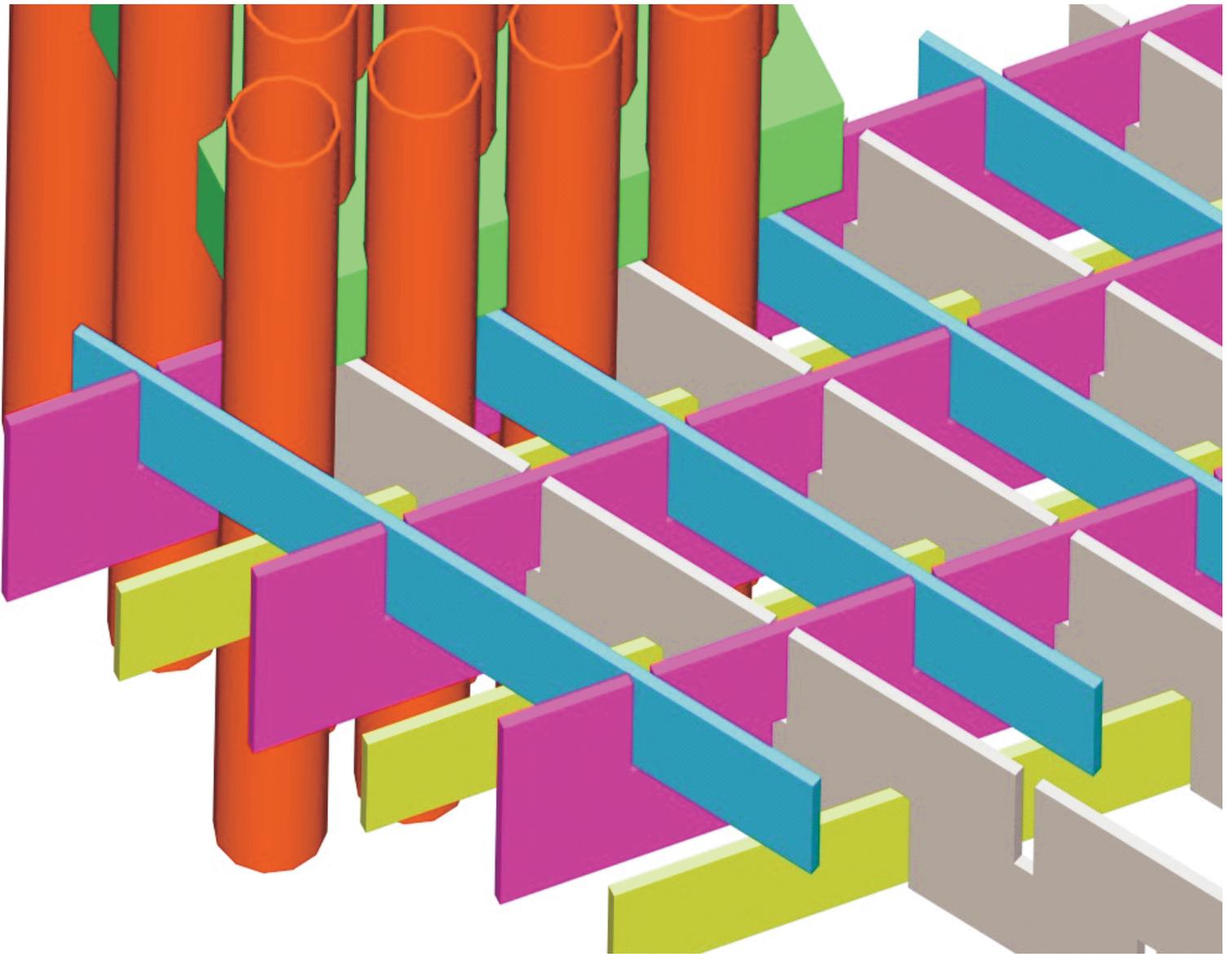


Figure 2  
Eggcrate and Tube Support Plate Intersection – Bottom View

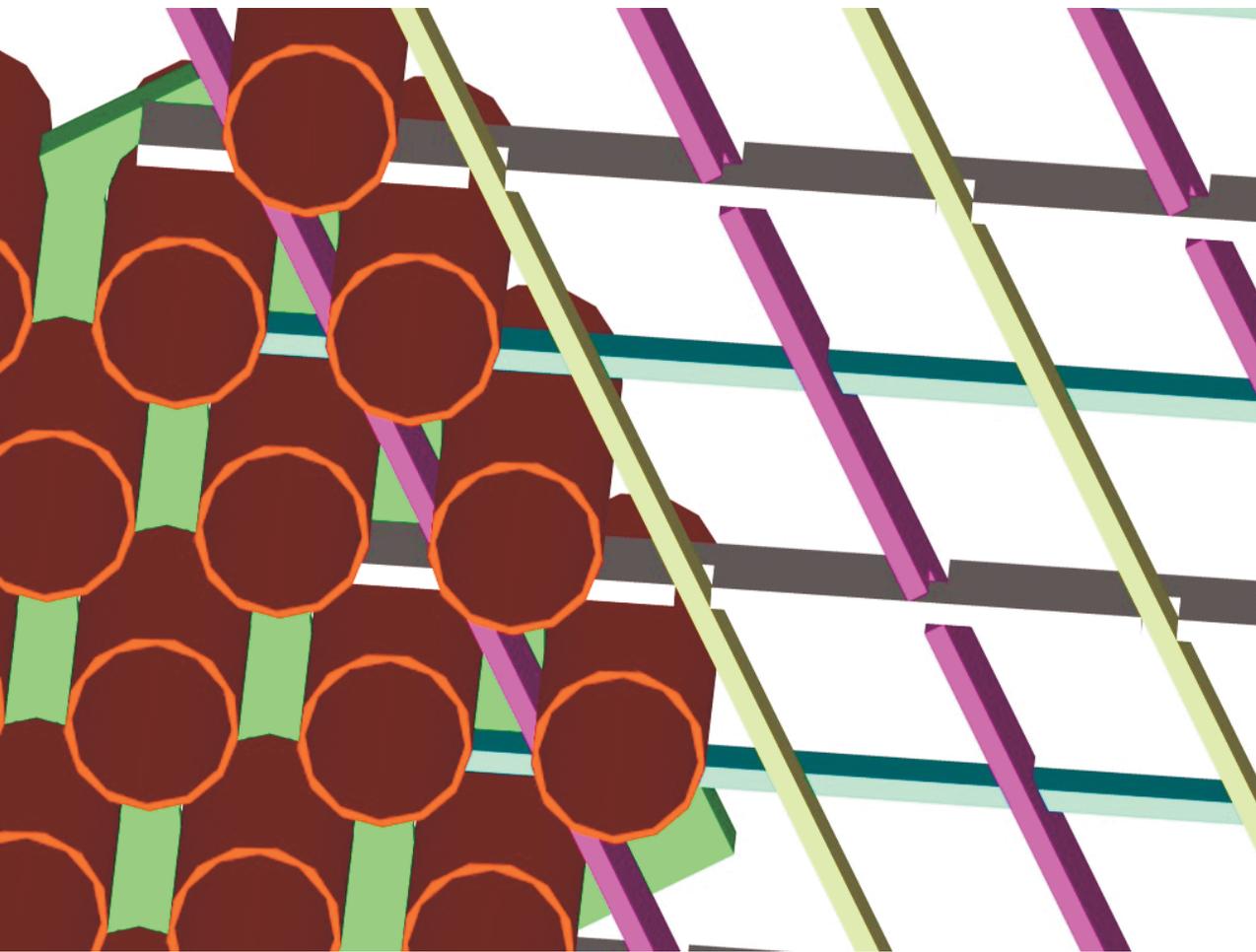


Figure 3

Eggcrate and Tube Support Plate Intersection –  
Bottom View with Maximum Stress and Crack Locations  
Detected During the 2003 Inspection

